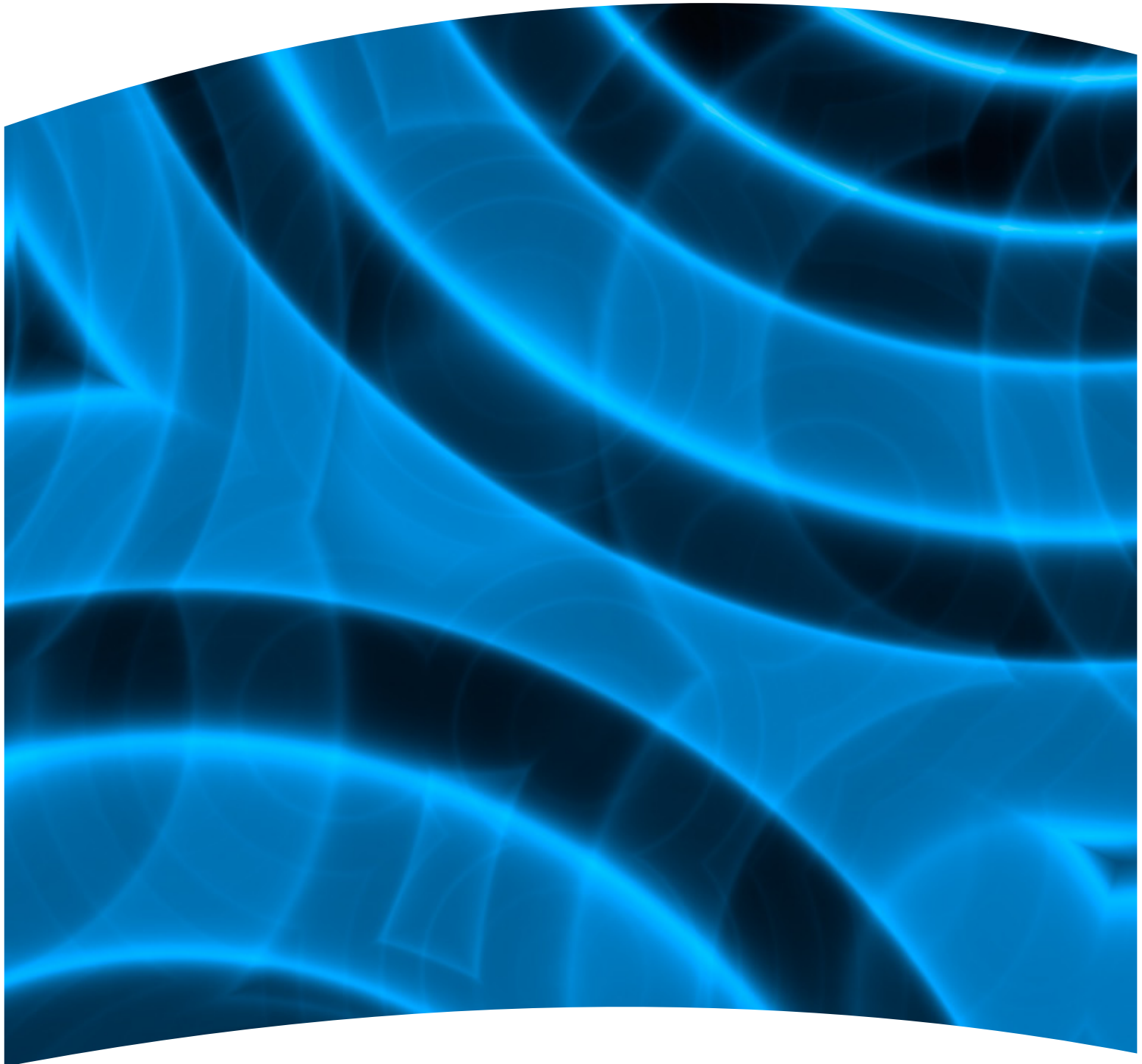


# Center for Economic Studies and Research Data Centers Research Report: 2010 and 2011

---

*Research and Methodology Directorate*

Issued May 2012



---

## 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) opened 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, and edited various sections. **David Brown, Emin Dinlersoz, Shawn Klimek, Mark Kutzbach,** and **Kristin McCue** coauthored Chapter 2. **Emin Dinlersoz** and **Shawn Klimek** coauthored Chapter 3. **Angela Andrus, B.K. Atrostic, Randy Becker, John Fattaleh, Quintin Goff, Cheryl Grim, Brian Holly, Erika McEntarfer, Lynn Riggs,** and **Shigui Weng** contributed to or worked on Appendixes 1 through 8. Our RDC partners and administrators also provided assistance.

**Janet Sweeney, Elzie Golden, Monique Lindsay,** and **Donald Meyd,** of the Census Bureau's Administrative and Customer Services Division, **Francis Grailand Hall,** Chief, provided publication and printing management, graphics design and composition, and editorial review for print and electronic media. General direction and production management were provided by **Claudette E. Bennett,** Assistant Division Chief.

## DISCLAIMER

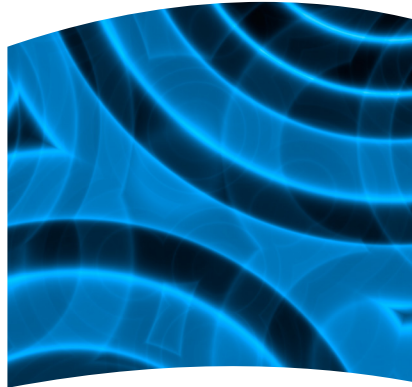
Research summaries in this report have not undergone the review accorded Census Bureau publications and no endorsement should be inferred. Any opinions and conclusions expressed herein are those of the author(s) and do not necessarily represent the views of the Census Bureau or other organizations. All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

---

# Center for Economic Studies and Research Data Centers Research Report: 2010 and 2011

Issued May 2012

*Research and Methodology Directorate*



**U.S Department of Commerce**

**John E. Bryson,**  
Secretary

**Rebecca M. Blank,**  
Deputy Secretary

**Economics and Statistics Administration**  
**Vacant,**

Under Secretary  
for Economic Affairs

**U.S. CENSUS BUREAU,**  
**Robert M. Groves**  
Director

SUGGESTED CITATION  
U.S. Census Bureau,  
*Center for Economic Studies  
and Research Data Centers  
Research Report: 2010 and 2011*,  
U.S. Government Printing Office,  
Washington, DC, 2012



**Economics  
and Statistics  
Administration**

**Vacant,**  
Under Secretary for  
Economic Affairs



**U.S. CENSUS BUREAU**

**Robert M. Groves,**  
Director

**Thomas L. Mesenbourg,**  
Deputy Director and  
Chief Operating Officer

**Rod Little,**  
Associate Director  
for Research and Methodology

**Ron S. Jarmin,**  
Assistant Director  
for Research and Methodology

**Lucia S. Foster,**  
Chief, Center  
for Economic Studies

## Contents

A Message From the Chief Economist . . . . .	1
--	---

### **Chapters**

1. 2010–2011 News . . . . .	3
2. Real-Time Analysis Informs 2010 Decennial Census Operations . . . . .	13
3. Analyzing Form Return Rates in the Economic Census: A Model-Based Approach . . . . .	23

### **Appendixes**

1. Overview of the Center for Economic Studies (CES) and the Census Research Data Centers (RDCs) . . . . .	29
2. Center for Economic Studies (CES) Staff and Research Data Center (RDC) Selected Publications and Working Papers: 2010 and 2011 . . . . .	33
3-A. Abstracts of Projects Started in 2010 and 2011: U.S. Census Bureau Data . . . . .	47
3-B. Abstracts of Projects Started in 2010 and 2011: Agency for Healthcare Research and Quality (AHRQ) Data or National Center for Health Statistics (NCHS) Data . . . . .	57
4. Center for Economic Studies (CES) Discussion Papers: 2010 and 2011 . . . . .	69
5. New Data Available Through Census Research Data Centers (RDCs) in 2010 and 2011 . . . . .	73
6. Census Research Data Center (RDC) Partners . . . . .	81
7. Longitudinal Employer-Household Dynamics (LEHD) Partners . .	83
8. Center for Economic Studies (CES) Staff Listing (December 2011) . . . . .	87



---

## A MESSAGE FROM THE CHIEF ECONOMIST

The research and development activities at the Center for Economic Studies (CES) benefit the Census Bureau by creating new data products, illuminating new uses for existing data products, and suggesting improvements to existing data products. In addition, the CES' Census Research Data Center (RDC) network enables the U.S. Census Bureau to leverage the expertise of external researchers in the support of Census programs and products. All of these activities enhance our understanding of the U.S. economy and its people.

The last two years have seen a tremendous expansion in the scope of the research and development activities at CES. CES staff were asked to apply their analytical expertise in the service of the decennial Census of Population. CES staff undertook a crash course in decennial Census programs, processes, and products and contributed significantly to this impressive operation. The results of CES staff's decennial participation are summarized in Chapter 2.

Furthermore, two of the economists working on the decennial project translated some of their newfound insights to the Economic Census collection efforts (see Chapter 3). CES economists often provide insights into data quality issues and provide advice concerning the collectability of data. The analysis concerning the Economic Census expands this type of analysis by examining the collection mechanism.

CES staff were also involved in the development and implementation of a new supplement to the Annual Survey of Manufactures called the Management and Organizational Practices Survey (MOPS). The MOPS was created through a partnership between CES, the Manufacturing and Construction Division, and a team of academic researchers and was partially funded by a grant from the National Science Foundation. This survey asks questions about managerial practices and organizational structures. As with the redevelopment of the Pollution Abatement Costs and Expenditures (PACE) survey (reported on in our 2006 report), the MOPS serves as a model for survey development, in which the Census Bureau leverages the expertise of outside researchers to develop new Census Bureau products.

Another area of expansion is in research related to the use of administrative data. CES staff worked on a number of teams analyzing the feasibility of enhancing survey data with administrative data. For example, a joint project with CES and the Social, Economic, and Housing Statistics Division (SEHSD) started in 2011 to create an American Community Survey-LEHD enhanced jobs frame, to better understand microdata differences between administrative and survey data sources on jobs, and to study the ability of each to enhance public-use products provided by the Census Bureau from each data source.

On top of all of these firsts, CES continued with its innovative research and development activities. CES staff added 32 papers to our working paper series in 2010–2011 and published 14 articles in peer-reviewed journals (including 12 more that are forthcoming). Recent and forthcoming articles include ones in the *American Economic Review*, the *Review of Economics and Statistics*, and many top field journals.

We have also continued to build up and expand our research data products using existing data sources. LEHD introduced OnTheMap for Emergency Management in 2010. This public data tool provides unique, real-time information on the workforce for U.S. areas affected by hurricanes, floods, and wildfires. LEHD's Quarterly Workforce Indicators (QWI) was expanded in 2010 to include additional demographic information on worker educational attainment, race, and ethnicity. In 2011,

---

## A MESSAGE FROM THE CHIEF ECONOMIST—Con.

the Longitudinal Business Database data was integrated into the LEHD infrastructure, which will eventually expand QWI tabulations to include the age and size of the firm.

The Business Dynamics Statistics (BDS) provides annual statistics on business openings, closings, and job creation and destruction by a variety of firm characteristics. The BDS was expanded to cover a longer time period and now provides information on 1976–2009. A second version of the Synthetic Longitudinal Business Database (SynLBD) was released in 2011, covering years 1976–2000 and containing synthesized information on 21 million establishments, including establishments' employment and payroll, birth and death years, and industrial classification.

In recognition of all of these efforts, various teams encompassing CES staff were awarded a combined total of 22 bronze medals (representing 20 staff members). LEHD staff were awarded a Department of Commerce Gold Medal and the Director's Award for Innovation for OnTheMap.

Finally, we continued to expand our existing partnerships. In 2010, the Local Employment Dynamics data sharing partnership became national, with the addition of New Hampshire and Massachusetts, the last two states to join the partnership. The RDC network was expanded over multiple dimensions. We added two new locations in 2010 (Atlanta and RTI) and started work to open two more locations in 2012 (Seattle and Texas). In addition, we updated and expanded the research datasets available in the RDCs.

The scope of CES' innovative activities will continue to expand as CES now serves a wider constituency given our move into the newly formed Research and Methodology (R+M) Directorate. CES will retain our strong connections with the program areas in the Economic Directorate.

The reorganization that created R+M has meant a reorganization inside of CES as well. Our previous Chief Economist, Ron Jarmin, is now the Assistant Director for R+M. In addition, five other CES staff moved into the operations staff of R+M. I was appointed the new Chief of CES and Chief Economist in late September 2011. I am looking forward to all of the exciting challenges that CES will face as we help the Census Bureau to become a more responsive, dynamic, and informative statistical agency.

Thank you to everyone who contributed to this report. Randy Becker and B.K. Atrostic compiled and edited nearly all 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. 2010–2011 News

### **CES JOINED THE RESEARCH AND METHODOLOGY DIRECTORATE**



*Ron Jarmin, an economist with CES since 1992, and its Chief Economist from 2008 to 2011, was appointed Assistant Director of the newly established Research and Methodology Directorate.*

Reflecting the increased scope of its research and development operations, CES joined the Research and Methodology (R+M) Directorate in 2010. U.S. Census Bureau Director Robert Groves established the R+M Directorate to enhance the research and innovation capacity of the Census Bureau and to broaden and strengthen ties between the Census Bureau and the academic community. Organizationally, CES was moved from the Economic Directorate to the new R+M Directorate, joining four newly organized

and reorganized centers—the Center for Statistical Research and Methodology, the Center for Survey Measurement, the Center for Administrative Records Research and Applications, and the Center for Disclosure Avoidance Research.

University of Michigan statistician Rod Little was tapped as the R+M Directorate's first leader. Ron Jarmin, an economist with CES since 1992, and its Chief Economist since 2008, was appointed Assistant Director for Research and Methodology. In addition, five other CES staff members were asked to join the new directorate.

### **NEW CHIEF ECONOMIST NAMED**



*Lucia Foster was named Chief Economist in September 2011.*

In September 2011, Lucia Foster was named the new Chief of the Center for Economic Studies and Chief Economist of the Census Bureau. Lucia came to the Census Bureau as a research

assistant in 1993, while working on her dissertation at the University of Maryland using Census Bureau microdata on businesses at CES. She then worked as an economist in CES from 1998 to 2008 before becoming its Assistant Division Chief for Research in 2008.

Lucia brings extensive research experience to her new role. She has used Census Bureau microdata on businesses to conduct research on job creation and destruction, productivity and reallocation, and research and development (R&D) performing firms. Her research appears in numerous CES Discussion Papers and in major journals in economics, such as the *American Economic Review*. Lucia received a Bronze Medal in 2010 for her work supporting Decennial Census operations. Lucia began her professional career as an assistant analyst at the Congressional Budget Office and the Federal Reserve Board.

Lucia received a B.A. in Economics from Georgetown University and a Ph.D. in Economics from the University of Maryland.

### **CES RESEARCH EXPANDS IN SCOPE**

Research and development activities carried out at CES increase our understanding of the U.S. economy and its people by creating new Census Bureau data products, using existing Census Bureau data products

## NEW WEB SITE

The new CES Web site went live in December 2010 at <[www.census.gov/ces/](http://www.census.gov/ces/)>. The new site shares the look and feel of the Census Bureau's other Web sites. The new structure also makes it easier to find information about CES and LEHD, Research Data Centers, research publications and reports, and employment opportunities.

in new ways, and suggesting improvements to existing data products. CES staff have also become increasingly involved in research activities more closely related to the operational aspects of surveys and censuses, including helping to develop a new supplement to an existing survey.

Recent enhancements to four CES public-use data products stem directly from our research activities. As described in subsequent news items, the Business Dynamics Statistics, Synthetic Longitudinal Business Database, Quarterly Workforce Indicators, and OnTheMap have all been updated and expanded recently.

In addition to these data products, CES staff research has resulted in 32 CES Discussion Papers in 2010 and 2011, a number of book chapters, and 14 articles in peer-reviewed journals (including 12 more that are forthcoming). These publications have increased our understanding of a myriad of subjects, including (but not limited to):

the characteristics of firms that create jobs; business volatility, job destruction, and unemployment; plant-level responses to antidumping duties; information dissemination and firm and industry dynamics; the nature of employer-to-employer flows; the growth of retail chains; the impact of Big-Box retailers; spatial heterogeneity in environmental compliance costs; plant-level productivity; declines in employer-sponsored health insurance; and sources of earnings inequality. See Appendixes 2 and 4 for publications and working papers by both CES staff and RDC researchers.

CES staff have also been involved in four research activities more closely aligned to survey *operations*. First, CES staff undertook two research activities related to 2010 Decennial Census operations (discussed in Chapter 2), and CES staff continue to be involved in planning for the 2020 Decennial Census. Second, CES researchers built upon this experience with the Decennial Census to analyze Economic Census operations (discussed in Chapter 3). Finally, CES was a partner with the Census Bureau's Manufacturing and Construction Division and a team of academic researchers in developing the Management and Organizational Practices Survey (MOPS) supplement to the Annual Survey of Manufactures.

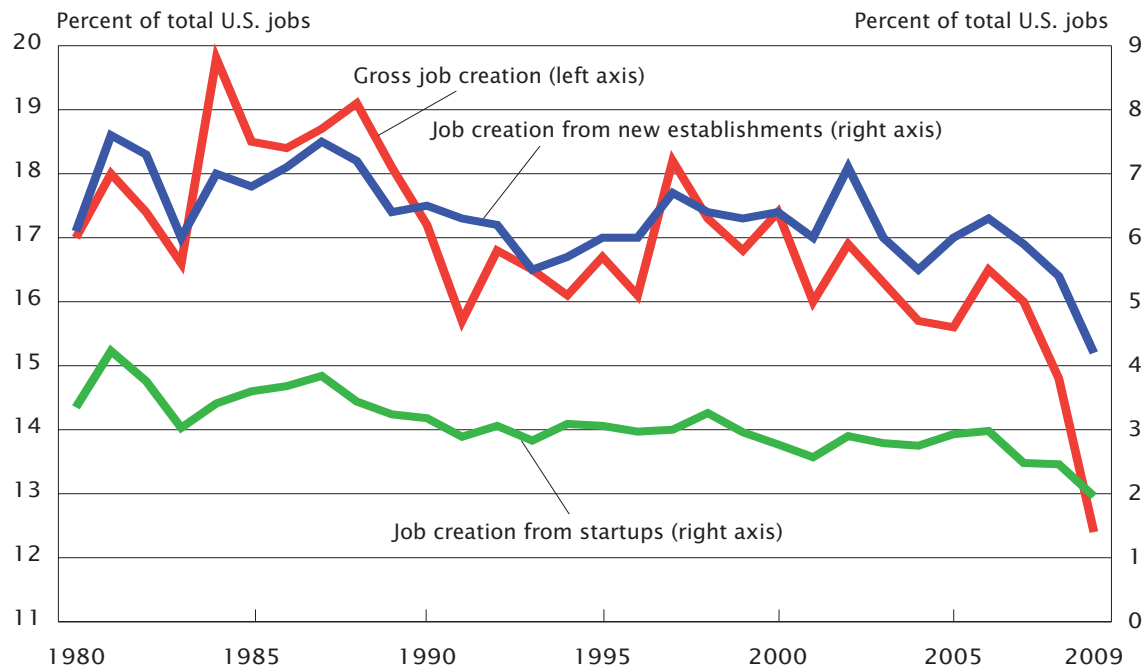
The Research Support Staff at CES have also greatly expanded the scope of their activities. Research Support continues to collect, process, and warehouse data from across the Economic Directorate and the

Demographic Directorate, but now they also collect data from the Decennial Directorate. Moreover, they are no longer collecting only microdata, they are now also focusing on meta-data and paradata. Research Support continues to work with the Economic Directorate to plan and design the archive of business data at CES. In addition, Research Support now provides PIK-assignment services to internal customers, following the realignment of the CES Data Staff and the Center for Administrative Records Research and Applications Data Preparation Branch.

## NEW RELEASES OF PUBLIC-USE DATA

In March 2011, the Census Bureau released the 2009 ***Business Dynamics Statistics*** (BDS), which provides annual statistics on establishment openings and closings, firm startups, job creation, and job destruction, from 1976 to 2009, by firm size, age, industrial sector, and state. This particular release sheds light on the 2008–2009 recession. Notably, at the height of the recession, the economy saw historically large declines in job creation from startup and existing firms. (See figure on next page.) Nevertheless, the economy generated 14 million new jobs in the private sector during that period. 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](http://www.census.gov/ces/dataproducts/bds.html)>.

## Job Creation and Business Startup Rates, U.S. Private Sector: 1980–2009



The **Synthetic LBD Beta Data Product** (SynLBD) was released in version 2 in 2011. The SynLBD is an experimental data product produced by CES in collaboration with Duke University, Cornell University, the National Institute of Statistical Sciences (NISS), the Internal Revenue Service (IRS) and the National Science Foundation (NSF). The SynLBD (v2) covers years 1976–2000, and contains synthesized information on 21 million establishments, including establishments’ employment and payroll, birth and death years, and industrial classification. The purpose of the SynLBD is to provide users with access to a longitudinal business data product that can be used outside of a secure

Census Bureau facility. The Census Disclosure Review Board and its counterpart at IRS have reviewed the content of the file, and allowed the release of these data for public use. Access to the data is via the VirtualRDC at Cornell University. For more information, visit [www.census.gov/ces/dataproducts/synlbd](http://www.census.gov/ces/dataproducts/synlbd).

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 2010, the QWI were expanded to include additional demographic information on worker educational

attainment, race, and ethnicity. In 2011, the Longitudinal Business Database (LBD) data was integrated into the LEHD infrastructure, which will eventually expand QWI tabulations to include the age and size of the firm.

### ONTHEMAP IS EXPANDED AND UPDATED

CES staff continue to update and improve *OnTheMap*. *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

## ONTHEMAP WINS DOC GOLD MEDAL AND DIRECTOR'S AWARD FOR INNOVATION



*Secretary Gary Locke and Undersecretary Rebecca Blank award the Department of Commerce Gold Medal to CES' OnTheMap team.*

In 2010, the Secretary of Commerce selected the OnTheMap team to receive a group Gold Medal Award for Scientific/Engineering Achievement. This award is the highest honorary recognition awarded by the Department of Commerce (DOC). At a ceremony held at the Ronald Reagan Building on October 19, 2010, Secretary Gary Locke presented the awards to Colleen Flannery, Matthew Graham, Patrick "Heath" Hayward, Walter Kydd, Jeremy Wu, and Chaoling Zheng, for having "developed innovative use of web-based technology to create and advance OnTheMap for rapid viewing and analysis of massive quantities of data."

In May 2010, the same team received the Census Bureau Director's Award for Innovation, which recognizes individuals and teams for their creativity, effectiveness, and risk-taking behavior in developing new processes and products.

The OnTheMap team wishes to share these honors with the many partners in the Local Employment Dynamics partnership who created this opportunity (see Appendix 7). Since OnTheMap was first released in 2006, it has been mentioned in the 2008 Economic Report of the President, and the application was featured as a major statistical innovation of the United States by the United Nations Statistical Commission in 2009. OnTheMap can be accessed under Quick Links at <[lehd.did.census.gov](http://lehd.did.census.gov)>.

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 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. OnTheMap can be accessed at <[onthemap.ces.census.gov](http://onthemap.ces.census.gov)>.

In July 2010, the Census Bureau launched *OnTheMap for Emergency Management*. Version 2 was released in the summer of 2011. This public data tool provides unique, real-time information on the 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 labor market characteristics for these areas. The reports 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, OnTheMap for Emergency Management automatically incorporates real-time data updates from the National Weather Service, Departments of Interior and Agriculture, and other agencies for hurricanes,



floods, and wildfires. OnTheMap for Emergency Management Version 2.0 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.

### 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 2010 and 2011, the RDC network expanded in terms of locations, projects hosted, research completed, and datasets made available to researchers.

In October 2010, the Triangle Census RDC expanded beyond its original location at Duke University with a second location at RTI International in Research Triangle Park, NC. In September 2011, the Atlanta Census RDC opened its location at the Federal Reserve Bank of Atlanta. Further expansion is expected in 2012 with the Northwest Census RDC in Seattle, WA, and the Texas Census RDC in College Station, TX.

In 2010 and 2011, 39 new RDC projects began. Of those, 17 use Census Bureau microdata (see Appendix 3-A), while 6 use data from the Agency for Healthcare Research and Quality, and



Census Bureau Director Bob Groves speaks at the opening of the Atlanta Census RDC on September 26, 2011.

### PUBLICATIONS BY RDC RESEARCHERS AND CES STAFF: 2010, 2011, AND FORTHCOMING

<b>Economics journals (by rank)</b>	<b>RDC researchers</b>	<b>CES staff</b>	<b>Total</b>
AAA (1–5)	5	1	6
AA (6–20)	13	2	15
A (21–102)	22	9	31
B (103–258)	12	6	18
C (259–562)	2	2	4
D (563–1202)	0	0	0
<b>Journals outside of economics</b>	16	6	22
<b>Book chapters</b>	4	5	9
<b>Books</b>	1	0	1
<b>TOTAL</b>	75	31	106

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*.



*The CES Decennial Analysis Team helped track progress of 2010 Census operations.*

16 use data from the National Center for Health Statistics (see Appendix 3-B).

Meanwhile, RDC researchers continue to be tremendously prolific, with at least 75 publications and another 76 working papers in 2010 and 2011 (see Appendix 2). As the table on the previous page 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*, *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 student on the use of Census Bureau microdata, and a visit to CES where they

meet with staff economists and present research in progress. In 2010 and 2011, CES accepted 8 new participants into the program and has had 14 since the program began in 2008. Six of these students have made their visits to the CES in the last 2 years.

The microdata available to researchers has also expanded. Among the notable releases are data from the 2007 Economic Census and the 2008 Snapshot of the Longitudinal Employer-Household Dynamics (LEHD) infrastructure files. See Appendix 5 for more details.

### **CES STAFF RECEIVE 22 BRONZE MEDALS**

Numerous CES staff were awarded Bronze Medal Awards in 2010 and 2011 for their significant contributions and superior performance. The Bronze Medal Award for Superior Federal Service is the highest honorary recognition by the Census Bureau.

In December 2010, the CES Decennial Analysis Team was recognized for its professional excellence in developing a tract-level model of response rates to the 2010 Census mailout/mailback operation. This model was used to predict 2010 response rates over a number of important tract-level characteristics (including race, ethnicity, language, and type of housing unit). It was also used to analyze the impact of operations intended to increase response rates. (This work is discussed in the next chapter.) CES team members included B.K. Atrostic, J. David Brown, Catherine Buffington, Emin Dinlersoz, Lucia Foster, Shawn Klimek, Mark Kutzbach, Todd Gardner, Ron Jarmin, and Kristin McCue.

At the same ceremony, the Historical Microdata Recovery Team was recognized for its leadership, vision, initiative, and technical skill in identifying and rescuing a wealth of historical data on businesses and households, some from the earliest days of electronic computing.





*The Historical Microdata Recovery Team rescued microdata dating back to the 1950s.*



*The Business Dynamics Statistics Team created a new data product by integrating data from existing sources.*

Thousands of “trapped” data files were recovered from the Census Bureau’s last Unisys mainframe, providing social scientists with more microdata to help explain the present and inform debates about the future. CES team members included B.K. Atrostic, Randy Becker, Jason Chancellor, Todd Gardner, Cheryl Grim, Mark Mildorf, and Ya-Jiun Tsai. The team wishes to acknowledge the pioneering efforts of Al Nucci, who retired from CES in 2006.



*The Economist Corporate Hiring Objective Team worked to improve the Census Bureau’s ability to recruit highly skilled economists.*

In December 2011, the Business Dynamics Statistics Team, consisting of Javier Miranda and Ronald Davis, was recognized for its professional excellence in developing the Business Dynamics Statistics (BDS)—a new product created by integrating data from existing sources to enhance our understanding of trends in the U.S. economy. The BDS was noted as a model for new product development.

At the same ceremony, Alice Zawacki was recognized for her role on the Economist Corporate Hiring Objective Team and for

## SANG NGUYEN RETIRES



Sang Nguyen

CES' longest serving economist retired in September 2011. Dr. Sang V. Nguyen began his career at CES in 1982, the year CES was founded. Among his many accomplishments, Sang authored over two dozen journal articles—including highly cited research published in the *RAND Journal of Economics* and the *International Journal of Industrial Organization*—as well as numerous book chapters and working papers. Some of his research relied on the Ownership Change Database, which he helped develop, and which tracks owners of manufacturing plants from 1963 to 2002. Sang also served as the editor of the CES discussion paper series from 1990 to 2009, and as a branch chief in LEHD. To honor his career and accomplishments, CES staff presented Sang with a bound volume of some of his most prominent works. A second copy of the nearly 600 page *Selected Works of Sang V. Nguyen* resides in CES' library.

her professional excellence in developing a multi-directorate corporate hiring program to recruit highly skilled economists to the Census Bureau.

Lynn Riggs was recognized for her role on the Data Management Pilot Requirements and Evaluation Team, which successfully demonstrated a new concept for a processing environment to manage, control, share, and work on internal datasets.

Michele Yates was recognized for her role on the Document Management Governance and Support Team, which was instrumental in providing leadership, accountability, and oversight to the Economic Directorate's Document Management System.

## RDC ANNUAL RESEARCH CONFERENCES

The RDC Annual Research Conference features research from current or recent projects carried out in a Research Data Center (RDC) or at CES.

The 2010 RDC Conference was held November 18, 2010, at the University of Maryland, and was hosted by the Center for Economic Studies in collaboration with the Maryland Population Research Center and the Department of Economics at the University of Maryland. Census Bureau Director Robert Groves kicked off the conference with a discussion on the future of research at the Census Bureau. Rebecca Blank, Undersecretary for Economic Affairs at the Commerce Department, gave the keynote speech on "Using Data to Address Policy Issues: Perspectives from the Policy World." RDC and CES researchers presented 18 papers and 16 posters on a variety of topics, grouped by the restricted-access Census Bureau data used:

- Business data and/or linked employer-employee data
- Individual and household data

- Health data, including projects using data from the National Center for Health Statistics (NCHS) and the Agency for Healthcare Research and Quality (AHRQ).

There were also three information sessions focused on these three types of data available in the RDCs. Guidance was provided on submitting proposals and conducting research in an RDC.

The 2011 RDC Conference was held on September 15, 2011, at the University of Minnesota, and was hosted by the Minnesota Census RDC and the Minnesota Population Center. The keynote address on "The History and Future of Large-Scale Census Data" was given by Steven Ruggles, University of Minnesota Regents Professor of History, and Director of the Minnesota Population Center. RDC and CES researchers presented 20 papers at six sessions organized around the data used, including LEHD



data, health data, individual and household data, and business data.

The 2012 RDC Annual Research Conference will be held at the Federal Reserve Bank of Chicago on September 20, 2012.

### **LOCAL EMPLOYMENT DYNAMICS (LED) PARTNERSHIP WORKSHOPS**

The 2010 Local Employment Dynamics (LED) Partnership Workshop was held on March 10–12, 2010, in Arlington, VA. More than 170 persons registered and representatives from about 40 states attended the open event. Census Bureau Deputy Director Thomas Mesenbourg, Jr. and LED Steering Committee State Co-Chair Greg Weeks (Washington State) opened with welcoming remarks on the morning of March 11. Ed Montgomery, White House Director of Recovery for Auto Communities and Workers provided the keynote address in the morning plenary session, with discussion by Randall W. Eberts, President, W.E. Upjohn Institute. Mark Doms, Chief Economist, U.S. Department of Commerce, delivered the keynote address in the afternoon session. Eric Moore of Oregon and Dr. Tim Smith of Missouri were honored posthumously by the LED Partnership Award for Innovation. Invited speakers, state partners, and data users

### **MASSACHUSETTS AND NEW HAMPSHIRE COMPLETE LED PARTNERSHIP**

In 2010, Massachusetts and New Hampshire joined the Local Employment Dynamics (LED) Partnership, completing a historic national partnership that now includes 50 states, the District of Columbia, Puerto Rico, and the U.S. Virgin Islands. LED is a voluntary federal-state partnership that integrates data on employees and data on employers with multiple other data sources to produce new and improved labor market information about the dynamics of the local economy and society, while strictly protecting the confidentiality of individuals and firms that provide the data.

shared their experience, results, and plans on using LED data for education, emergency management, workforce planning, transportation planning, and economic indicators.

The 2011 LED Partnership Workshop was held on March 9–10, 2011, in Arlington, VA. Census Bureau Deputy Director Thomas Mesenbourg, Jr. and CES Assistant Division Chief for LEHD Jeremy Wu opened with welcoming remarks on the morning of March 9, followed by a keynote address by Nancy Potok, the U.S. Department of Commerce Deputy Undersecretary for Economic Affairs. Over 200 persons were in attendance. Andrew Reamer of George Washington University was the lunchtime speaker on the first day and John Haltiwanger of the University of Maryland was the lunchtime speaker on the second day. Opening remarks on March 10 were offered by LED Steering

Committee State Co-Chair Greg Weeks (Washington State) and by Rod Little, the Census Bureau's Associate Director for Research and Methodology. Topics addressed by invited speakers, state partners, and data users included innovation in data presentation, economic development, workforce development, transportation planning, community issues, and unemployment.

At both workshops, LED staff members described recent and upcoming enhancements and operations. Invited posters were also on display to showcase use of LED data and results. LED state partners held business meetings, discussed promotion of LED, and conducted a strategic planning session.

All received presentations and posters for both the 2010 and 2011 workshops are posted at [lehd.did.census.gov/led/library/workshops.html](http://lehd.did.census.gov/led/library/workshops.html).



---

## Chapter 2.

# Real-Time Analysis Informs 2010 Decennial Census Operations

*J. David Brown, Emin Dinlersoz, Shawn Klimek, Mark Kutzbach, and Kristin McCue,  
Center for Economic Studies*

The decennial population census is the U.S. Census Bureau's flagship operation as well as its most costly. Carrying it out is the culmination of more than 10 years of planning, and the Census Bureau faces enormous pressure to do it on time and within budget. While many smaller operations precede and follow them, mailout/mailback and nonresponse follow-up (see text box) are where most of the data is collected and money is spent.

Decennial operation control systems generate various data as these operations unfold, including aggregate information on costs and progress used to monitor these operations. Two months prior to the start of the 2010 mailout/mailback operation, the Office of the Census Bureau director asked the Center for Economic Studies (CES) for help in enabling real-time analysis of detailed operational data. This led to two related projects: first, an analysis of mail returns by census tract, using returns from the 2000 census as a point of comparison; and second, an analysis of enumerator productivity during nonresponse follow-up.

Both projects substantially expanded the flow of information to the director's office. In particular, analysis of the operational microdata was provided on a daily basis via an internal Web site. Another,

### DECENNIAL CENSUS TERMS

**Mailout/Mailback (MO/MB):** The U.S. Postal Service (USPS) delivered census questionnaires to most addresses on March 15, 2010. Most households that received census questionnaires returned them by mail.

**Mailout/Mailback participation rates:** This is the number of returned Mailout/Mailback questionnaires divided by the number of questionnaires mailed out that were not undeliverable as addressed (UAA). A common reason for a form to be UAA is that the housing unit is vacant.

**Mailout/Mailback response rates:** This is the number of returned Mailout/Mailback questionnaires divided by the total number of questionnaires mailed out.

**Tract:** Census tracts are small, relatively permanent statistical subdivisions of a county, usually containing between 2,500 and 8,000 persons, and are designed to be homogeneous with respect to population characteristics, economic status, and living conditions. There were 65,479 tracts in the 2010 decennial census.

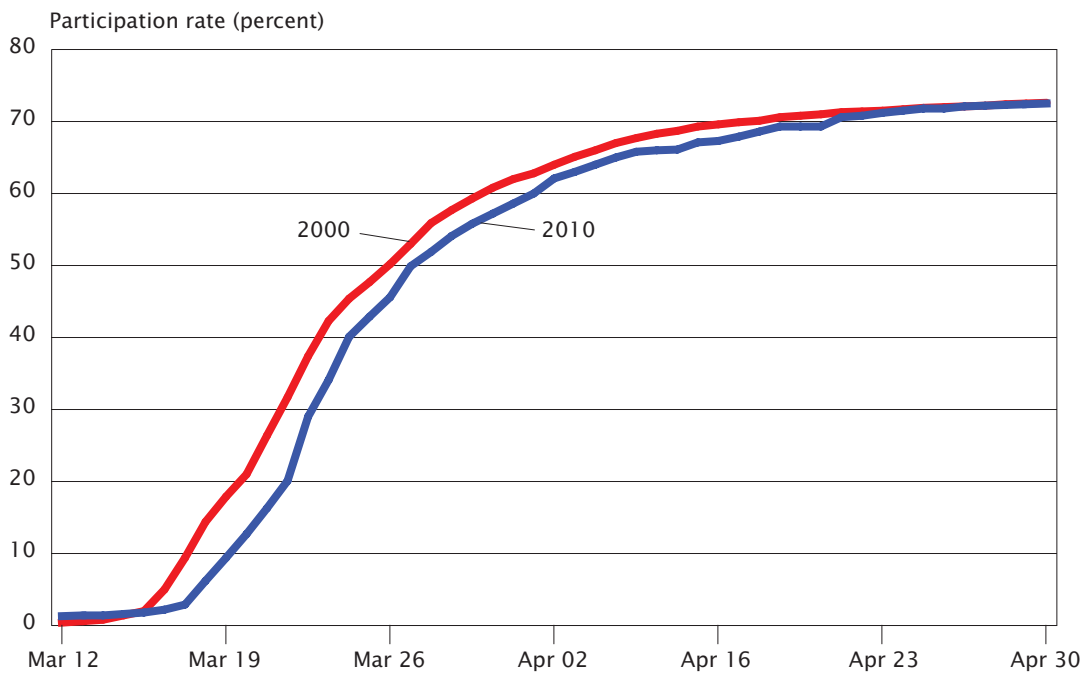
**Nonresponse Follow-Up (NRFU):** Households not returning the questionnaire by mail were visited by NRFU enumerators in May–July 2010. They determined the status of each address in their assignment area (occupied, vacant, or did not exist on April 1, 2010) and completed a questionnaire for the address.

**Regional Census Center (RCC):** The country was divided into 12 regions (plus Puerto Rico), each with a RCC whose management monitored the activity of local census offices.

**Local Census Office (LCO):** Each RCC contained many local census offices. There were 494 in the country as a whole. The local census office coordinated the activity of the field operations supervisors, collected and shipped NRFU questionnaires to the national processing centers, and conducted quality control.

**Field Operations Supervisor District (FOSD):** LCOs were divided into eight districts, headed by a Field Operations Supervisor. The supervisor managed the eight crew leaders in the district, while the crew leaders managed individual enumerators.

Figure 1.  
**2010 Participation Rates Initially Lagged Behind 2000 Rates**



Note: Uses 2-day lag for 2000 (i.e., 3/13/2000 compared to 3/15/2010).  
 Source: Authors' calculations.

indirect result of these activities has been a much expanded role for CES in helping to ensure that operational data are more readily available inside the Census Bureau and that analyses of such data play a role in informing survey operations.

Here we describe these projects and discuss how our knowledge might be used in upcoming Census Bureau data collection activities.

### **MAILOUT/MAILBACK**

Our mailout/mailback project was motivated by a concern that the decennial census would differentially undercount

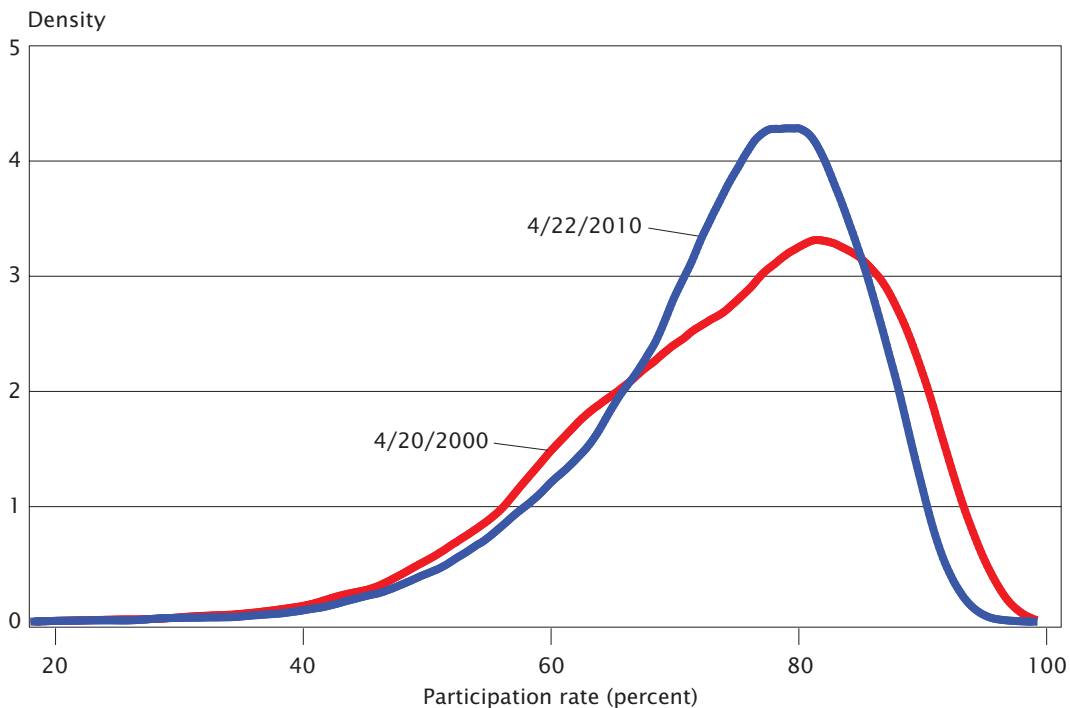
some parts of the population. The goal for us was to identify important differences in return rates as mailout/mailback was happening, so that the Census Bureau could redirect resources in an attempt to increase mail returns among lagging groups. Narrowing these differences through additional mail returns would be much less costly than sending out additional enumerators in May.

We identified lagging areas in two ways. One was a direct comparison of 2000 and 2010 tract-level response rates. Tract characteristics may have changed between 2000 and

2010, however, and these changes could have influenced 2010 response rates. As an alternative, we estimated variation in 2000 response rates by 2000 tract characteristics and applied the estimated relationships to tract characteristics from the 2006–2008 American Community Survey (ACS) to get predicted response rates for 2010. These predicted response rates served as a second benchmark for whether tract returns were behind expectations.

Figure 1 illustrates how the time path of mail returns differed for 2000 and 2010 when we line up

Figure 2.  
**Less Variation in 2010 Participation Rates Across Tracts**



Source: Authors' calculations.

the starting dates for mailout/mailback. (Questionnaires were mailed to households on March 13 in 2000 vs. March 15 in 2010.) We use participation rates here, defined as returns divided by the number of forms sent out that were not returned as undeliverable. Forms may be undeliverable to vacant housing units, and the vacancy rate was significantly higher in 2010, so response rates including undeliverable cases would obscure the 2000 to 2010 comparison. While mail returns started more slowly in 2010, average tract participation rates were close to those for 2000 by the end of the operation (70.9 percent on April

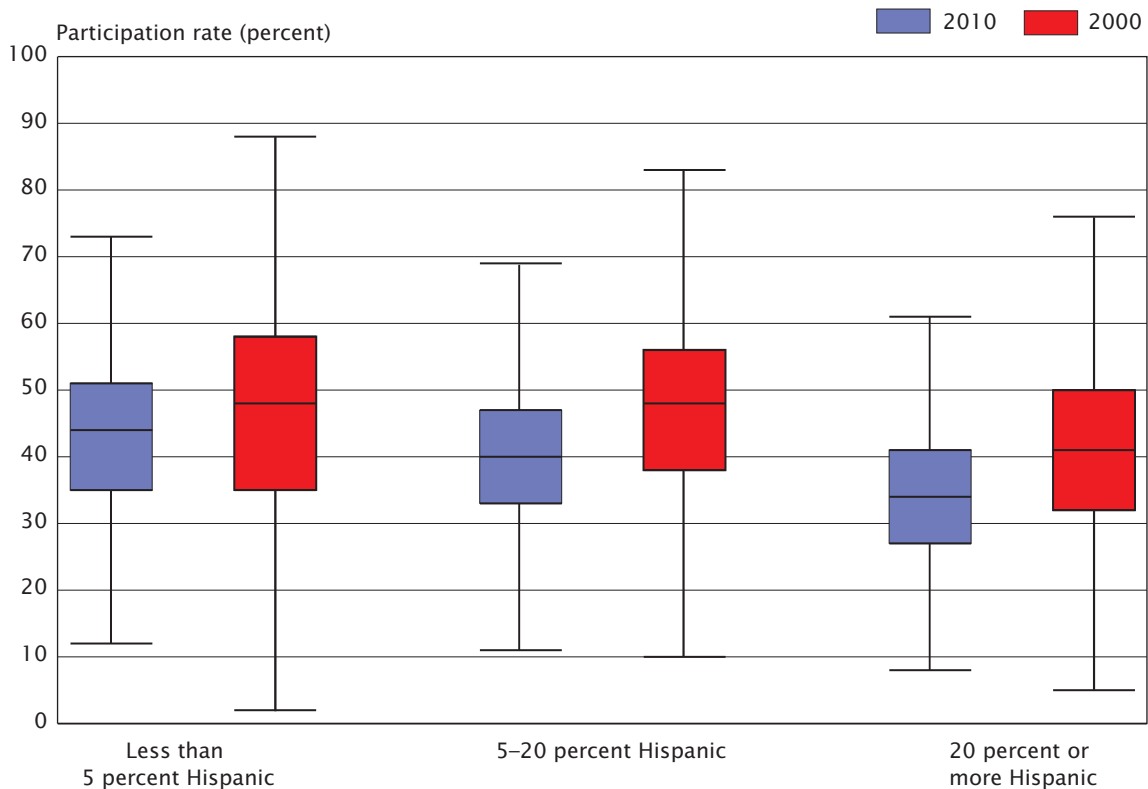
22, 2010, versus 71.2 percent on April 20, 2000).

Figure 2 shows the distribution of participation rates across tracts for both censuses. Variation was noticeably lower in 2010. The general reduction in across-tract variation is desirable, insofar as it represents a reduction in the differential undercount of certain groups.

A primary purpose of the mailout/mailback project was to compare mail returns for different parts of the population. Since all measures were at the tract level, these differences were easiest to capture for groups that were clustered geographically. That is, differences

across tracts will identify the behavior of a group when that group dominates the population in some tracts and is scarce in others. Figure 3 shows one example of the daily plots used to illustrate differences in participation rates by tract composition, where the group of interest is Hispanic residents. The bottom and top of the boxes in the plot give participation rates for tracts at the 25th and 75th percentiles of the distribution, while the line across the box gives the median. The blue boxes show the response rates for 2010; the red boxes show the response rates for 2000. The left-most pair of boxes shows response

Figure 3.  
**Response Rates Lower in Tracts With Large Hispanic Shares**



Note: Rates as of 3/22/2010 and 3/20/2000.  
 Source: Authors' calculations.

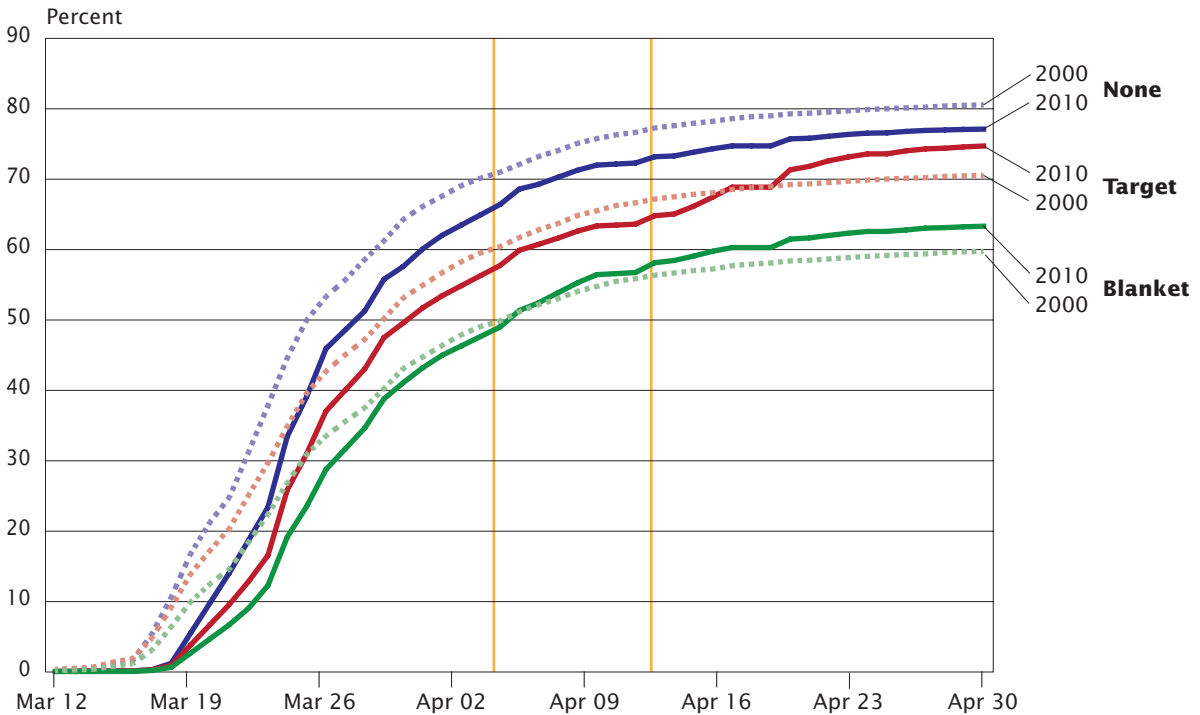
rates for tracts with relatively low Hispanic concentration (less than 5 percent); while the right-most pair of boxes shows response rates for tracts with relatively high Hispanic concentration (more than 20 percent). The plot illustrates that participation rates were lower in tracts in which Hispanics were a larger share of residents, and that pattern was more marked in 2010 than in 2000.

Advertising was one of the main tools available to spur mail returns during the mailout/

mailback period. Our analysis of response patterns by demographic groups was used as an input into decisions regarding how to target advertising in this phase. Differences across groups and by geographic areas helped identify markets with a high share of nonresponding households. The communications team then used this information in making decisions about local and national advertising and advertising directed to target populations.

Another use of our analysis was to give early feedback on the success of changes in procedures introduced in 2010 to increase response rates. One such change was mailing a second round of forms midway through the mailout/mailback phase. While the distribution of forms was not based on an experimental design, we could examine if the growth rate of responses differed for tracts that received the treatment versus those that did not.

Figure 4.  
**Participation Rates Improve After Replacement Mailings**



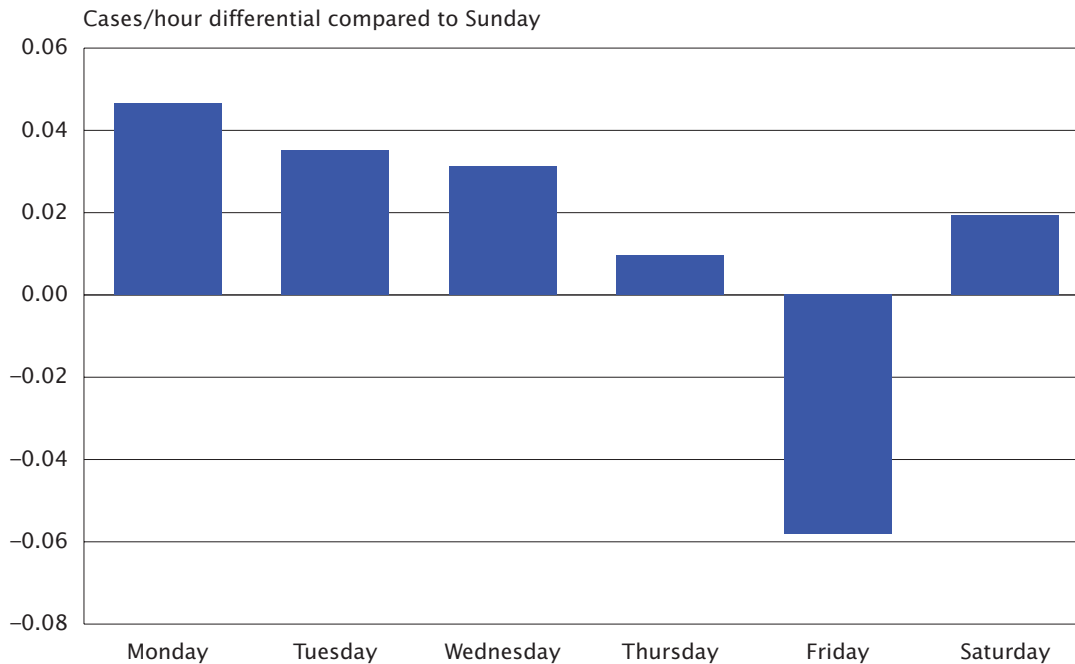
Notes: Includes only mailout/mailback tracts. 2000 tracts categorized based on 2010 treatment.  
 Source: Authors' calculations.

The second round mailings were done two ways: blanket mailings in which all households in an area received a second form, and targeted mailings in which only nonresponding households received a second form. As part of the blanket mailings, forms were sent out on April 1–3 to *all* of the 25 million households living in areas with 2000 response rates below 59 percent. In the targeted mailing operation, replacement forms were sent out on April 6–10 to approximately 15 million *nonrespondent* households in areas with 2000 response rates in the 59 to 67 percent range.

The second round forms were tallied separately from the original forms during check-in, so we were able to identify when the replacement mailing began to affect total check-ins. In “blanketed areas,” replacement forms first appeared among checked-in forms on April 4th, while in “targeted areas” they first appeared in April 12th check-ins. Figure 4 plots participation rates for tracts in three categories: blanketed tracts, targeted tracts, and tracts not included in replacement mailing. Note that there was no replacement mailing in 2000—the 2000 lines simply give the response rate for

the sets of tracts based on their treatment in 2010. The vertical lines mark the dates when replacement forms began to be checked in. The graph does not provide a definitive answer on the effectiveness of these mailings—but the steeper slope in returns among blanketed and targeted tracts that appears shortly after the replacement forms arrived suggests that the second round of mailings may have helped increase response rates.

Figure 5.  
**Enumerators Are More Productive Early in the Week**



## NONRESPONSE FOLLOW-UP

Our nonresponse follow-up project aimed to give the Census Bureau better information on how enumerator activity was affected by the characteristics of their work assignments. If the Census Bureau could identify factors that increased productivity, it could potentially reallocate resources to reduce follow-up costs. A second motivation for the project was to identify areas that were lagging behind predicted levels to allow for changes so follow-up activities could be kept on schedule.

Decennial operation control systems routinely generate aggregate measures of follow-up costs

(such as payments to enumerators) and progress (such as the number of cases completed) for the organizational units involved in carrying out follow-up, including Local Census Offices (LCOs) and Regional Census Centers (RCCs). To support more detailed analysis, we obtained data on individual enumerator activity. This allowed us to estimate a model of how the number of cases completed per hour varied with characteristics of enumerator caseloads, assignment areas, and work activities. For example, Figure 5 illustrates variation in enumerator productivity over days of the week. Productivity is clearly higher early in the week, perhaps because enumerators are more likely to find

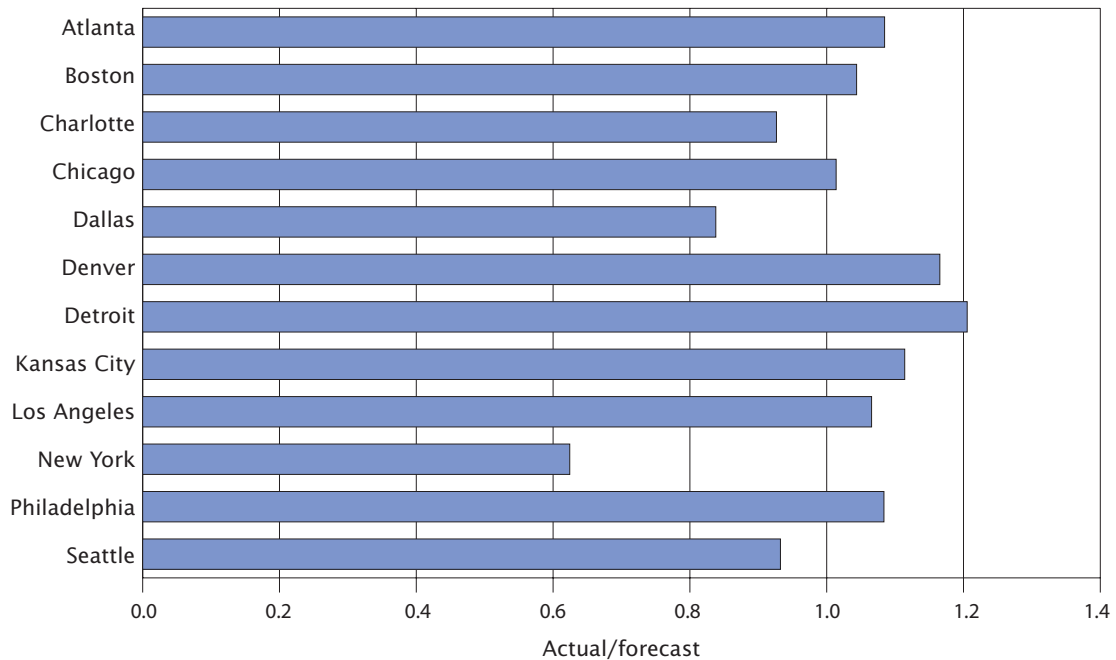
a household member at home then. These estimates suggest that costs could be lowered by shifting some enumerator hours away from Fridays.

Meanwhile, predicted values of the number of cases an enumerator is expected to have completed (based on the number of hours he or she worked and the difficulty of enumerating in the area worked) were aggregated to the LCO and RCC levels. Figure 6 shows the ratios of actual completions to predicted completions for each RCC as of May 24, 2010. Based on this measure, Detroit and Denver performed significantly better than expected, while New York



Figure 6.

**Productivity Varies Widely Across Regions: Ratio of Actual to Expected Completions for Regional Census Centers**



and Dallas performed considerably worse.

Our analysis also examined how the data collected during nonresponse follow-up affected differences in final response rates across groups of concern. Figure 7 shows rates of response through mailout/mailback and through enumeration (NRFU) by the share of minorities in a tract's population. Information about April 1st inhabitants of a housing unit provided by people not living there on April 1st—known as proxy response—is treated as nonresponse here. Figure 7 shows that mail response rates strongly negatively correlate with percent minority. Tracts with populations

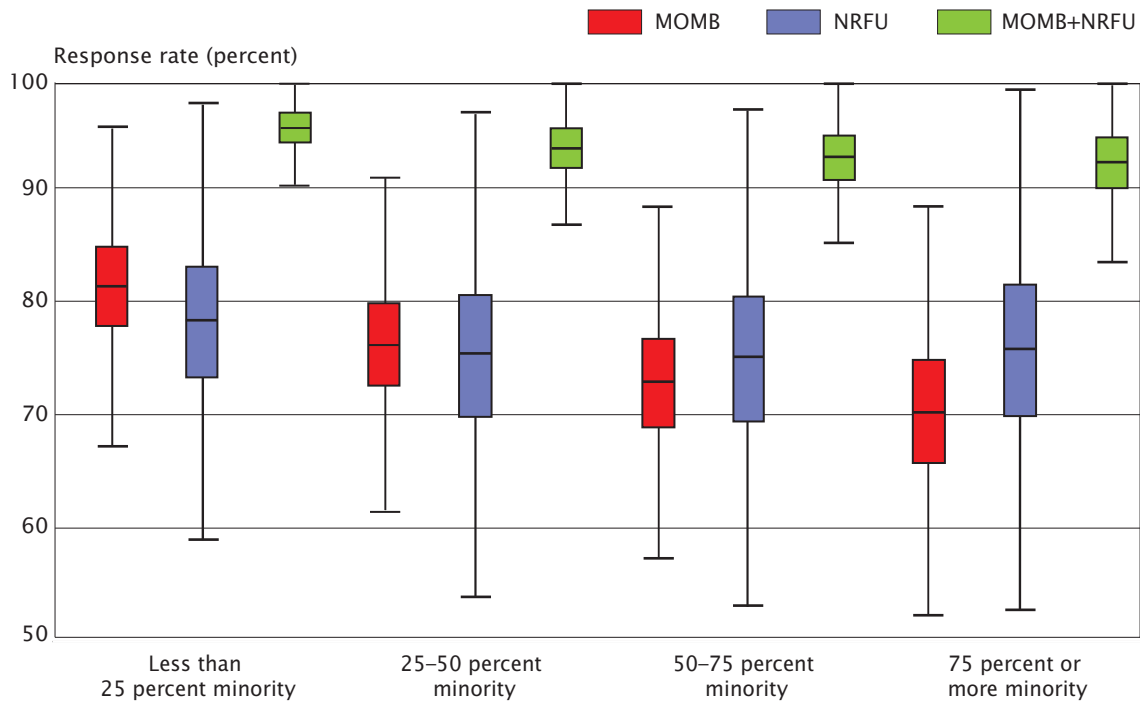
that are less than 25 percent minority had about eleven percentage points higher average response rates than tracts with populations that are more than 75 percent minority. The correlation is much weaker in nonresponse follow-up, where 75 percent minority tracts had approximately three percentage points lower interview rates. Nonresponse follow-up thus reduced the differential undercount of minorities relative to the count at the end of the mailback period.

Figure 8 shows the odds ratios of selected variables in tract-level grouped logistic regressions of response rates separately for mailout/mailback

(in blue) and nonresponse follow-up (in red). The results provide further support for the story suggested by Figure 7. Even after controlling for other factors, minority race/ethnicity groups have well-below-average mailout/mailback response rates, but their nonresponse follow-up response rates are not nearly so low. Unemployment has a positive association with response rates, but the magnitude of the effect is very small. Richer neighborhoods have slightly higher mailout/mailback response rates and slightly lower nonresponse follow-up response rates. Areas with a high concentration of retirement-aged persons have very high mailout/mailback

Figure 7.

**Enumeration Reduces Response Rate Differences by Minority Status**



Source: Authors' calculations.

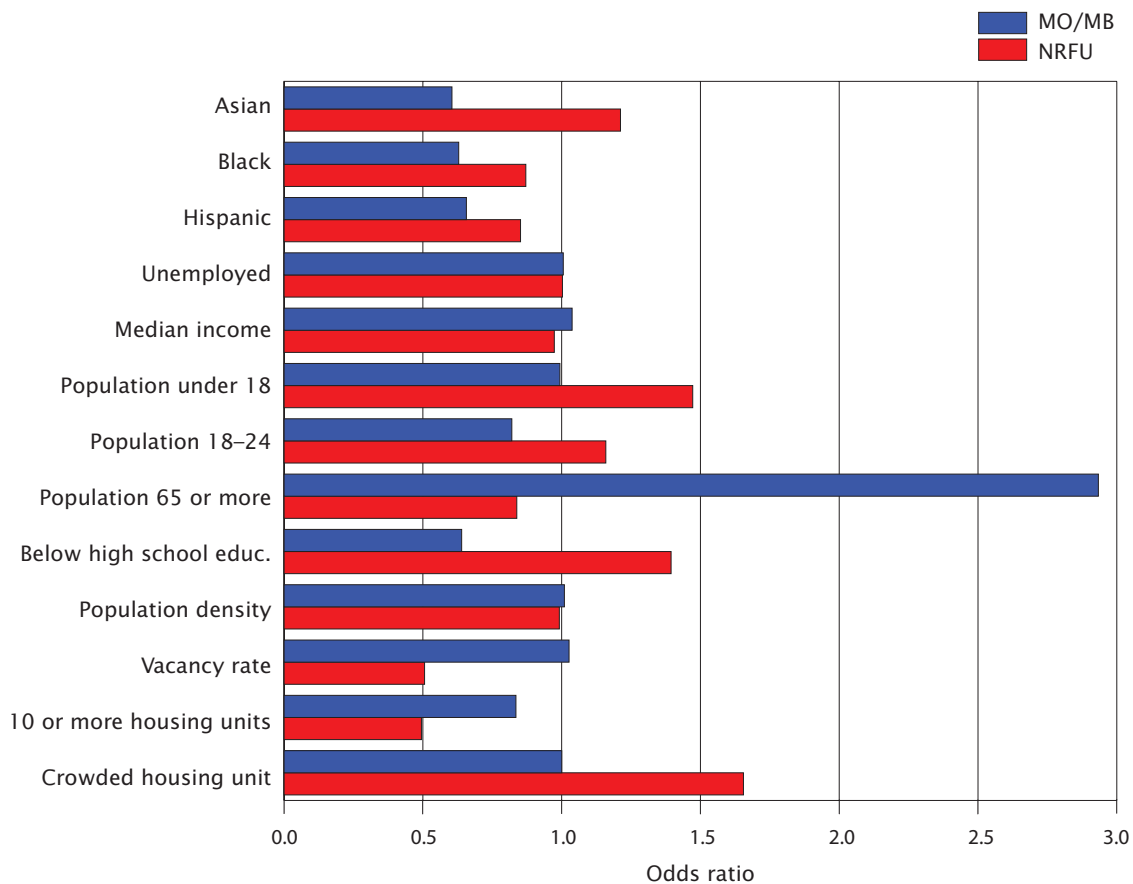
response rates, but low non-response follow-up response rates. In contrast, areas with high concentrations of younger-aged persons and of adults without a high school education have low mailout/mailback and high nonresponse follow-up response rates. High population density areas have slightly higher mailout/mailback response rates and slightly lower nonresponse follow-up

response rates. Areas with high numbers of vacancies have average mailout/mailback response rates, but low non-response follow-up response rates. Neighborhoods with large apartment buildings have low response rates overall, especially in nonresponse follow-up. Nonresponse follow-up response rates are high in areas with many crowded housing units also.

**CONCLUSION**

The part CES played in analyzing 2010 Census operations data has dramatically increased the scope of CES' operations. While CES continues to work closely with the Economic Directorate, it has begun work with the newly formed 2020 Decennial Planning Directorate. Among other things, CES will serve as the warehouse for the 2010 decennial data to

Figure 8.  
**Enumeration Reduces Response Rate Differences by Various Characteristics**



aid future research and planning for the 2020 Census. CES is already actively engaged in such research efforts. In particular, CES is collaborating with the Census Bureau's Center for Administrative Records Research and Applications

to use the warehoused data in investigating potential uses of administrative and commercial data for the next census.

Some of the modeling approaches developed here for use with the 2010 population census have also been adapted to study response

patterns of businesses. The next chapter discusses analyses of the response rates of single-establishment firms in the 2007 Economic Census, which aim to improve the mailout/mailback campaign of the upcoming 2012 Economic Census.



---

## Chapter 3.

# Analyzing Form Return Rates in the Economic Census: A Model-Based Approach

Emin M. Dinlersoz and Shawn D. Klimek, Center for Economic Studies

The U.S. Census Bureau is operating in an environment where it is growing ever more expensive to maintain response rates in its censuses and surveys. Even with additional resources, return rates may decline in the future. In such an environment, survey managers increasingly need to rely on sophisticated tools to evaluate which strategies are most cost effective in encouraging returns.

One particular target for model-based analyses of form returns is the Economic Census, the second largest data collection at the Census Bureau after the decennial census. (See text box for more on the Economic Census.) Understanding how a firm's characteristics and its operating environment influence the firm's likelihood of returning a form is key in developing strategies for maintaining and improving return rates in the future for the Economic Censuses. To this end, the Center for Economic Studies (CES) has been collaborating with other divisions in the Census Bureau to develop methodologies to help accomplish this objective.

In this chapter, we describe a basic multivariate model developed to analyze form return rates in the 2007 Economic Census.<sup>1</sup> We also discuss an

---

<sup>1</sup> A broader discussion that expands on the technical details of the analysis can be found in CES Working Paper 11-28 titled "Modeling Single-Establishment Firm Returns to the 2007 Economic Census."

application of this model to assess the efficacy of an intervention to raise return rates in the 2007 Economic Census.

### AN ANALYSIS OF FORM RETURNS BY SINGLE-ESTABLISHMENT FIRMS

Our analysis of form returns by single-establishment firms is driven by their low check-in rates relative to multi-establishment firms. To clarify terms, note that we focus on form *check-in* or *return rates* (as opposed to response or participation rates) in our analysis. Check-in refers to when an establishment returns a form to the Census Bureau.<sup>2</sup> Single-establishment firms accounted for 43 percent of the total number of establishments that were sent a form in the 2007 Economic Census (roughly 2 million forms out of the 4.6 million mailed).<sup>3</sup> The check-in rate of these single-establishment firms was significantly lower (81 percent) than that of establishments owned by multi-establishment

---

<sup>2</sup> Check-in rate should not be confused with the response rate or a participation rate. Petroni et al. (2004) describes the response rate measures used by both the Bureau of Labor Statistics and the Census Bureau. Efforts are underway to define the response rate for the Economic Census, and a cooperation rate (a real-time proxy for the response rate), which could easily be incorporated into the analysis in place of check-in.

<sup>3</sup> The total universe of establishments is roughly 7 million. The economic "census" samples single-establishment firms in most sectors, while all establishments owned by multi-establishment firms are mailed.

### THE ECONOMIC CENSUS

The Economic Census—conducted every five years, for reference years ending in "2" and "7"—is a major undertaking that paints a detailed picture of the U.S. economy by industry and geography. The Economic Census provides over 20,000 individual data items at the establishment level, collected on more than 500 forms sent out to businesses. The Economic Census is also critical for updating the Census Bureau's Business Register (BR), which serves as the sampling frame for nearly every business survey conducted by the Census Bureau. In particular, the Economic Census collects information on firm ownership/structure and detailed industry classification at the establishment level, both for multi- and single-establishment firms. Data collection primarily occurs in the year after the reference year.

firms (91 percent). This relative under-performance of single-establishment firms is probably due, at least in part, to a long-standing interest in easing respondent burden and

Table 1.

**MODEL VARIABLES: DESCRIPTION, SOURCE, AND HIGHLIGHTS OF FINDINGS**

<b>Variable</b>	<b>Description</b>	<b>Data Source</b>	<b>Highlights of Findings</b>
Check-in Status	=1 if a form was returned, =0 otherwise.	2007 Economic Census (EC) paradata	Outcome being modeled.
<b>Establishment Characteristics</b>			
Size	Employment size class dummies: 1–4, 5–9, 10–19, 20–49, 50–99, 100–249, 250–499, 500+ employees.	2007 Business Register (BR)	Inverted “U” pattern: Check-in rates first increase with size, and then decline for large sizes.
Age	Age class dummies: 0–1, 2–5, 6–10, 11–15, 16–20, >20 years.	Longitudinal Business Database (LBD)	Check-in rates rise monotonically with establishment age.
Industry	Six-digit NAICS industry dummies; franchising rates.	2007 BR	Varies by industry. Higher franchising rates in an industry associated with lower check-in.
Geography	293 MSA dummies, a micropolitan dummy, and nonmetro dummy (omitted category).	2007 EC microdata	Varies by MSA.
Owner Characteristics	Frame indicators for Black, Asian and Public ownership (omitted groups are Female, Hispanic, American Indian, Hawaiian, National (e.g. white males), and Other). Probabilities of an owner being classified as Hispanic, Black, Asian, and Female, based on the frame.	2007 Survey of Business Owners (SBO) Frame	Check-in rates higher for female business owners. Asian owners more likely to check-in compared to other minority owners.
<b>Business Environment</b>			
County Economic Conditions	Population, labor force, the level and growth of unemployment rate.	BLS, Census Bureau	Check-in rates higher in low unemployment counties.
Attitudes toward Census	2010 mailout/mailback return rates.	2010 Decennial Census	Economic and decennial census return rates positively correlated.

Table 1.

**MODEL VARIABLES: DESCRIPTION, SOURCE, AND HIGHLIGHTS OF FINDINGS—Con.**

<b>Business Environment—Con.</b>			
Tract Demographic Characteristics	Median income; Percent Hispanic; Percent Black; Percent Asian; Percent linguistically isolated.	2008 American Community Survey	Check-in less likely for high minority and linguistically-isolated neighborhoods.
<b>Survey Design</b>			
Quality of the Business Register	Source of the mailout NAICS industry code: Census Bureau (omitted category), migrated from previous BR/SSEL in 2001, Bureau of Labor Statistics (BLS), or other administrative source (e.g., IRS, SSA); Tract level geography; Undeliverable As Addressed (UAA) status; Third-quarter births.	2007 BR and EC paradata	Highest check-in rates for those with Census-based codes, followed by SSEL- and BLS-based codes. Third-quarter births less likely to check-in. Poor address and tract information associated with lower check-in rates.
2002 Reporting Status	Returned form, did not return form, not mailed.	2002 EC microdata	Check-in more likely for businesses that also returned forms in 2002 EC.
Characteristics of the Economic Census Form	Number of pages; Number of items; Number/concentration of industries that reported on the form; Share of items by type (e.g. dollar values, check-box inquiry).	2007 EC metadata and paradata	Check-in rates generally decline with form complexity.
Treatments	Certified mailing; Extension granted.	2007 EC paradata	Certified mailing and extensions increase check-in rate.

on facilitating returns for large companies, which represent a disproportional amount of the activity in the U.S. economy (Willimack et al. 2002). For instance, in the 2007 Economic Census, large companies were assigned account managers, who assisted companies in completing their forms. As for

single-establishment firms, changes were made to the mailout plan to increase the returns for this large group, since they were critical to reach the overall check-in rate goal of 86 percent for the Economic Census. Yet, very little is actually known about the factors that may influence the likelihood that

these firms would return their forms.

Analyses of check-in rates for Economic Census planning purposes typically use tabulations at the industry or geographic level. These bivariate approaches, while informative, hide potentially complicated

---

interactions of various business characteristics and the business environment. A model-based approach, on the other hand, can simultaneously control for a large range of factors that may influence whether an establishment returns a form, and better identify the contribution of each factor to check-in likelihood.

The modeling approach we take is similar to that of Willimack, et al. (2002), where firms compare the costs and benefits of completing and returning their form. Here, the net benefit from returning the form is a continuous latent variable underlying the discrete check-in or return decision. We therefore employ a logit framework to model check-in status—where measures of establishment characteristics, measures of the local business environment, and measures of survey design are considered jointly as factors influencing the net benefit, and hence, the return decision. Table 1 describes the explanatory variables used in the model, together with a brief summary of the effect of each variable on check-in probability.

The data used here is primarily 2007 Economic Census microdata and paradata. Paradata is information collected about the conduct of a survey or census (for example, the date a form was returned). Other data include geographic statistics such as unemployment rate and demographic characteristics.

The characteristics of establishments and their owners clearly matter. We find that, all else being equal, check-in rates by

size category shows an inverted U-shaped pattern. The relative likelihood of form return is low for the smallest size group, then rises as size increases, and declines for the largest categories of firms, such that those with more than 250 employees actually do worse than those with 1–4 employees. This inverted U-shaped pattern seems puzzling, but could be explained if larger firms are both resource constrained and sufficiently complex so that reporting is quite burdensome.

Some of the size effects appear to be countered by an age effect. Older firms tend to be larger, and here we find that the oldest firms have the highest check-in rates, all else being equal. In fact, we find that check-in rates rise monotonically with establishment age.

Results also suggest that the characteristics of business owners matter. In particular, women owners are more likely to return their form, while Hispanics are less likely. Blacks and Asians have lower likelihoods relative to the omitted group of firms not classified in minority groups.

Regarding the business environment external to the firm, a number of robust results emerge. We find that the higher the unemployment rate in a county, the less likely the firm is to check-in. In addition, “local attitudes towards the Census Bureau” (as proxied by the 2010 Census mail-back return rates), were also an important factor. The 2007 EC returns were positively associated with the 2010 Census returns. Meanwhile, all

else being equal, check-in rates were lower for establishments in neighborhoods with larger minority and higher linguistically isolated populations.

Finally, the survey design variables describe variation across firms in how the census was conducted. We find that the check-in rates appear to be consistently lower for establishments with industry codes from the Bureau of Labor Statistics (BLS) as compared with establishments with Census-based industry codes. At the same time, establishments that returned an Economic Census form in 2002 were more likely to return their form in 2007, relative to the nonmail cases in 2002. Since firms that did not return a form in 2002 must have almost certainly had a BLS code in 2007, the firm’s status in 2002 (returned form, did not return form, not mailed) was fully interacted with the source of the industry code (Census, BLS, other administrative sources). When interacted with the “2002 not mailed” indicator, establishments with BLS sourced industry codes perform worse relative to the Census derived industry codes. Establishments are sent forms that are specific to an industry (or a small set of similar industries). If Census industry codes are more likely to be correct, the difference in check-in rates may reflect differences in the establishments receiving the correct form.

We also find that establishments with a missing tract code or having an “Undeliverable As Addressed” (UAA) status were less likely to check-in compared



---

to the establishments with a tract code and nonmissing address, but UAA status appears to matter more than the missing tract indicator.

The set of variables that describe the survey instrument were generally statistically significant. Notably, the number of pages and percent of write-in items in a form have a negative effect on check-in, while the percent of dollar items has a positive effect. The negative effect of the number of pages is consistent with the findings of Willimack et al. (2002), but this effect alone does not seem to be very large.

#### **AN APPLICATION: ANALYSIS OF THE EFFICACY OF CERTIFIED MAIL**

The model we developed was used to assess the efficacy of using certified mail to send forms to businesses. Normally, follow-up with nonrespondents occurs via standard mail. In the 2007 Economic Census, approximately 130,000 single-establishment firms were mailed a third follow-up using U.S. Postal Service certified mailing, at a cost of \$4/package versus \$0.50/package using standard mail. The cost difference times the mailed form counts imply that this treatment cost over \$450,000 in total.

This was not a planned randomized experiment. As such, we used the nearest neighbor propensity score matching, as described by Smith and Todd (2005), to identify a control

group to be compared with the firms which were included in the certified mailing (the treatment group). The potential set of controls was defined as all single-establishment firms which were not included in the certified mailing and had not mailed back a form by the first date that certified mail cases were selected. In addition, these potential controls were chosen so that they were not classified as third quarter births and they did not have an unexpired extension on that date.

A logit model similar to the one in the previous section was implemented, where all treatment and matched control cases were included. An alternate specification employed each control case only once, making it equivalent to a nonweighted approach. The results show the treatment makes firms significantly more likely to send back their forms, and the effects of other variables are for the most part consistent with the results in Table 1. The average effect of the treatment was a 5–10 percentage point increase in return rates from the certified mail treatment, depending on the exact specification. These two estimates suggest a cost of \$21–\$47 per additional return resulting from the certified mailing.

Current plans for the 2012 Economic Census call for sending 160,000 forms via certified mail.

#### **FUTURE WORK**

The model developed here will provide the foundation for a more detailed analysis of the 2012 Economic Census mailout/mailback campaign that will begin in December 2012. The results from the model can be used to identify and target businesses for additional publicity, outreach, and follow-up. In addition, a new management information system will be in place to provide daily updates on the status of firms, as well as more detailed information about when and how the Census Bureau contacts firms and vice versa. Building on the static return rate model, time series information on the patterns of contact can be incorporated to estimate a hazard model used to predict when firms will return their forms and to track differences between predicted and actual check-ins in near realtime.

The model will also be used to evaluate any planned or unplanned interventions. To use just one example, given the finding that large single-establishment firms seem to report at lower rates, a random sample of the single-establishment firms with over 250 employees can be mailed an advanced notification. A program normally aimed at multi-establishment firms, advanced notification is sent in August prior to the census mailing in an effort to alert them to the upcoming census. The efficacy of advanced notification for large single-establishment firms can be assessed using methods similar to the one describe above for the analysis of certified mailing.

---

## REFERENCES

Petroni, R., R. Sigman, D. Willimack, S. Cohen, and C. Tucker. 2004. "Response Rates and Nonresponse in Establishment Surveys—BLS and Census Bureau." *JSM Proceedings*, Section on Survey Research Methods: 4159–4166. Alexandria, VA: American Statistical Association.

Smith, J., and P. Todd. 2005. "Does Matching Overcome LaLonde's Critique of Nonexperimental Estimators?" *Journal of Econometrics* 125: 305–353.

Willimack, D. K., E. Nichols, and S. Sudman. 2002. "Understanding Unit and Item Nonresponse in Business Surveys." In *Survey Nonresponse*, ed. R. M. Groves et al. New York: Wiley.

## 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"> <li>▪ Produces CES discussion papers series</li> <li>▪ Publishes in leading professional journals</li> </ul>	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"> <li>▪ <i>Business Dynamics Statistics</i>: Tabulations on establishments and firms, 1976–2009</li> <li>▪ <i>Synthetic Longitudinal Business Database</i>: Synthetic data on establishments and firms, 1976–2000</li> </ul>	Operate in 13 locations: <ul style="list-style-type: none"> <li>▪ Atlanta</li> <li>▪ Boston</li> <li>▪ California (Berkeley)</li> <li>▪ California (Stanford)</li> <li>▪ California (UCLA)</li> <li>▪ Census Bureau Headquarters (CES)</li> <li>▪ Chicago</li> <li>▪ Michigan</li> <li>▪ Minnesota</li> <li>▪ New York (Baruch)</li> <li>▪ New York (Cornell)</li> <li>▪ Triangle (Duke)</li> <li>▪ Triangle (RTI)</li> </ul>	Main products: <ul style="list-style-type: none"> <li>▪ <i>Quarterly Workforce Indicators (QWI)</i>: Workforce statistics by demography, geography, and industry for each state</li> <li>▪ <i>OnTheMap</i>: User-defined maps and data on where workers live and work</li> <li>▪ <i>Industry Focus</i>: Information about a particular industry and its workers</li> </ul>
Administers Research Data Centers (RDCs): <ul style="list-style-type: none"> <li>▪ Staffs RDCs</li> <li>▪ Reviews and makes decisions on proposals</li> <li>▪ Creates and maintains the proposal management system</li> </ul>		

---

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/](http://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](http://meps.ahrq.gov/mepsweb/data_stats/onsite_datacenter.jsp)> or NCHS <[www.cdc.gov/rdc](http://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 2010 and 2011 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 13 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 2011 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: 2010 AND 2011

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

#### PUBLICATIONS

- Agarwal, Sumit, I-Ming Chiu, Victor Souphom, and Guy M. Yamashiro. 2011. "The Efficiency of Internal Capital Markets: Evidence from the Annual Capital Expenditure Survey." *Quarterly Review of Economics and Finance* 51: 162–172. [RDC]
- Andersson, Fredrik, Elizabeth E. Davis, Matthew L. Freedman, Julia I. Lane, Brian P. McCall, and L. Kristin Sandusky. Forthcoming. "Decomposing the Sources of Earnings Inequality: Assessing the Role of Reallocation." *Industrial Relations*. [CES]
- Angrist, Joshua D., and Stacey H. Chen. 2011. "Schooling and the Vietnam-Era GI Bill: Evidence from the Draft Lottery." *American Economic Journal: Applied Economics* 3(2): 96–118. [RDC]
- Angrist, Joshua D., Stacey H. Chen, and Brigham R. Frandsen. 2010. "Did Vietnam Veterans Get Sicker in the 1990s? The Complicated Effects of Military Service on Self-Reported Health." *Journal of Public Economics* 94: 824–837. [RDC]
- Angrist, Joshua D., Stacey H. Chen, and Jae Song. 2011. "Long-Term Consequences of Vietnam-Era Conscription: New Estimates Using Social Security Data." *American Economic Review: Papers and Proceedings* 101: 334–338. [RDC]
- Bailey, Martha J., Brad Hershbein, and Amalia R. Miller. Forthcoming. "The Opt-In Revolution: Contraception and the Gender Gap in Wages." *American Economic Journal: Applied Economics*. [RDC]
- Balasubramanian, Natarajan. 2011. "New Plant Venture Performance Differences Among Incumbent, Diversifying, and Entrepreneurial Firms: The Impact of Industry Learning Intensity." *Management Science* 57: 549–565. [RDC]
- Balasubramanian, Natarajan, and Marvin B. Lieberman. 2010. "Industry Learning Environments and the Heterogeneity of Firm Performance." *Strategic Management Journal* 31: 390–412. [RDC]
- Balasubramanian, Natarajan, and Marvin B. Lieberman. 2011. "Learning-by-Doing and Market Structure." *Journal of Industrial Economics* 59: 177–198. [RDC]
- Balasubramanian, Natarajan, and Jagadeesh Sivadasan. 2011. "What Happens When Firms Patent? New Evidence From U.S. Census Data." *The Review of Economics and Statistics* 93: 126–146. [RDC]
- Bardhan, Ashok, and John P. Tang. 2010. "What Kind of Job is Safer? A Note on Occupational Vulnerability." *The B.E. Journal of Economic Analysis & Policy* (Topics) 10: Article 1. [CES]
- Basker, Emek. Forthcoming. "Raising the Barcode Scanner: Technology and Productivity in the Retail Sector." *American Economic Journal: Applied Economics*. [CES]
- Basker, Emek, Shawn D. Klimek, and Pham Hoang Van. Forthcoming. "Supersize It: The Growth of Retail Chains and the Rise of the 'Big Box' Retail Format." *Journal of Economics and Management Strategy*. [CES]
- Bayer, Patrick, and Robert McMillan. Forthcoming. "Tiebout Sorting and Neighborhood Stratification." *Journal of Public Economics*. [RDC]
- Becker, Randy A. 2011. "On Spatial Heterogeneity in Environmental Compliance Costs." *Land Economics* 87: 28–44. [CES]

- Becker, Randy A. 2011. "Local Environmental Regulation and Plant-level Productivity." *Ecological Economics* 70: 2516–2522. [CES]
- Bens, Daniel A., Philip G. Berger, and Steven J. Monahan. 2011. "Discretionary Disclosure in Financial Reporting: An Examination Comparing Internal Firm Data to Externally Reported Segment Data." *The Accounting Review* 86: 417–449. [RDC]
- Bernard, Andrew B., J. Bradford Jensen, Stephen J. Redding, and Peter K. Schott. 2010. "Intrafirm Trade and Product Contractibility." *American Economic Review: Papers and Proceedings* 100: 444–448. [RDC]
- Bernard, Andrew B., J. Bradford Jensen, Stephen J. Redding, and Peter K. Schott. 2010. "Wholesalers and Retailers in U.S. Trade." *American Economic Review: Papers and Proceedings* 100: 408–413. [RDC]
- Bernard, Andrew B., J. Bradford Jensen, Stephen J. Redding, and Peter K. Schott. Forthcoming. "The Empirics of Firm Heterogeneity and International Trade." *Annual Review of Economics*. [RDC]
- Bernard, Andrew B., Stephen J. Redding, and Peter K. Schott. 2010. "Multiple-Product Firms and Product Switching." *American Economic Review* 100: 70–97. [RDC]
- Bernard, Andrew B., Stephen J. Redding, and Peter K. Schott. 2011. "Multiproduct Firms and Trade Liberalization." *Quarterly Journal of Economics* 126: 1271–1318. [RDC]
- Bjelland, Melissa, Bruce Fallick, John Haltiwanger, and Erika McEntarfer. 2011. "Employer-to-Employer Flows in the United States: Estimates Using Linked Employer-Employee Data." *Journal of Business and Economic Statistics* 29: 493–505. [CES]
- Blau, David, and Tetyana Shvydko. 2011. "Labor Market Rigidities and the Employment Behavior of Older Workers." *Industrial and Labor Relations Review* 64: 464–484. [RDC]
- Brown, J. David, Emin Dinlersoz, Shawn Klimek, Mark Kutzbach, and Kristin McCue. Forthcoming. "Tracking Progress of Census Operations." In *Models of Census Participation*, edited by Peter Miller. [CES]
- Brown, J. David, Emin Dinlersoz, Shawn Klimek, Mark Kutzbach, and Kristin McCue. Forthcoming. "Use of Statistical Models to Inform Census Operations." In *Models of Census Participation*, edited by Peter Miller. [CES]
- Brown, J. David, John S. Earle, and Scott Gehlbach. Forthcoming. "Privatization." In *Oxford Handbook of the Russian Economy*, edited by Michael Alexeev and Shlomo Weber. Oxford University Press. [CES]
- Brown, J. David, John S. Earle, Hanna Vakhitova, and Vitaliy Zheka. Forthcoming. "Innovation, Adoption, Ownership and Productivity: Evidence From Ukraine." In *Economic and Social Consequences of Enterprise Restructuring in Russia and Ukraine*, edited by Tilman Brück and Hartmut Lehmann. Palgrave MacMillan. [CES]
- Burkhauser, Richard V., Shuaizhang Feng, Stephen P. Jenkins, and Jeff Larrimore. 2011. "Estimating Trends in U.S. Income Inequality Using the Current Population Survey: The Importance of Controlling for Censoring." *Journal of Economic Inequality* 9: 393–415. [RDC]
- Burkhauser, Richard V., Shuaizhang Feng, Stephen P. Jenkins, and Jeff Larrimore. Forthcoming. "Recent Trends in Top Income Shares in the USA: Reconciling Estimates From March CPS and IRS Tax Return Data." *The Review of Economics and Statistics*. [RDC]
- Burkhauser, Richard V., Shuaizhang Feng, and Jeff Larrimore. 2010. "Improving Imputations of Top Incomes in the Public-Use Current Population Survey by Using Both Cell-Means and Variances." *Economic Letters* 108: 69–72. [RDC]



- Campbell, Benjamin A., Martin Ganco, April M. Franco, and Rajshree Agarwal. 2012. "Who Leaves, Where To, and Why Worry? Employee Mobility, Entrepreneurship and Effects on Source Firm Performance." *Strategic Management Journal* 33: 65–87. [RDC]
- Carnahan, Seth, Rajshree Agarwal, and Benjamin Campbell. Forthcoming. "Heterogeneity in Turnover: The Effect of Relative Compensation Dispersion of Firms on the Employee Mobility and Entrepreneurship of Extreme Performers." *Strategic Management Journal*. [RDC]
- Chemmanur, Thomas, and Jie He. 2011. "IPO Waves, Product Market Competition, and the Going Public Decision: Theory and Evidence." *Journal of Financial Economics* 101: 382–412. [RDC]
- Chemmanur, Thomas J., Shan He, and Debarshi K. Nandy. 2010. "The Going-Public Decision and the Product Market." *Review of Financial Studies* 23: 1855–1908. [RDC]
- Chemmanur, Thomas J., Karthik Krishnan, and Debarshi K. Nandy. 2011. "How Does Venture Capital Financing Improve Efficiency in Private Firms? A Look Beneath the Surface." *Review of Financial Studies* 24: 4037–4090. [RDC]
- Davis, Jonathan, and Bhashkar Mazumder. Forthcoming. "Parental Earnings and Children's Well-Being: An Analysis of the SIPP Matched to SSA Earnings Data." *Economic Inquiry*. [RDC]
- Davis, Lucas W. 2011. "The Effect of Power Plants on Local Housing Values and Rents." *The Review of Economics and Statistics* 93: 1391–1402. [RDC]
- Davis, Steven J., R. Jason Faberman, John Haltiwanger, Ron Jarmin, and Javier Miranda. 2010. "Business Volatility, Job Destruction, and Unemployment." *American Economic Journal: Macroeconomics* 2: 259–287. [CES]
- Delgado, Mercedes, Michael E. Porter, and Scott Stern. 2010. "Clusters and Entrepreneurship." *Journal of Economic Geography* 10: 495–518. [RDC]
- Dinlersoz, Emin, and Can Dogan. 2010. "Tariffs Versus Anti-Dumping Duties." *International Review of Economics and Finance* 19: 436–451. [CES]
- Dinlersoz, Emin M., and Han Li. Forthcoming. "Quality-Based Price Discrimination: Evidence From Internet Retailers' Shipping Options." *Journal of Retailing*. [CES]
- Dinlersoz, Emin M., and Mehmet Yorukoglu. Forthcoming. "Information and Industry Dynamics." *American Economic Review*. [CES]
- Drucker, Joshua. 2011. "Regional Industrial Structure Concentration in the United States: Trends and Implications." *Economic Geography* 87: 421–452. [RDC]
- Drucker, Joshua, and Edward Feser. 2012. "Regional Industrial Structure and Agglomeration Economies: An Analysis of Productivity in Three Manufacturing Industries." *Regional Science and Urban Economics* 42: 1–14. [RDC]
- Ellen, Ingrid Gould, and Katherine M. O'Regan. 2011. "How Low Income Neighborhoods Change: Entry, Exit, and Enhancement." *Regional Science and Urban Economics* 41: 89–97. [RDC]
- Ellis, Mark, Steven R. Holloway, Richard Wright, and Christopher S. Fowler. Forthcoming. "Agents of Change: Mixed-Race Households and the Dynamics of Neighborhood Segregation in the United States." *Annals of the Association of American Geographers*. [RDC]
- Ellison, Glenn, Edward L. Glaeser, and William R. Kerr. 2010. "What Causes Industry Agglomeration? Evidence From Coagglomeration Patterns." *American Economic Review* 100: 1195–1213. [RDC]
- Feng, Zhanlian, Yong Suk Lee, Sylvia Kuo, Orna Intrator, Andrew Foster, and Vincent Mor. 2010. "Do Medicaid Wage Pass-Through Payments Increase Nursing Home Staffing?" *Health Services Research* 45: 728–747. [RDC]

- Ferreira, Fernando. 2010. "You Can Take It With You: Proposition 13 Tax Benefits, Residential Mobility, and Willingness-to-Pay for Housing Amenities." *Journal of Public Economics* 94: 661–673. [RDC]
- Fisher, Jonathan D., and Christina A. Houseworth. Forthcoming. "The Reverse Wage Gap Among Educated White and Black Women." *Journal of Economic Inequality*. [CES]
- Fisher, Jonathan, and Angela Lyons. 2010. "Information and Credit Access: Using Bankruptcy as a Signal." *Applied Economics* 42: 3175–3193. [CES]
- Fisher, Jonathan D., and Elliot D. Williams. 2011. "Home Maintenance and Investment Decisions." *Cityscape* 13: 147–162. [CES]
- Fitzpatrick, Maria. 2010. "Preschoolers Enrolled and Mothers at Work? The Effects of Universal Pre-Kindergarten." *Journal of Labor Economics* 28: 51–85. [RDC]
- Fitzpatrick, Maria. Forthcoming. "Revising Our Thinking About the Relationship between Maternal Labor Supply and Preschool." *Journal of Human Resources*. [RDC]
- Foster, Lucia, Ron Jarmin, and Lynn Riggs. 2010. "Resolving the Tension Between Access and Confidentiality: Past Experience and Future Plans at the U.S. Census Bureau." *The Statistical Journal of the International Association for Official Statistics* 26: 113–122. [CES]
- Frisvold, David, and Ezra Golberstein. 2011. "School Quality and the Education–Health Relationship: Evidence From Blacks in Segregated Schools." *Journal of Health Economics* 30: 1232–1245. [RDC]
- Gardner, Todd. 2011. "By the Numbers: The Most Populous Cities in 1790, 1820, 1840, 1870, 1890, 1920, 1940, 1950, 1980, and 2010." In *Cities in American Political History*, edited by Richardson Dilworth. CQ Press. [CES]
- Glaeser, Edward L., and William R. Kerr. 2010. "The Secret to Job Growth: Think Small." *Harvard Business Review* 88: 26. [RDC]
- Glaeser, Edward L., William R. Kerr, and Giacomo A. M. Ponzetto. 2010. "Clusters of Entrepreneurship." *Journal of Urban Economics* 67: 150–168. [RDC]
- Gray, Wayne B., Ronald J. Shadbegian, and Ann Wolverton. 2010. "Environmental Justice: Do Poor and Minority Populations Face More Hazards?" In *Oxford Handbook of the Economics of Poverty*. Oxford University Press. [RDC]
- Greenstone, Michael, Rick Hornbeck, and Enrico Moretti. 2010. "Identifying Agglomeration Spillovers: Evidence From Winners and Losers of Large Plant Openings." *Journal of Political Economy* 118: 536–598. [RDC]
- Gurak, Douglas T., and Mary M. Kritz. 2010. "Elderly Asian and Hispanic Foreign- and Native-Born Living Arrangements: Accounting for Differences." *Research on Aging* 32: 567–594. [RDC]
- Haltiwanger, John, Ron Jarmin, and C. J. Krizan. 2010. "Mom and Pop Meet Big-Box: Complements or Substitutes?" *Journal of Urban Economics* 67: 116–134. [CES]
- Haltiwanger, John C., Ron S. Jarmin, and Javier Miranda. Forthcoming. "Who Creates Jobs? Small vs. Large vs. Young." *The Review of Economics and Statistics*. [CES]
- Hellerstein, Judith K., Melissa McInerney, and David Neumark. 2010. "Spatial Mismatch, Immigrant Networks, and Hispanic Employment in the United States." *Annales d'Economie et de Statistique (Annals of Economics and Statistics)* 99/100: 141–167. [RDC]
- Hellerstein, Judith K., Melissa McInerney, and David Neumark. 2011. "Neighbors and Coworkers: The Importance of Residential Labor Market Networks." *Journal of Labor Economics* 29: 659–695. [RDC]

- Hipp, John R. 2010. "Resident Perceptions of Crime and Disorder: How Much is 'Bias', and How Much is Social Environment Differences?" *Criminology* 48: 475–508. [RDC]
- Hipp, John. 2010. "What is the 'Neighbourhood' in Neighbourhood Satisfaction? Comparing the Effects of Structural Characteristics Measured at the Micro-Neighbourhood and Tract Levels." *Urban Studies* 47: 2517–2536. [RDC]
- Hollingsworth, John M., Sanjay Saint, Joseph W. Sakshaug, Rodney A. Hayward, Lingling Zhang, and David C. Miller. 2012. "Physician Practices and Readiness for Medical Home Reforms: Policy, Pitfalls, and Possibilities." *Health Services Research* 47. [RDC]
- Holloway, Steven R., Richard Wright, and Mark Ellis. 2012. "The Racially Fragmented City? Neighborhood Racial Segregation and Diversity Jointly Considered." *Professional Geographer* 64: 63–82. [RDC]
- Holmes, Thomas J., and John J. Stevens. Forthcoming. "Exports, Borders, Distance, and Plant Size." *Journal of International Economics*. [RDC]
- Houseman, Susan, Christopher Kurz, Paul Lengermann, and Benjamin Mandel. 2011. "Offshoring Bias in U.S. Manufacturing." *Journal of Economic Perspectives* 25: 111–132. [RDC]
- Hyatt, Henry R. 2011. "The Labor Supply Consequences of Employment-Limiting Social Insurance Benefits: New Tests for Income Effects." *The B.E. Journal of Economic Analysis & Policy* (Contributions) 11: Article 25. [CES]
- Jenkins, Stephen P., Richard V. Burkhauser, Shuaizhang Feng, and Jeff Larrimore. 2011. "Measuring Inequality Using Censored Data: A Multiple Imputation Approach to Estimation and Inference." *Journal of the Royal Statistical Society: Series A* 174: 63–81. [RDC]
- Jensen, J. Bradford. 2011. *Global Trade in Services: Fear, Facts, and Offshoring*. Peterson Institute for International Economics. [RDC]
- Kamal, Fariha, Mary E. Lovely, and Puman Ouyang. Forthcoming. "Does Deeper Integration Enhance Spatial Advantages? Market Access and Wage Growth in China." *International Review of Economics and Finance*. [CES]
- Kapinos, Kandice. 2012. "Changes in Firm Pension Policy: Trends Away from Traditional Defined Benefit Plans." *Journal of Labor Research* 33: 91–103. [RDC]
- Kerr, William R., and Ramana Nanda. 2010. "Banking Deregulations, Financing Constraints, and Firm Entry Size." *Journal of the European Economic Association* 8: 582–593. [RDC]
- Kerr, William R., and Ramana Nanda. 2011. "Financing Constraints and Entrepreneurship." In *Handbook on Research on Innovation and Entrepreneurship*, edited by David B. Audretsch, Oliver Falck, Stephan Heblich, and Adam Lederer. Edward Elgar Publishing. [RDC]
- Kershaw, Kiarri N., Ana V. Diez-Roux, Sarah A. Burgard, Lynda D. Lisabeth, Mahasin S. Mujahid, and Amy J. Schulz. 2011. "Metropolitan-Level Racial Residential Segregation and Black-White Disparities in Hypertension." *American Journal of Epidemiology* 174: 537–545. [RDC]
- Kinney, Satkartar K., Jerome P. Reiter, Arnold P. Reznick, Javier Miranda, Ron S. Jarmin, and John M. Abowd. 2011. "Towards Unrestricted Public Use Business Microdata: The Synthetic Longitudinal Business Database." *International Statistical Review* 79: 362–384. [CES]
- Kritz, Mary M., Douglas T. Gurak, and Min-Ah L. Lee. 2011. "Will They Stay? Foreign-Born Out-Migration From New U.S. Destinations." *Population Research and Policy Review* 30: 537–567. [RDC]
- Lewis, Ethan. 2011. "Immigration, Skill Mix, and Capital-Skill Complementarity." *Quarterly Journal of Economics* 126: 1029–1069. [RDC]

- Maksimovic, Vojislav, Gordon Phillips, and N. R. Prabhala. 2011. "Post-Merger Restructuring and the Boundaries of the Firm." *Journal of Financial Economics* 102: 317–343. [RDC]
- Manski Richard J., and Philip F. Cooper. 2010. "Characteristics of Employers Offering Dental Coverage in the United States." *Journal of the American Dental Association* 141: 700–711. [RDC]
- McKinnish, Terra, Randall Walsh, and Kirk White. 2010. "Who Gentrifies Low Income Neighborhoods?" *Journal of Urban Economics* 67: 180–193. [RDC]
- McKinnish, Terra, and T. Kirk White. 2011. "Who Moves to Mixed-Income Neighborhoods?" *Regional Science and Urban Economics* 41: 187–195. [RDC]
- Petrin, Amil, T. Kirk White, and Jerome P. Reiter. 2011. "The Impact of Plant-Level Resource Reallocations and Technical Progress on U.S. Macroeconomic Growth." *Review of Economic Dynamics* 14: 3–26. [RDC]
- Pierce, Justin R. 2011. "Plant-Level Responses to Antidumping Duties: Evidence from U.S. Manufacturers." *Journal of International Economics* 85: 222–233. [CES]
- Pierce, Justin R., and Peter K. Schott. Forthcoming. "Concording U.S. Harmonized System Categories to U.S. SIC and NAICS Industries." *Journal of Economic and Social Measurement*. [CES]
- Pierce, Justin, and Peter K. Schott. Forthcoming. "Concording U.S. Harmonized System Categories Over Time." *Journal of Official Statistics*. [CES]
- Puri, Manju, and Rebecca E. Zarutskie. Forthcoming. "On the Lifecycle Dynamics of Venture-Capital- and Non-Venture-Capital-Financed Firms." *Journal of Finance*. [RDC]
- Ruggles, Steven, Matthew Schroeder, Natasha Rivers, J. Trent Alexander, and Todd K. Gardner. 2011. "Frozen Film and FOSDIC Forms: Restoring the 1960 U.S. Census of Population and Housing." *Historical Methods* 44: 69–78. [CES]
- Schultz, Jennifer Feenstra, and David John Doorn. 2011. "Employer Health Benefit Costs and Demand for Part-Time Labour." *Applied Economics Letter* 18: 213–216. [RDC]
- Shadbegian, Ronald, and Wayne Gray. Forthcoming. "Spatial Patterns in Regulatory Enforcement: Local Tests of Environmental Justice." In *Political Economy of Environmental Justice*, edited by Spencer Banzhaf. Stanford University Press. [RDC]
- Tang, John P. 2011. "Technological Leadership and Late Development: Evidence from Meiji Japan, 1868–1912." *Economic History Review* 64: 99–116. [CES]
- Vistnes, Jessica, and Alan C. Monheit. 2011. "The Health Insurance Status of Low-Wage Workers: The Role of Workplace Composition and Marital Status." *Medical Care Research and Review* 68: 607–623. [RDC]
- Vistnes, Jessica, and Thomas Selden. 2011. "Premium Growth and Its Effect on Employer-Sponsored Insurance." *International Journal of Health Care Finance and Economics* 11: 55–81. [RDC]
- Vistnes, Jessica, Alice Zawacki, Kosali Simon, and Amy Taylor. Forthcoming. "Declines in Employer-Sponsored Insurance between 2000 and 2008: Examining the Components of Coverage by Firm Size." *Health Services Research*. [CES]
- Walker, W. Reed. "Environmental Regulation and Labor Reallocation: Evidence from the Clean Air Act." *American Economic Review: Papers and Proceedings* 101: 442–447. [RDC]
- Wang, Qingfang. 2010. "How Does Geography Matter in the Ethnic Labor Market Segmentation Process? A Case Study of Chinese Immigrants in the San Francisco CMSA." *Annals of the Association of American Geographers* 100: 182–201. [RDC]

- Woodcock, Simon D. 2010. "Heterogeneity and Learning in Labor Markets." *The B.E. Journal of Economic Analysis and Policy* (Advances) 10: Article 85. [RDC]
- Wright, Richard, Mark Ellis, and Steven Holloway. 2011. "Where Black-White Couples Live." *Urban Geography* 32: 1–22. [RDC]
- Wright, Richard, Mark Ellis, and Virginia Parks. 2010. "Immigrant Niches and the Intrametropolitan Spatial Division of Labour." *Journal of Ethnic and Migration Studies* 36: 1033–1059. [RDC]
- Wright, Richard, Steven Holloway, and Mark Ellis. 2011. "Reconsidering Both Diversity and Segregation: A Reply to Poulsen, Johnston and Forrest, and to Peach." *Journal of Ethnic and Migration Studies* 37: 167–176. [RDC]
- WORKING PAPERS**
- Abowd, John M., and Martha H. Stinson. 2011. "Estimating Measurement Error in SIPP Annual Job Earnings: A Comparison of Census Bureau Survey and SSA Administrative Data." Center for Economic Studies Discussion Paper CES-11-20. [RDC]
- Abowd, John M., and Lars Vilhuber. 2010. "National Estimates of Gross Employment and Job Flows From the Quarterly Workforce Indicators with Demographic and Industry Detail." Center for Economic Studies Discussion Paper CES-10-11. [RDC]
- Agarwal, Rajshree, Benjamin Campbell, April M. Franco, and Martin Ganco. 2011. "What Do I Take With Me: The Impact of Transfer and Replication of Resources on Parent and Spin-Out Firm Performance." Center for Economic Studies Discussion Paper CES-11-06. [RDC]
- Akcigit, Ufuk, and William R. Kerr. 2010. "Growth Through Heterogeneous Innovations." NBER Working Paper No. 16443. [RDC]
- Andersson, Fredrik, Elizabeth E. Davis, Matthew L. Freedman, Julia I. Lane, Brian P. McCall, and L. Kristin Sandusky. 2010. "Decomposing the Sources of Earnings Inequality: Assessing the Role of Reallocation." Center for Economic Studies Discussion Paper CES-10-32. [CES]
- Andersson, Fredrik, Monica García-Pérez, John Haltiwanger, Kristin McCue, and Seth Sanders. 2010. "Workplace Concentration of Immigrants." Center for Economic Studies Discussion Paper CES-10-39. [CES]
- Andersson, Fredrik, John C. Haltiwanger, Mark J. Kutzbach, Henry O. Pollakowski, and Daniel H. Weinberg. 2011. "Job Displacement and the Duration of Joblessness: The Role of Spatial Mismatch." Center for Economic Studies Discussion Paper CES-11-30. [CES]
- Arzaghi, Mohammad, Ernst R. Berndt, James C. Davis, and Alvin J. Silk. 2010. "The Unbundling of Advertising Agency Services: An Economic Analysis." Harvard Business School Working Paper No. 11-039. [CES]
- Balasubramanian, Natarajan, and Jagadeesh Sivadasan. 2010. "NBER Patent Data-BR Bridge: User Guide and Technical Documentation." Center for Economic Studies Discussion Paper CES-10-36. [RDC]
- Basker, Emek. 2011. "Raising the Barcode Scanner: Technology and Productivity in the Retail Sector." Center for Economic Studies Discussion Paper CES-11-16. [CES]
- Bates, Nancy, Kristin McCue, and Michael Lotti. 2011. "The Paid Advertising Heavy-Up Experiment." Census Program for Evaluation and Experiments. [CES]
- Bayer, Patrick, and Robert McMillan. 2011. "Tiebout Sorting and Neighborhood Stratification." NBER Working Paper No. 17364. [RDC]
- Becker, Randy A. 2011. "Local Environmental Regulation and Plant-Level Productivity." Center for Economic Studies Discussion Paper CES-10-30R. [CES]
- Becker, Randy A., and Cheryl Grim. 2011. "Newly Recovered Microdata on U.S. Manufacturing Plants from the 1950s and 1960s: Some Early Glimpses." Center for Economic Studies Discussion Paper CES-11-29. [CES]



- Bernard, Andrew B., J. Bradford Jensen, Stephen J. Redding, and Peter K. Schott. 2010. "Intra-Firm Trade and Product Contractibility (Long Version)." NBER Working Paper No. 15881. [RDC]
- Bharath, Sreedhar T., Amy K. Dittmar, and Jagadeesh Sivadasan. 2010. "Does Capital Market Myopia Affect Plant Productivity? Evidence from Going Private Transactions." University of Michigan, Ross School of Business Paper No. 1153. [RDC]
- Bjelland, Melissa, Bruce Fallick, John Haltiwanger, and Erika McEntarfer. 2010. "Employer-to-Employer Flows in the United States: Estimates Using Linked Employer-Employee Data." Center for Economic Studies Discussion Paper CES-10-26. [CES]
- Blonigen, Bruce A., Benjamin H. Liebman, Justin R. Pierce, and Wesley W. Wilson. 2010. "Are All Trade Protection Policies Created Equal? Empirical Evidence for Nonequivalent Market Power Effects of Tariffs and Quotas." Center for Economic Studies Discussion Paper CES-10-27; NBER Working Paper No. 16391. [CES]
- Boyd, Gale, Tatyana Kuzmenko, Béla Személy, and Gang Zhang. 2011. "Preliminary Analysis of the Distributions of Carbon and Energy Intensity for 27 Energy Intensive Trade Exposed Industrial Sectors." Duke Environmental Economics Working Paper No. EE-11-03. [RDC]
- Brav, Alon, Wei Jiang, and Hyunseob Kim. 2011. "The Real Effects of Hedge Fund Activism: Productivity, Risk, and Product Market Competition." NBER Working Paper No. 17517. [RDC]
- Brown, J. David, and John S. Earle. 2010. "Entry, Growth, and the Business Environment: A Comparative Analysis of Enterprise Data From the U.S. and Transition Economies." Center for Economic Studies Discussion Paper CES-10-20. [CES]
- Brown, J. David, and John S. Earle. 2011. "Nature versus Nurture in the Origins of Highly Productive Businesses: An Exploratory Analysis of U.S. Manufacturing Establishments." Center for Economic Studies Discussion Paper CES-11-26. [CES]
- Burnette, Joyce. 2011. "The Emergence of Wage Discrimination in U.S. Manufacturing." Center for Economic Studies Discussion Paper CES-11-18. [RDC]
- Busso, Matias, Jesse Gregory, and Patrick Kline. 2011. "Assessing the Incidence and Efficiency of a Prominent Place Based Policy." Center for Economic Studies Discussion Paper CES-11-07; NBER Working Paper No. 16096. [RDC]
- Carnahan, Seth, Rajshree Agarwal, Benjamin Campbell, and April Franco. 2010. "The Effect of Firm Compensation Structures on Employee Mobility and Employee Entrepreneurship of Extreme Performers." Center for Economic Studies Discussion Paper CES-10-06. [RDC]
- Castro, Rui, Gian Luca Clementi, and Yoonsoo Lee. 2011. "Cross-Sectoral Variation in the Volatility of Plant-Level Idiosyncratic Shocks." NBER Working Paper No. 17659. [RDC]
- Champion, Sara. 2010. "Increased Accountability, Teachers' Effort, and Moonlighting." Stanford University mimeo. [RDC]
- Champion, Sara, Annalisa Mastri, and Kathryn Shaw. 2011. "The Teachers Who Leave: Pulled by Opportunity or Pushed by Accountability?" Stanford University mimeo. [RDC]
- Collard-Wexler, Allan. 2011. "Productivity Dispersion and Plant Selection in the Ready-Mix Concrete Industry." Center for Economic Studies Discussion Paper CES-11-25. [RDC]

- Cooper, Russell, John Haltiwanger, and Jonathan L. Willis. 2010. "Euler-Equation Estimation for Discrete Choice Models: A Capital Accumulation Application." Center for Economic Studies Discussion Paper CES-10-02; NBER Working Paper No. 15675. [CES]
- Currie, Janet, Lucas Davis, Michael Greenstone, and W. Reed Walker, "Toxic Pollutants and Infant Health: Evidence From Plant Openings and Closings." Columbia University mimeo. [RDC]
- Davis, Jonathan, and Bhashkar Mazumder. 2011. "An Analysis of Sample Selection and the Reliability of Using Short-term Earnings Averages in SIPP-SSA Matched Data." Center for Economic Studies Discussion Paper CES-11-39. [RDC]
- Delgado, Mercedes, Michael E. Porter, and Scott Stern. 2010. "Clusters and Entrepreneurship." Center for Economic Studies Discussion Paper CES-10-31. [RDC]
- Delgado, Mercedes, Michael E. Porter, and Scott Stern. 2010. "Clusters, Convergence, and Economic Performance." Center for Economic Studies Discussion Paper CES-10-34. [RDC]
- Dinlersoz, Emin, Henry Hyatt, and Sang Nguyen. 2011. "Wage Dynamics Along the Life Cycle of Manufacturing Plants." Center for Economic Studies Discussion Paper CES-11-24. [CES]
- Dinlersoz, Emin M., and Shawn D. Klimek. 2011. "Modeling Single Establishment Firm Returns to the 2007 Economic Census." Center for Economic Studies Discussion Paper CES-11-28. [CES]
- Dinlersoz, Emin M., and Mehmet Yorukoglu. 2010. "Information and Industry Dynamics." Center for Economic Studies Discussion Paper CES-10-16. [CES]
- Drucker, Joshua. 2010. "Concentration, Diversity, and Manufacturing Performance." Center for Economic Studies Discussion Paper CES-10-14. [RDC]
- Drucker, Joshua. 2011. "How Does Size Matter? Investigating the Relationships Among Plant Size, Industrial Structure, and Manufacturing Productivity." Center for Economic Studies Discussion Paper CES-11-08. [RDC]
- Dunne, Timothy, Shawn D. Klimek, and James A. Schmitz, Jr. 2010. "Competition and Productivity: Evidence From the Post WWII U.S. Cement Industry." Center for Economic Studies Discussion Paper CES-10-29. [CES]
- Dynarski, Susan, Jonathan Gruber, and Danielle Li. 2011. "Cheaper by the Dozen: Using Sibling Discounts at Catholic Schools to Estimate the Price Elasticity of Private School Attendance." Center for Economic Studies Discussion Paper CES-11-34. [RDC]
- Ellen, Ingrid Gould, and Katherine M. O'Regan. 2010. "How Low Income Neighborhoods Change: Entry, Exit and Enhancement." Center for Economic Studies Discussion Paper CES-10-19. [RDC]
- Ellen, Ingrid, Keren Horn, and Katherine O'Regan. 2011. "Urban Pioneers: Why Do Higher Income Households Choose Lower Income Neighborhoods?" New York University mimeo. [RDC]
- Fichman, Robert G., and Nigel P. Melville. 2010. "Electronic Networking Technologies, Innovation Misfit, and Plant Performance." Center for Economic Studies Discussion Paper CES-10-03. [RDC]
- Fisher, Jonathan D., and Joseph Marchand. 2011. "Does the Retirement Consumption Puzzle Differ Across the Distribution?" Center for Economic Studies Discussion Paper CES-11-09. [CES]
- Foster, Lucia, and Cheryl Grim. 2010. "Characteristics of the Top R&D Performing Firms in the U.S.: Evidence From the Survey of Industrial R&D." Center for Economic Studies Discussion Paper CES-10-33. [CES]
- Frey, William H., and Julie Park. 2011. "Migration and Dispersal of Hispanic and Asian Groups: An Analysis of the 2006–2008 Multiyear American Community Survey." Center for Economic Studies Discussion Paper CES-11-33. [RDC]

- Fu, Shihe, and Stephen L. Ross. 2010. "Wage Premia in Employment Clusters: Agglomeration or Worker Heterogeneity?" Center for Economic Studies Discussion Paper CES-10-04. [RDC]
- Gamper-Rabindran, Shanti, Ralph Mastromonaco, and Christopher Timmins. 2011. "Valuing the Benefits of Superfund Site Remediation: Three Approaches to Measuring Localized Externalities." NBER Working Paper No. 16655. [RDC]
- Gamper-Rabindran, Shanti, and Christopher Timmins. 2012. "Does Cleanup of Hazardous Waste Sites Raise Housing Values? Evidence of Spatially Localized Benefits." Duke Environmental Economics Working Paper No. EE-12-03. [RDC]
- Giroud, Xavier. 2010. "Soft Information and Investment: Evidence from Plant-Level Data." Center for Economic Studies Discussion Paper CES-10-38. [RDC]
- Giroud, Xavier. 2011. "Proximity and Investment: Evidence From Plant-Level Data." MIT Sloan School of Management mimeo. [RDC]
- Gorodnichenko, Yuriy, and Matthew D. Shapiro. 2011. "Using the Survey of Plant Capacity to Measure Capital Utilization." Center for Economic Studies Discussion Paper CES-11-19. [RDC]
- Greenstone, Michael, John A. List, and Chad Syverson. 2011. "The Effects of Environmental Regulation on the Competitiveness of U.S. Manufacturing." Center for Economic Studies Discussion Paper CES-11-03. [RDC]
- Hallak, Juan Carlos, and Jagadeesh Sivadasan. 2011. "Firms' Exporting Behavior Under Quality Constraints." University of Michigan, Ross School of Business mimeo. [RDC]
- Haltiwanger, John, Ron S. Jarmin, and Javier Miranda. 2010. "Who Creates Jobs? Small vs. Large vs. Young." Center for Economic Studies Discussion Paper CES-10-17; NBER Working Paper No. 16544. [CES]
- Harrigan, James, Xiangjun Ma, and Victor Shlychkov. 2011. "Export Prices of U.S. Firms." Center for Economic Studies Discussion Paper CES-11-42; NBER Working Paper No. 17706. [RDC]
- Holmes, Thomas J., and John J. Stevens. 2010. "An Alternative Theory of the Plant Size Distribution with an Application to Trade." Center for Economic Studies Discussion Paper CES-10-10; NBER Working Paper No. 15957. [RDC]
- Holmes, Thomas J., and John J. Stevens. 2010. "Exports, Borders, Distance, and Plant Size." Center for Economic Studies Discussion Paper CES-10-13; NBER Working Paper No. 16046. [RDC]
- Houseman, Susan, Christopher Kurz, Paul Lengermann, and Benjamin Mandel. 2010. "Offshoring Bias in U.S. Manufacturing: Implications for Productivity and Value Added." Board of Governors of the Federal Reserve System, International Finance Discussion Paper No. 1007. [RDC]
- Howe, Lance, and Lee Huskey. 2010. "Migration Decisions in Arctic Alaska: Empirical Evidence of the Stepping Stones Hypothesis." Center for Economic Studies Discussion Paper CES-10-41. [RDC]
- Hryshko, Dmytro, Chinhui Juhn, and Kristin McCue. 2010. "Trends in Earnings Inequality and Earnings Instability of Couples." Unpublished mimeo. [CES]
- Hyatt, Henry. 2010. "The Closure Effect: Evidence From Workers Compensation Litigation." Center for Economic Studies Discussion Paper CES-10-01. [CES]
- Hyatt, Henry R., and Sang V. Nguyen. 2010. "Computer Networks and Productivity Revisited: Does Plant Size Matter? Evidence and Implications." Center for Economic Studies Discussion Paper CES-10-25. [CES]
- Ibarra-Caton, Marilyn. 2012. "Foreign Direct Investment Relationship and Plant Exit: Evidence From the United States." Bureau of Economic Analysis Working Paper WP2012-1. [RDC]



- Isenberg, Emily Pas. 2010. "The Effect of Class Size on Teacher Attrition: Evidence From Class Size Reduction Policies in New York State." Center for Economic Studies Discussion Paper CES-10-05. [CES]
- Jarmin, Ron, and C. J. Krizan. 2010. "Past Experience and Future Success: New Evidence on Owner Characteristics and Firm Performance." Center for Economic Studies Discussion Paper CES-10-24. [CES]
- Juhn, Chinhui, and Kristin McCue. 2010. "Comparing Measures of Earnings Instability Based on Survey and Administrative Reports." Center for Economic Studies Discussion Paper CES-10-15. [CES]
- Juhn, Chinhui, and Kristin McCue. 2010. "Selection and Specialization in the Evolution of Couples' Earnings." NBER Papers on Retirement Research Center Projects NB10-10. [CES]
- Juhn, Chinhui, and Kristin McCue. 2011. "Marriage, Employment and Inequality of Women's Lifetime Earned Income." NBER Papers on Retirement Research Center Projects NB11-07. [CES]
- Kapinos, Kandice A. 2011. "Changes in Firm Pension Policy: Trends Away From Traditional Defined Benefit Plans." Center for Economic Studies Discussion Paper CES-11-36. [RDC]
- Kehrig, Matthias. 2011. "The Cyclicalness of Productivity Dispersion." Center for Economic Studies Discussion Paper CES-11-15. [RDC]
- Kim, Hyunseob. 2012. "Does Human Capital Specificity Affect Employer Capital Structure? Evidence From a Natural Experiment." Duke University, Fuqua School of Business mimeo. [RDC]
- Kinney, Satkartar K., Jerome P. Reiter, Arnold P. Reznick, Javier Miranda, Ron S. Jarmin, and John M. Abowd. 2011. "Towards Unrestricted Public Use Business Microdata: The Synthetic Longitudinal Business Database." Center for Economic Studies Discussion Paper CES-11-04. [CES]
- Kritz, Mary M., and Douglas T. Gurak. 2010. "Foreign-Born Out-Migration From New Destinations: The Effects of Economic Conditions and Nativity Concentration." Center for Economic Studies Discussion Paper CES-10-09. [RDC]
- Kutzbach, Mark J. 2010. "Access to Workers or Employers? An Intra-Urban Analysis of Plant Location Decisions." Center for Economic Studies Discussion Paper CES-10-21. [CES]
- Lang, Corey. 2011. "The Dynamics of Air Quality Capitalization and Locational Sorting in the Housing Market." Cornell University mimeo. [RDC]
- Li, Xiaoyang. 2011. "Productivity, Restructuring, and the Gains from Takeovers." University of Michigan, Ross School of Business mimeo. [RDC]
- Li, Xiaoyang, Angie Low, Anil K. Makhija. 2011. "Career Concerns and the Busy Life of the Young CEO." Fisher College of Business Working Paper 2011-03-004. [RDC]
- Liebler, Carolyn A., and Meghan Zacher. 2011. "The Case of the Missing Ethnicity: Indians Without Tribes in the 21st Century." Center for Economic Studies Discussion Paper CES-11-17. [RDC]
- Limehouse, Frank F., and Robert E. McCormick. 2011. "Impacts of Central Business District Location: A Hedonic Analysis of Legal Service Establishments." Center for Economic Studies Discussion Paper CES-11-21. [CES]
- Lincoln, William F., and Andrew H. McCallum. 2011. "Entry Costs and Increasing Trade." Center for Economic Studies Discussion Paper CES-11-38. [RDC]
- Lombardi, Britton, and Yukako Ono. 2010. "Professional Employer Organizations: What Are They, Who Uses Them and Why Should We Care?" Center for Economic Studies Discussion Paper CES-10-22. [RDC]

- Maksimovic, Vojislav, Gordon Phillips, and N.R. Prabhala. 2011. "Post-Merger Restructuring and the Boundaries of the Firm." Center for Economic Studies Discussion Paper CES-11-11. [RDC]
- Mataloni, Jr., Raymond. 2011. "The Productivity Advantage and Global Scope of U.S. Multinational Firms." Center for Economic Studies Discussion Paper CES-11-23. [RDC]
- Mazumder, Bhashkar. 2011. "Black-White Differences in Intergenerational Economic Mobility in the U.S." Center for Economic Studies Discussion Paper CES-11-40. [RDC]
- Mazumder, Bhashkar, and Jonathan Davis. 2011. "Parental Earnings and Children's Well-Being and Future Success: An Analysis of the SIPP Matched to SSA Earnings Data." Center for Economic Studies Discussion Paper CES-11-12. [RDC]
- McElheran, Kristina Steffenson. 2010. "Delegation in Multi-Establishment Firms: The Organizational Structure of I.T. Purchasing Authority." Center for Economic Studies Discussion Paper CES-10-35. [RDC]
- McElheran, Kristina Steffenson. 2011. "Do Market Leaders Lead in Business Process Innovation? The Cases(s) of E-Business Adoption." Center for Economic Studies Discussion Paper CES-11-10; Harvard Business School Working Paper No. 10-104. [RDC]
- McElheran, Kristina Steffenson. 2011. "Delegation in Multi-Establishment Firms: Adaptation vs. Coordination in I.T. Purchasing Authority." Harvard Business School Working Paper No. 11-101. [RDC]
- McKinney, Kevin L., and Lars Vilhuber. 2011. "LEHD Infrastructure Files in the Census RDC—Overview of S2004 Snapshot." Center for Economic Studies Discussion Paper CES-11-13. [CES]
- McKinnish, Terra, and T. Kirk White. 2010. "Who Moves to Mixed-Income Neighborhoods?" Center for Economic Studies Discussion Paper CES-10-18. [RDC]
- Meyer, Bruce D., and Robert M. Goerge. 2011. "Errors in Survey Reporting and Imputation and Their Effects on Estimates of Food Stamp Program Participation." Center for Economic Studies Discussion Paper CES-11-14. [RDC]
- Miller, Edward, and Thomas Selden. 2011. "Employer-Sim Microsimulation Model: Estimates of Tax Subsidies to Employer-Sponsored Health Insurance." Unpublished mimeo. [RDC]
- Ouimet, Page, and Rebecca Zarutskie. 2011. "Who Works for Startups? The Relation Between Firm Age, Employee Age, and Growth." Center for Economic Studies Discussion Paper CES-11-31. [RDC]
- Ouimet, Page, and Rebecca Zarutskie. 2011. "Acquiring Labor." Center for Economic Studies Discussion Paper CES-11-32. [RDC]
- Perez-Saiz, Hector. 2010. "Building New Plants or Entering by Acquisition? Estimation of an Entry Model for the U.S. Cement Industry." Center for Economic Studies Discussion Paper CES-10-08. [RDC]
- Radhakrishnan, Uma. 2010. "A Dynamic Structural Model of Contraceptive Use and Employment Sector Choice for Women in Indonesia." Center for Economic Studies Discussion Paper CES-10-28. [CES]
- Raval, Devesh. 2011. "Beyond Cobb-Douglas: Estimation of a CES Production Function with Factor Augmenting Technology." Center for Economic Studies Discussion Paper CES-11-05. [RDC]
- Reyes, Jose-Daniel. 2011. "International Harmonization of Product Standards and Firm Heterogeneity in International Trade." World Bank Policy Research Working Paper No. 5677. [RDC]
- Rutledge, Matthew S. 2011. "Long-Run Earnings Volatility and Health Insurance Coverage: Evidence From the SIPP Gold Standard File." Center for Economic Studies Discussion Paper CES-11-35. [RDC]

- 
- Saldanha, Terence J., Nigel P. Melville, Ronald Ramirez, and Vernon J. Richardson. 2011. "Information Systems for Collaborating versus Transacting: Impact on Plant Performance in the Presence of Demand Volatility." University of Michigan, Ross School of Business mimeo. [RDC]
- Schmutte, Ian M. 2010. "Job Referral Networks and the Determination of Earnings in Local Labor Markets." Center for Economic Studies Discussion Paper CES-10-40. [RDC]
- Tang, John. 2010. "Globalization and Price Dispersion: Evidence From U.S. Trade Flows." Center for Economic Studies Discussion Paper CES-10-07. [CES]
- Tang, John P. 2010. "Pollution Havens and the Trade in Toxic Chemicals: Evidence from U.S. Trade Flows." Center for Economic Studies Discussion Paper CES-10-12. [CES]
- Taylor, Laura O., Xiangping Liu, and Timothy Hamilton. 2011. "Amenity Values of Proximity to National Wildlife Refuges." Final Report to Fish and Wildlife Service, U.S. Department of the Interior. [RDC]
- Taylor, Laura O., Xiangping Liu, Timothy Hamilton, and Peter Grigelis. 2011. "Amenity Values of Permanently Protected Open Space." Center for Environmental and Resource Economic Policy Working Paper. [RDC]
- Tolbert, Charles, and Troy Blanchard. 2011. "Local Manufacturing Establishments and the Earnings of Manufacturing Workers: Insights from Matched Employer-Employee Data." Center for Economic Studies Discussion Paper CES-11-01. [RDC]
- Vistnes, Jessica, Alice Zawacki, Kosali Simon, and Amy Taylor. 2010. "Declines in Employer Sponsored Coverage Between 2000 and 2008: Offers, Take-Up, Premium Contributions, and Dependent Options." Center for Economic Studies Discussion Paper CES-10-23. [CES]
- Webber, Douglas A. 2011. "Firm Market Power and the Earnings Distribution." Center for Economic Studies Discussion Paper CES-11-41. [RDC]
- Weinberg, Daniel H. 2011. "Management Challenges of the 2010 U.S. Census." Center for Economic Studies Discussion Paper CES-11-22. [Census]
- Weinberg, Daniel H. 2011. "Further Evidence from Census 2000 About Earnings by Detailed Occupation for Men and Women: The Role of Race and Hispanic Origin." Center for Economic Studies Discussion Paper CES-11-37. [Census]
- White, T. Kirk, Jerome P. Reiter, and Amil Petrin. 2011. "Plant-Level Productivity and Imputation of Missing Data in the Census of Manufactures." Center for Economic Studies Discussion Paper CES-11-02; NBER Working Paper No. 17816. [RDC]
- Yu, Zhi George. 2010. "Tariff Pass-Through, Firm Heterogeneity and Product Quality." Center for Economic Studies Discussion Paper CES-10-37. [RDC]
- Zawacki, Alice. 2011. "A Guide to the MEPS-IC Government List Sample Microdata." Center for Economic Studies Discussion Paper CES-11-27. [CES]



---

## Appendix 3-A.

### **ABSTRACTS OF PROJECTS STARTED IN 2010 AND 2011: U.S. CENSUS BUREAU DATA**

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

#### **USING CENSUS DATA FOR UNDERSTANDING PRIVATE SECTOR EMPLOYER PROVISION OF HEALTH INSURANCE**

*Jean Abraham—University of Minnesota*

*Roger Feldman—University of Minnesota*

*Peter Graven—University of Minnesota*

Employers and employees face economic incentives that encourage health insurance provision through the workplace. This project will use the Medical Expenditure Panel Survey-Insurance Component (MEPS-IC) augmented with other federal and nonfederal data sources to analyze employer behavior regarding the provision of health insurance. Specifically, we will estimate the net advantage or disadvantage to private sector employers of keeping or dropping health insurance under any changing economic incentives created by reforms to health care. The “net advantage” of dropping health insurance reflects an establishment’s assessment of the potential value of exchange-based premium assistance credits (subsidies) that its workers could get if the employer dropped coverage; the value of the tax subsidy associated with offering health insurance; and the cost of the employer-shared responsibility requirement that an employer would incur if it dropped coverage. In addition, we will quantify the relationship between an

employer’s propensity to offer insurance and the tax price of insurance among workers in the establishment, characteristics of the establishment and its workforce, labor market conditions, and competition in the market for health insurance by modeling an employer’s decision to offer health insurance. Finally, we will predict how economic incentives facing employers will alter their incentives to provide health insurance.

The MEPS-IC are critical for analyzing the proposed issues as no other nationally representative dataset exists that contains detailed information on health benefit offerings, premiums, and workforce composition of U.S. establishments. The resulting analyses will inform the Census Bureau about the relation between health insurance provision by employers and the economic incentives that businesses face, which are driven in large part by the characteristics of their workers and their families. We will develop methods to enhance the information contained in the MEPS-IC with

respect to measuring an establishment’s workforce composition, including estimating the wage distribution of full-time workers within establishments who are most likely to be eligible for health insurance. We will also develop methods to facilitate a comparison of the distribution of wage income reported for workers relative to the distribution of household income by workers in establishments. These analyses can facilitate a more complete assessment of employers’ changing incentives to offer health insurance and they can test the sensitivity of how particular assumptions about employer behavior affect the offering decision. The proposed research also will benefit the Census Bureau by providing population estimates of establishment offers of health insurance under existing economic incentives and offers a flexible model for understanding how employer behavior may change in light of new economic incentives (e.g., differences by state or under the Patient Protection and Affordable Care Act of 2010).

---

## **GEOGRAPHIC DEREGULATION OF U.S. BANKING, MARKET SELECTION, AND ECONOMIC GROWTH**

*Joel Melendez-Lugo—University of Houston  
Bent Sorensen—University of Houston*

This study investigates how changes in state banking laws affect firms' access to credit, asset accumulation, and economic performance. Work will focus on manufacturing firms but will also investigate how banking law changes affect other sectors of the economy. The research uses the Quarterly Survey of Plant Capacity (QPC), the Annual Survey of Manufactures (ASM), the Census of Manufactures (CMF), and the Longitudinal Business Database to analyze the effects of banking deregulation on plant-level output, employment, investment, productivity, and capital-to-labor ratios. Further, the project investigates the influence of banking deregulation on the market selection process and the

reallocation of resources across manufacturing plants. The study will also use the Survey of Business Owners and the Integrated Longitudinal Business Database to provide a direct research link between credit markets and the productive sector by identifying firms that use debt to finance startup capital. This will allow the researchers to investigate whether banking deregulation affects access to credit for new businesses or the future performance and asset accumulation of borrowing firms. The research will benefit the Census Bureau by studying the quality of the data in the recently launched QPC. The researchers will compare the data in the QPC to data in the ASM and CMF, in addition to

using the QPC (and its predecessor, the annual Survey of Plant Capacity Utilization) to study variation in capacity utilization rates across states. The analysis of capacity utilization variation will be performed in order to evaluate whether the QPC can be used to make inferences at the state level. Finally, this work will benefit the Bureau by producing population estimates of how changes in state banking regulations affect firms' access to credit and asset accumulation, and how such changes influence the manufacturing sector in terms of the economic performance and input choices of plants, the reallocation of resources, and the market selection process.

## **ECONOMIC PERFORMANCE AND VENTURE CAPITAL**

*Timothy Dore—University of Chicago  
Steven Kaplan—University of Chicago*

This project examines the importance of venture capital in the performance of local economies and individual firms. In particular, it examines employment, wages, firm entry, and firm exit at the local level, as well as employment, wages, patenting activity, and expenditure patterns at the firm level, and estimates the effect of venture capital on these performance measures. In addition to detailing the characteristics of local

economies and firms as a function of venture capital involvement, the project will generate findings aimed at improving the sampling methodologies of the Survey of Industrial Research and Development and the Business R&D and Innovation Survey. The project will extend existing bridges and build new ones between Census Bureau data and external data on patenting and venture capital activity. It will then rely on this

external data to generate concrete suggestions on improving the sampling methodology of Census Bureau surveys. Finally, the project will compare estimates of aggregate and firm level performance from Census Bureau data with estimates from external data sources to identify any quality issues in several Census Bureau data sources.

---

## EXAMINING THE LONG TERM EFFECTS OF EARLY HEALTH SHOCKS

*Jason Fletcher—Yale University*

This project examines the potential causal effects of in utero exposure to the 1918 flu pandemic on later life mortality and economic and social outcomes. The project first replicates previous findings indicating substantial evidence that exposure to the flu reduces years of schooling and income

and increases several measures of poor health. The research will extend these findings to include measures of health insurance, occupation, mobility, marital status, and spousal characteristics. Although some of these intermediate and long-term effects have been documented in several papers, much less is known

about the links with mortality. The research will help to fill in this gap by estimating overall and cause-specific mortality outcomes using the restricted National Longitudinal Mortality Study (NLMS) data.

## LONG-DISTANCE MOBILITY PATTERNS ACROSS EDUCATION AND GENDER GROUPS OVER THE LIFECYCLE

*Abigail Wozniak—University of Notre Dame*

*Ofer Malamud—University of Chicago*

This project uses detailed longitudinal information from all waves of the National Longitudinal Surveys to examine lifecycle migration patterns across education and gender groups. It extends earlier work examining the causal role of a college education in subsequent geographic mobility to answer the important questions of why and how college going increases long distance mobility.

Educational differences in migration primarily occur between the college educated and everyone else. The project studies gender differences in lifetime migration patterns, particularly the manner in which these have evolved across cohorts. Migration patterns for women may have changed along with the dramatic increase in education and labor force participation that women experience over the latter half

of the twentieth century. The research involves two stages. The first employs longitudinal data to construct complete migration histories of a representative sample of U.S. residents. The second stage builds on the first, using information in the migration histories to test ideas about which mechanisms explain the different rates of long distance moves across education and gender groups.

---

## MEASURING OUTCOMES FROM POLLUTION ABATEMENT BEHAVIOR INDUCED BY MANDATORY DISCLOSURE RULES

*Linda T.M. Bui—Brandeis University  
Paroma Sanyal—Brandeis University*

Using the Pollution Abatement Costs and Expenditures (PACE) survey, Toxic Release Inventory (TRI) and Census of Manufacturers materials trailer files, this project documents trends in pollution abatement expenditures, materials use, and toxic releases over time, and explores if plants have become more pollution efficient. Estimates will be generated to analyze how pollution

abatement, toxic material use, and TRI public disclosure laws have affected firm-level productivity and induced technical change. Here, the identification of the effect of TRI on productivity comes both from the time-series variation in emissions of firms subject to the disclosure requirements, and from the cross-section variation between firms that fall under the disclosure rules or are exempt from

them. The project will perform an analysis of induced technology adoption by firms—both the adoption of general technologies as well as abatement technologies. This project will also evaluate the quality of and relationships between in data on pollution abatement, output, productivity, innovation, and toxic and other pollutant releases.

## INCOME EFFECTS IN LABOR SUPPLY: EVIDENCE FROM CENSUS DEMOGRAPHIC MICRODATA

*Sara LaLumia—University of California, Berkeley  
Emmanuel Saez—University of California, Berkeley  
Philippe Wingender—University of California, Berkeley*

This research project uses timing of childbirth to measure the income effect of taxes on parents' labor supply. The IRS Residency Test states that families can claim a dependent for the entire fiscal year if the child was born at any time during the year, and therefore provides an exogenous source of variation in tax liabilities for births that occur late in the year versus those that occur early the following year. By measuring the difference in earnings in the subsequent year for parents of December and January births, we can identify the impact of a one-time nonlabor income shock on parents' labor supply since both groups face on average

the same future stream of tax rates after birth. Preliminary results using public-use panel data from the Survey of Income and Program Participation (SIPP) and cross-sectional data from the American Community Survey (ACS) suggest that a temporary increase in after-tax income leads to a significant decrease in mothers' earnings with an estimated income effect of  $-0.9$ . This calls for a better understanding of the income effect of taxes of earnings, an important parameter that has not been studied carefully in previous work. Restricted data from the 2000 Census Long Form and the ACS can alleviate the shortcomings of the current public-use

datasets: coarse information on date of birth and small samples. This research will produce a new estimate of the income effect, an important characteristic of the U.S. population that has been overlooked in previous work. The few previous studies that have incorporated measures of nonlabor income in earnings elasticity estimations have all done so in the context of tax reform. This research project is the first one to look directly at changes in nonlabor income's impact on earnings arising from taxes, resulting in a more transparent identification strategy and greater statistical power.



---

## ACCURACY OF SAME-SEX COUPLE DATA IN THE AMERICAN COMMUNITY SURVEY

*Gary Gates—University of California, Los Angeles*

*Michael Steinberger—University of California, Los Angeles*

A significant amount of the research on same-sex couples in the United States uses the Decennial Census and the American Community Survey (ACS) as primary data sources. With the advent of legal marriage and other forms of recognition for these couples, interest in this group has intensified. This project will help determine if new procedures used in the 2008 ACS have improved the reliability and accuracy of data on same-sex couples, especially those where one partner is designated as a spouse. Beginning with the 2008 ACS, the Census Bureau now formally releases estimates of same-sex spouses (prior to this change, all

same-sex partners designated as “husband” or “wife” were reclassified as “unmarried partners”). This only increases the urgency of assessing the reliability of the same-sex couple data, especially same-sex spouses.

Research suggests that a potentially large fraction of same-sex spouses may actually be comprised of different-sex spouses who miscode their sex. This project compares data from the 2007 and 2008 ACS to assess whether the new 2008 ACS data collection and editing procedures yield greater accuracy of responses and improve the reliability of the same-sex spousal data. The primary research

goal is to verify the extent of the measurement error using explicit identification of same-sex spouses. The use of data that includes original unedited responses to the household roster and variables associated with marital status and sex will allow a determination of whether the changes in the 2008 ACS data result in a more accurate enumeration of same-sex spouses. A second goal is to consider how state-level differences in responses to household roster and marital status questions may be associated with variation in the legal and social climate regarding recognition of same-sex relationships.

## METHODOLOGIES FOR ANALYZING RISK ASSESSMENT

*Brooks DePro—RTI International*

*Tzy-Mey Kuo—RTI International*

*Lee Mobley—RTI International*

*Laurel Trantham—RTI International*

*Matthew Urato—RTI International*

This project will develop methods that use information from restricted-access Census Bureau data to characterize risk across populations. Work will demonstrate that using restricted-access Census Bureau data to develop and test risk assessment methods in conjunction with public data provide superior measures than could be

accomplished with public data alone. Research will use the American Community Survey and the American Community Survey Multiyear Estimates Study data in conjunction with other public-use geospatial data. With these combined data sources, the researchers will create several geospatial risk-scapes, each measuring a different dimension

of population risk to health hazards, economic hazards, or natural disasters. The researchers will then use these risk-scape measures to demonstrate the utility of the Census Bureau microdata in timely assessment of social vulnerability.

---

## COMMUNITY HAZARD MITIGATION AND THE COMMUNITY RATING SYSTEM OF THE NATIONAL FLOOD INSURANCE PROGRAM

*Craig Landry—East Carolina University*

*Jingyuan Li—East Carolina University*

Little empirical evidence exists to shed light on what factors influence the establishment of local hazard mitigation projects. One objective of this study is to provide such evidence through an examination of patterns in Community Rating System (CRS) scores across a panel of National Flood Insurance Program (NFIP) communities. In the process, this work will benefit the Census Bureau by developing means for increasing the utility

of Census Bureau-collected data, linking relevant external data, and producing population estimates. The researchers will test a number of hypotheses previously offered to explain why some local governments adopt hazard mitigation but others do not. Research will focus on flood hazard mitigation projects in 1104 NFIP communities in North Carolina, South Carolina, and Georgia between 2005 and 2009, but the results will

generalize across other flood-prone communities around the nation. By examining the influence of physical, risk, and socioeconomic factors on community hazard mitigation decisions as reflected in CRS scores for these areas, the results will forge a better understanding of community decision making under natural hazard risk on a national scale.

## PRODUCTIVITY OVER TIME AND SPACE: ESTIMATES FOR STATES AND COUNTIES, 1976–2007

*Lucy Goodhart—Columbia University*

This project will estimate plant-level total factor productivity (TFP) for manufacturing plants in the United States over the period 1976 to 2005, and will use these estimates to calculate aggregate or average TFP by state, MSA, and county. The project will examine how spatial divergence across states and counties has changed over the sample period. This analysis is prompted by findings that investments in information and communications technology are complementary with the existing base of human capital and skills in a given location. Given that U.S. cities are increasingly divergent in their stocks of

human capital, the research tests whether productivity in manufacturing has also become more geographically disparate. A second objective is to test whether local area productivity is related to earnings and employment outcomes at the individual level and to individuals' attitudes towards trade liberalization and government spending. This component is motivated by a literature on the consequences of productivity for workers, relating productivity to wages and risk of job loss. Using the data on average TFP by state, county, and MSA from the first part of this project, the second component tests the effect of

aggregate TFP in manufacturing in the local area on earnings and employment using data from the Annual Social and Economic Supplement of the Current Population Survey. Finally, and given the links drawn between risks to employment and earnings and individual attitudes towards trade liberalization and government spending, the research tests whether aggregate TFP in the local area correlates with these individual attitudes. The latter section of the research employs public-use data from the American National Election Study.

---

## EXPLORING HOW NEIGHBORHOOD QUALITY INFLUENCES HOUSEHOLD RESIDENTIAL CHOICES

*Ingrid Ellen—New York University*

*Keren Mertens—New York University*

*Katherine O'Regan—New York University*

Understanding which factors attract households to particular neighborhoods provides a critical lens into neighborhood change. Previous research has found that the neighborhood choices of in-moving households are important drivers of neighborhood change. We still know very little about what neighborhood factors drive these location decisions. This research project explores whether the quality of the zoned public school, the crime rate, and/or the racial composition of a neighborhood differentially attract particular types of households to that neighborhood. Four key dimensions of households—their

tenure, income, race, and presence of children—provide the focus for this research. Using the internal versions of the Decennial Census, the American Community Survey, and the American Housing Survey, along with rich external datasets describing neighborhood characteristics, this project will overcome existing data limitations that have prevented researchers from gaining insight into how neighborhood quality influences household residential choices. These detailed microdata will be employed to estimate separately which neighborhood factors attract households to particular neighborhoods and then model

household neighborhood choice, incorporating information on previous residence to improve the specification. Part of this project will conduct an in-depth exploration of item response rates in each of the different surveys used in order to gain a sense of the quality of the data on previous residence. It will take advantage of the changes in the ways in which the question is asked to see how changing the phrasing of the previous residence variable influences item response rates. We will also examine how differences in survey administration influence item response rates.

## ANALYZING RENTAL AFFORDABILITY DURING THE GREAT RECESSION: 2007 TO PRESENT

*Katrin Anacker—George Mason University*

*Yanmei Li—George Mason University*

This research addresses the following questions related to the impact of the current recession on rental affordability in the United States. Are there statistically significant changes in average rental costs, the

rental cost-to-income ratio, the physical attributes of rental housing units, and renter socioeconomic characteristics from 2007 to 2009? If so, are there any geographic disparities? How do household characteristics,

physical rental housing attributes, neighborhood characteristics, housing foreclosure rates, and fair market rents relate to rental housing affordability measured as rental housing cost burden?

---

## THE POWER OF THE PILL IN SHAPING U.S. FERTILITY AND CHILDBEARING BEHAVIOR

*Martha Bailey—University of Michigan*

*Emily Collins—University of Michigan*

*Jamein Cunningham—University of Michigan*

*Olga Malkova—University of Michigan*

*Zoe McLaren—University of Michigan*

Despite celebrating the 50th anniversary of the FDA approval of the oral contraceptive pill, significant scholarly debate remains about the role that the Pill played in the dramatic demographic shifts of the 1960s. Estimating the causal impact of the Pill has been difficult because of the coincidence of its release with the peak of the baby boom, the rise of the women's movement, and many other social changes that render standard inter-temporal comparisons invalid. Bailey (2010) developed a quasi-experimental empirical strategy to address

these problems. Specifically, she uses state-level variation in anti-obscenity "Comstock laws" which made the Pill illegal in 24 states, in conjunction with the timing of the introduction of the Pill in 1957 and the Supreme Court's decision to strike down Connecticut's Comstock statute in 1965 with *Griswold v. Connecticut*. This project proposes to use data from both the publicly available IPUMS and the restricted-access microdata from the decennial censuses to pursue three specific scientific aims: (1) To use individual county-identifiers to develop

and test a distance-based regression discontinuity methodology for estimating the impact of the birth control pill on completed fertility; (2) To use individual county-identifiers and the methodology in (1) to quantify the impact of the birth control pill on completed fertility, marital outcomes, child quality, and female labor force participation; and (3) To use this methodology to examine the impact of the birth control pill on disparities in these outcomes by race and education level.

## THE DYNAMICS OF PARTICIPATION IN SUBSIDIZED HOUSING PROGRAMS IN THE U.S.: PATHWAYS INTO AND OUT OF SUBSIDIZED HOUSING

*Yana Kucheva—University of California, Los Angeles*

*Robert Mare—University of California, Los Angeles*

At the end of the 1990s, the federal government reorganized the way it provides subsidized housing assistance. As a result, voucher users surpassed the number of public housing residents, and Public Housing Authorities began to serve new tenants who are making affirmative steps to self-sufficiency as opposed to households experiencing the greatest housing-related needs. Using life table analysis, this project investigates how these changes have affected the length of stay of

tenants in subsidized housing programs as well as the relative lengths of stay in public housing compared to other types of subsidized programs. Second, it examines the pathways that residents take to exit subsidized housing and implement a discrete-time multinomial logit model of the socioeconomic determinants of exits into the private housing market that takes account not only of the socioeconomic characteristics of individuals but also of the local housing and unemployment

conditions. Finally, it traces the ability of exits from subsidized housing programs to improve the living conditions of the ones who transition into the private housing market. The research uses all panels of the Survey of Income and Program Participation (SIPP) covering the period between 1990 and 2008 as well as the Panel Study of Income Dynamics (PSID) for the period between 1969 and 2008.

---

## GETTING RURAL RIGHT IN THE AMERICAN HOUSING SURVEY

*Travis George—Housing Assistance Council*

The issue of defining “rural-ity” confuses, perplexes, and confounds nearly everyone who works with or studies rural populations in the United States. This is particularly true in statistical analyses and surveys such as the American Housing Survey (AHS). While the AHS is one of the most detailed and valuable

sources of information on the nation’s housing stock, the survey has substantial shortcomings and limitations concerning its coverage and reporting of rural households. This project carries out a detailed geographical analysis of the current rural sample within the AHS. The project incorporates several

different rural classifications into the survey to provide a more comprehensive assessment of residence patterns. The project will provide recommendations to improve the reliability and coverage of rural housing units for future surveys.

## HOUSING RECOVERY IN NEW ORLEANS: A MULTI-LEVEL APPROACH TO VULNERABILITY AND RESILIENCE

*Lisa Bates—Portland State University*

*Timothy Green—University of Illinois*

Hurricane Katrina wrought major damage to housing across the New Orleans area. Five years later, recovery remained spotty. Over 100,000 residents had not returned to the city and in some neighborhoods physical reconstruction remained incomplete despite significant resources having been dedicated to recovery. The 2009 American Housing Survey’s special post-Katrina sample for metropolitan New Orleans allows researchers to understand better the critical factors in recovery for housing

and households. This project uses American Housing Survey (AHS) data to address questions of vulnerability to and resilience after a major natural disaster event. The 2009 AHS special examination of post-Katrina New Orleans provides a significant opportunity to analyze vulnerability and recovery, providing new information to policy makers about how better to prepare for and respond to such events. This study analyzes pre-Hurricane Katrina

conditions, disaster damage, and post-Katrina recovery. It focuses on repair and re-occupancy of housing units by their original inhabitants to address the multiple dimensions of vulnerability, considering how household, housing unit, and neighborhood characteristics affect recovery. The analysis employs multi-level modeling to distinguish effects of different facets of vulnerability, and estimates the contribution of neighborhood status to housing recovery over and above household factors.



---

## Appendix 3-B.

### **ABSTRACTS OF PROJECTS STARTED IN 2010 AND 2011: 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 Health Care 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.

#### **HOW HAS THE PROSPECTIVE PAYMENT SYSTEM INFLUENCED MEDICARE HOME HEALTH SERVICES? (AHRQ)**

*Hyun Jee Kim—University of Michigan*

Over the last 15 years, Medicare spending for home health services has fluctuated significantly in response to the changes in the reimbursement system. From the early 1990s until 1997, the spending amount surged under the fee-for-service payment system, but it plummeted when the interim payment system was implemented temporarily between 1997 and 2000 prior to the full implementation of the prospective payment system (MedPAC, 2010). In 2000, the Federal Government introduced a prospective payment system for Medicare home health care

to control the rapidly increasing spending that had been occurring under the fee-for-service payment system. Surprisingly, however, under the prospective payment scheme, the total Medicare home health care spending continued to rise dramatically and soon exceeded the spending level under the fee-for-service payment system. Three factors have contributed to the significant increase in aggregate Medicare spending: (1) the number of Medicare home health service users, (2) the number of episodes per user, and (3) the payments per

episode. The third factor is of particular importance because the intent of the prospective payment system was to curb the payments per episode, which, to the contrary, rose dramatically under this system. Given this situation of unexpected consequences, this project aims to explain the reasons for the increase in each of these three factors. The findings from this project should have important implications for cost control affecting all health services reimbursed by Medicare's prospective payment system.

#### **UNHEALTHY BALANCE: THE CONSEQUENCES OF WORK AND FAMILY DEMANDS AND RESOURCES ON EMPLOYEES' HEALTH AND HEALTH CARE CONSUMPTION (AHRQ)**

*Jean Abraham—University of Minnesota*

*Theresa Glomb Miner—University of Minnesota*

This project examines the consequences of work and family demands and resources on employees' health and health care consumption for the employer-sponsored insurance

covered population using the nationally representative Medical Expenditure Panel Survey (MEPS) for 1997–2007. The project focuses on health status (overall health status), stress-related

conditions (e.g., migraine, gastro-intestinal, insomnia, depression/anxiety, back problems, and fatigue), annual condition-specific utilization and expenditures, and absenteeism.

---

## **PARENTAL EMPLOYMENT AND SOCIOECONOMIC DISPARITIES IN CHILDREN'S HEALTH (AHRQ)**

*Heather Hill—University of Chicago*

This study is designed to advance both conceptual understandings of child health in the context of family life and the application of specific econometric techniques for identifying those relationships. The aims of this study are to examine the effects of parental

job transitions, including job loss, job entry, and changes in work hours, on child health status, health insurance coverage, and health care utilization, with particular attention to the moderating role of family SES and structure. The project uses multiple longitudinal panels of

the MEPS-HC to examine the effects of parental job transitions—including job loss, job entry, and changes in work hours, on child health status, and on two likely mechanisms of such a relationship: changes in health insurance coverage and health care utilization.

## **RELATIONSHIP BETWEEN JOB-MOBILITY AND ACCESS TO EMPLOYER-SPONSORED HEALTH INSURANCE AND WORKPLACE BENEFITS PROGRAM FOR INDIVIDUALS WITH DISABILITIES (AHRQ)**

*Arun Karpur—Cornell University  
Zafar Nazarov—Cornell University*

This research examines relationship between job-mobility and access to employer-provided health insurance, including other work-place benefits for individuals with disabilities. Access to employer-based health insurance provides health insurance coverage to 159 million individuals and families or about two thirds of nonelderly Americans (i.e., < 65 year olds). This mode of health insurance has inherent advantages to both: (a) It enhances employers' ability to attract and retain highly qualified individuals by offering attractive health insurance as a benefits, provides them with tax credits on a per-employee basis, and helps them to attend to employee well-being for

increased productivity and outputs, and (b) it provides employees access to otherwise expensive health insurance packages for individuals and their families, and affords tax credits by allowing the individuals to deduct their contributions to the health insurance plan. Increasingly, employers are offering health plans with higher deductibles, and more stringent and sometimes enduring requirements for eligibility. The majority of workers (slightly more than 50 percent) who do not have access to employer-based insurance tend to remain uninsured. This research focuses to highlight the added value of access to health insurance as a mode of retention and continued engagement of

individuals with disabilities into the workforce. This information has several practice and policy implications. Understanding the correlates of securing employer-provided health insurance will help in generating knowledge for program practitioners and rehabilitation professionals working with employers on practices that lead to job-retention and workforce engagement of individuals with disabilities. This will also inform the field in existing employer practices that may be used for advocating program and policy-based strategic changes improving employment outcomes for individuals with disabilities.



---

## THE ROLE OF MACROECONOMIC CONDITIONS ON THE DEMAND FOR EMPLOYER-SPONSORED HEALTH INSURANCE (AHRQ)

*Jean Abraham—University of Minnesota*

*Emily Dust—University of Minnesota*

The percentage of people with job based health insurance coverage has continued to drop. While many studies have looked at employer-sponsored offer rates, coverage of dependents, and enrollment, few have looked at the role of macroeconomic conditions in affecting these outcomes. This project seeks to extend work in this area by examining employer-based health insurance access and coverage in the context of the broader macroeconomic conditions. Generally, businesses

in the same geographic area tend to have similar wages and benefits. Economic theory suggests that businesses will be influenced by other employers in the market. This study seeks to measure the relationship between local economic conditions and employer-sponsored insurance. Previous studies have focused on the availability of employer-sponsored health insurance, cost of premiums, and the enrollment by employees. Given the decline in coverage rates, are employees

choosing not to enroll or are businesses dropping the coverage? What is the relationship with the economic conditions? Is the effect of macroeconomic conditions on insurance different for different kinds of workers (e.g., industry, occupation, demographics)? While these questions have been addressed previously, none have examined the most recent financial crisis. This project will update past studies and look at the years 2005–2009.

## WATER FLUORIDATION AND DENTAL OUTCOMES (AHRQ)

*Sung Choi Yoo—University of Minnesota*

*Pinar Karaca-Mandic—University of Minnesota*

A large body of research provides evidence that optimal water fluoridation is associated with reductions in tooth decays and improvement in other oral health indicators in both developing and industrial countries. Despite the evidence that water fluoridation is a beneficial public health intervention there is no research that studies a wide

range of dental outcomes using nationally representative data. This project aims to fill this gap by studying dental utilization, dental expenditures, and dental insurance purchase in relation to community water system fluoridation levels. The research merges data from the nationally representative Medical Expenditure Panel

Survey Household Component and household level Dental Event Files with data compiled from public records on the Water Fluoridation Reporting System (WFRS) developed by the Centers for Disease Control and Prevention at the city or county level. Outcomes are analyzed separately for children and adults.

---

## **CANCER SCREENING IN PRIMARY CARE SERVICE AREAS: DETERMINANTS OF SCREENING WITHIN A PLACE-SPECIFIC CONTEXT (NCHS)**

*Janis Barry—Fordham University*

*Zhen Ma—City University of New York*

Mammography, pap smear, and colorectal screening tests can detect breast, cervical, and colon cancer early. Cancer screening in the United States most often occurs through referral from a primary care physician received during a routine, preventive health care visit. This means that it essential for women and men to access primary care services, proceed to screening facilities, and obtain results and follow up care as needed. Studies show that after controlling for individual characteristics such as age, race/ethnicity, marital status, education, family income and health insurance coverage: cancer screening prevalence

is associated with small area characteristics. Physician supply, poverty level, travel distance to screening facilities, costs of screening, and residential segregation are a few of the area factors that have been found to effect screening rates. This project uses the 2005 National Health Interview Survey to investigate cancer-screening utilization among age-appropriate adults. It links new data from bounded, preventive health care markets, identified as Primary Care Service Areas (PCSA) to the household files of individuals in the NHIS. Constructed by the Health Resources and Service Administration to

provide small-area identifiers, the 6,542 PCSAs encompass actual patterns of local primary care use. In order to link households from the 2005 NHIS to PCSA data, geocodes at the census tract level are required. Using area measures such as the number of primary care physicians per 1000 population in the PCSA, regression analysis is used to explore the significance of health system supply variables, and other area-level socioeconomic conditions on individual screening choices. The analysis will highlight characteristics of small areas where cancer-screening use is either significantly higher or lower.

## **RESIDENTIAL SEGREGATION, NEIGHBORHOOD CHARACTERISTICS, AND ADVERSE HEALTH OUTCOMES (NCHS)**

*Kiarri Kershaw—Northwestern University*

Non-Hispanic Blacks and individuals of lower socioeconomic position have a higher prevalence of asthma in the United States compared with Hispanics and non-Hispanic Whites. Recent evidence suggests contextual factors may play a role. To better characterize the role of the social environment this project has two study goals: (1) to examine the association

of neighborhood crime and air pollution exposure with asthma, and (2) to assess the relationship between metropolitan-level racial and ethnic residential segregation and asthma. It hypothesizes that neighborhood crime and poor air quality will be associated with higher asthma prevalence and poorer control (as measured by visits to emergency room and prescription

medication use). It also tests the hypothesis that racial disparities in asthma will be larger among those living in more segregated areas. A better understanding of the role of the contextual environment in the prevalence and control of asthma may help inform policies and interventions to help reduce racial and socioeconomic asthma disparities.

---

## EFFECTS OF CLINICAL DEPRESSION ON LABOR MARKET OUTCOMES OF YOUNG ADULTS (NCHS)

*Alice Kassens—Roanoke College*  
*William Rodgers—Rutgers University*

Using the 1999–2004 NHANES, this project estimates the impact of clinical depression on the labor market outcomes of young adults aged 20 to 39 and low-income individuals. Depression is associated with a reduction

in employment by lengthening job search and not a departure from the labor force. For minorities, employment loss is associated with labor force departure. Direct evidence exists that the unemployment rate of depressed

individuals increased during the 2001 recession and jobless recovery. Restricted access data files are employed to correct for endogeneity through variation in state insurance laws.

## THE EFFECT OF INSURANCE ON EMERGENCY ROOM VISITS: AN ANALYSIS OF THE 2006 MASSACHUSETTS HEALTH REFORM (NCHS)

*Sarah Miller—University of Illinois*

This project studies the relationship between insurance and costs by examining how use of emergency room (ER) care was affected by a major health insurance expansion in Massachusetts in 2006. Health insurance alters the tradeoff between physician's office visits and ER usage for those covered and changes patient behavior in ways that may improve efficiency and lower per-capita

costs. Understanding the direction and magnitude of these effects has direct implications for the cost-benefit analysis of public policy designed to increase insurance coverage. I identify the net effect of insurance coverage on ER visits by contrasting changes in ER use before and after the reform in both Massachusetts and control states in the Northeast region. I also examine changes

in preventive care use that may be associated with a long-term decline in ER visits. My identification strategy avoids the problem of insurance status being endogenously determined with ER usage and allows for a clearer understanding of the causal relationship between insurance and ER use than currently exists in the literature.

## IMMIGRANT HEALTH ACROSS THE LIFE SPAN (NCHS)

*Melissa Martinson—Princeton University*

This research will contribute to knowledge about inequalities in health by exploring the nativity paradox: the fact that foreign-born mothers, on average, have better birth outcomes than native-born mothers of similar socioeconomic status. Using the NHIS, we will systematically

investigate the extent to which immigrant selectivity contributes to the nativity paradox and we will also test “acculturation” and “weathering” theories by investigating the effects of age at arrival in the United States versus duration of residence in the United States on birth

outcomes, self-reported health, functional limitations, and obesity. Understanding how the health of immigrants is affected after immigration to the United States will provide a window into the determinants of racial and ethnic disparities in health in the United States.

---

## **TRENDS IN AND DETERMINANTS OF RACE/ETHNIC DISPARITIES IN CHILD HEALTH (NCHS)**

*Hedwig Lee—University of Michigan*

*Neil Mehta—Emory University*

*Kelly Ylitalo—University of Michigan*

The objective of this project is to investigate recent trends in race/ethnic disparities in child health and to understand the social determinants of race/ethnic disparities in child health using the 1997–2009 National Health Interview Survey. Recent demographic trends highlight the increasing racial and ethnic diversity of United States, and these demographic shifts have produced more varied and complex identities among children. The studies that have focused on race/ethnic disparities in child health from

the 1990s have largely ignored foreign-born status and multi-racial identities and have only evaluated specific illnesses or a subset of child diseases. While attention to specific health conditions has important relevancies for targeted public health and clinical interventions, it is also important to assess multiple indicators of child health status to understand how the overall health of children is changing over time and to assess whether there are variations in race/ethnic disparities across different dimensions of child health.

This project will describe recent trends in race/ethnic disparities, investigate how patterns of child health vary by nativity status of parents and children, and examine possible determinants of child health disparities, including socioeconomic characteristics of parents and families as well as the contextual environment. This research will provide updated evidence on race/ethnic disparities in child health across multiple demographic sub-groups, which will be valuable to both researchers and policy makers.

## **THE NEIGHBORHOOD FOOD ENVIRONMENT, WEIGHT STATUS, AND WEIGHT-RELATED CO-MORBIDITIES IN ADULTS (NCHS)**

*Diane Gibson—City University of New York*

*Zhen Ma—City University of New York*

This project considers the relationship between variables measuring the food environment in an individual's neighborhood of residence and the individual's weight status and weight-related co-morbidities (coronary heart

disease, diabetes, hypertension, and high cholesterol). The project also examines whether these relationships differ by gender, race and ethnicity, family poverty status, urbanicity or residence, and neighborhood

poverty status. The project uses data from the 2007 National Health Interview Survey combined with data from the 2007 Zip Code Business Patterns Data and the Census 2000.

---

## THE SHORT- AND LONG-TERM EFFECTS OF THE MINIMUM LEGAL DRINKING AGE (NCHS)

*David Munroe—Columbia University*

Although the minimum legal drinking age (MLDA) has been set at 21 since the 1980s, the debate about adolescent access to alcohol is ongoing. However, existing research on the MLDA suffers from several potential sources of bias. Most estimates rely on comparing mortality rates across states that raised the drinking age at different times. Recent work has demonstrated that such estimates are biased by state differences in culture and attitudes toward alcohol that are correlated with the timing of the decision to change the law. To avoid this problem, other estimates compare mortality

rates just before and just after individuals turn 21. However, these estimates will be biased if individuals binge drink in celebration of their newfound legal status. This project uses a novel research design to estimate the effect of the MLDA on mortality rates, which takes advantage of a natural experiment created by grandfather provisions. When 18 states raised the MLDA, they allowed individuals under 21 who were already legal to remain legal. This creates a discontinuity in legal coverage within the same state and cohort. Individuals with birth dates right before the law comes into effect can

drink legally in their adolescent years, while those born a day later must wait until 21. Using a regression discontinuity design, this project compares the drinking behaviors and mortality rates for individuals born on either side of the cutoff (who live in the same state and face the same environment) to assess whether fewer years of legal access reduces the number of deaths due to accidents. This design will also be used to examine whether the MLDA of 21 has long-lasting benefits, and to assess the extent of binge drinking upon turning the legal age.

## ESTIMATING THE EFFECTS OF CIGARETTE PRICES AND SMOKING POLICIES ON SMOKING BEHAVIOR (NCHS)

*Julian Reif—University of Chicago*

This research models smoking behavior, including its social interactions components, as an epidemic phenomenon. This has two advantages. First, it allows one to use Susceptible-Infected-Recovered (“SIR”) models from

the epidemiology literature. Second, this structural framework allows for estimation of counterfactuals. The first part of the study is theoretical and links SIR models to discrete choice social interactions models that

are well-known in the economics literature. The second part is empirical and seeks to use smoking behavior data from the NHIS to estimate these models.

---

## HOME HEALTH CARE FOR PERSONS WITH COGNITIVE IMPAIRMENT: THE INFLUENCE OF HOME HEALTH CARE AGENCY CHARACTERISTICS ON THE RELATIONSHIP BETWEEN CONSUMER COGNITIVE STATUS AND SERVICE VOLUME AND COST (NCHS)

*Daniel Kaplan—Columbia University*

The elderly population is growing rapidly in all nations. With advanced age comes the risk for age-associated illnesses, such as disorders of dementia. People with dementia require increasing support and care, and experience numerous complex behavioral and psychiatric syndromes as the disorder progresses. Their care is very difficult to provide, causing high rates of burnout among informal and formal caregivers and premature institutionalization of patients. Yet nearly all research aiming to discover ways to delay costly institutionalization of dementia patients has focused only on bolstering family caregiver capacities. The knowledge gaps pertaining to home care

service use raise serious concerns.

The capacity of the home health care service industry to meet adequately the needs of people living with cognitive impairment is highly questionable. This study offers a number of important innovations. Newly available health services survey data will be used. The aims of the study employ a framework that requires an adaptation of a widely used model of health services utilization. The study offers comparisons of service use and cost for consumers with dementia to those without, and previously unstudied agency characteristics are examined in relation to utilization.

Most importantly, multilevel analyses will examine how agency characteristics are associated with the relationship between cognitive impairment and service use for consumers nested within each agency. This study will identify profiles of home care service use for people with cognitive impairment while accounting for and examining the impact of the variability among provider agencies. Findings from this study will inform policymakers and industry stakeholders about how to design programs to best serve those with cognitive impairment, and consumers will have information to make decisions about selecting providers.

## THE EFFECTS OF COLLEGE EDUCATION ON HEALTH (NCHS)

*Ning Jia—University of Notre Dame*

*Melinda Morrill—North Carolina State University*

*Abigail Wozniak—University of Notre Dame*

This research examines the causal impact of education on health outcomes using variation in college attainment induced by draft-avoidance behavior during the Vietnam War. The

project exploits both national and state-level induction risk to identify the effect of educational attainment on various health outcomes. It considers health outcomes associated with

mortality for this age group, including hypertension, obesity, and diabetes. It also considers health behaviors, such as smoking, drinking, exercise, and mental health outcomes.

---

## THE EFFECTS OF THE FOOD STAMP PROGRAM ON ENERGY BALANCE AND OBESITY (NCHS)

*Joanna Parks—University of California, Davis*

The Food Stamp Program (FSP) has become an increasingly larger component of the U.S. Department of Agriculture Food and Nutrition Program (USDA FNP) over the last 35 years. The main objective of the FSP is to serve as a safety net against hunger and improve the nutritional status of low income Americans. In stark contrast to the stated goals of the FSP, there is an increased prevalence of obesity among FSP participants. The primary goal of this research is to identify the effect of FSP participation on the weight of

adults. By simultaneously modeling the decision to participate in the FSP and the body weight (or another measure of adiposity like waist circumference or BMI) of FSP participants, we can account for any reverse causality between FSP participation and body weight. Moreover, it could be that other confounding and previously omitted variables drive the relationship between FSP participation and obesity, which will be investigated as well. The project uses variation in state and county level characteristics as instruments for

the FSP participation decision. It controls for individual characteristics that affect weight (e.g., weight before FSP participation, recently giving birth, or lack of physical activity) and are independent of the decision to participate in the FSP. By accounting for the myriad of physical, environmental, and socioeconomic factors that influence body weight, we can more precisely pinpoint and describe the relationship between the choices made by economic agents and their health outcomes.

## HELICOBACTER PYLORI COLONIZATION AND DEATH FROM ALL CAUSES, CVD, AND CANCER: RESULTS FROM THE NHANES III MORTALITY STUDY (NCHS)

*Stephanie Segers—New York University*

The gastric bacterium *Helicobacter pylori* (*H. pylori*) is present in all human populations. Colonization of *H. pylori* is associated with increased risks of gastric cancer, pancreatic cancer, and cardiovascular disease, as well as reduced risks of asthma and esophageal adenocarcinoma. However, whether *H. pylori* colonization is associated with total mortality is not known. This project evaluates the relationships of *H. pylori* status with mortality from all

causes, cancer, and cardiovascular disease in 9,118 participants in the Third National Health and Nutrition Examination Survey (NHANES III) with >20 years of follow-up on vital status and causes of deaths. Cox proportional regression models estimate the rate ratios for mortality from all causes, cancer, and cardiovascular disease comparing persons with *H. pylori*-positive, *H. pylori* positive/*cagA*positive, *H. pylori* positive/*cagA*negative, with persons of

*H. pylori*-negative status, controlling for potential confounding factors such as age, gender, and indicators of socioeconomic status. The NHANES III provides a unique opportunity to evaluate the association between *H. pylori* and mortality in the U.S. population. Findings from this study will improve our knowledge of the disease burden associated with *H. pylori* colonization in developed countries.



---

## ECONOMIC FACTORS AND POPULATION DIET AND OBESITY (NCHS)

*Lisa Powell—University of Chicago*

*Roy Wada—University of Chicago*

The public health challenge that stems from obesity is a critical national concern. The influence of economic and environmental factors on people's lifestyles such as eating and physical activity behaviors and, in turn, how these factors may influence obesity has been inadequately studied and deserves further investigation. This research will augment National Health and Nutrition Examination Survey (NHANES) for child, youth, and adult populations with external information on food (candy, baked goods, and chips), beverage (soda) and restaurant state sales taxes, food prices,

local area grocery store, eating places, and physical activity-related outlet density measures, and local area socioeconomic census data. This project has three specific aims: (1) Examine the relationship between the economic contextual variables and dietary patterns and diet quality; (2) Examine the relationship between the economic contextual factors and BMI and obesity prevalence; and, (3) Examine the proposed relationships separately for low-income populations and assess the differences in sensitivity between low-income food stamp and non-food stamp recipients.

To accomplish these aims, the research will conduct secondary data analyses, using NHANES combined with: (1) state-level food, beverage and restaurant sales tax rates; (2) local area food price and outlet density measures of food stores and restaurants; and, (3) local area socioeconomic status drawn from the Census Bureau. The proposed project represents the most comprehensive exploration to date of the relationship between the economic contextual environments and individuals' dietary patterns, diet quality, and BMI.

## MORAL HAZARD IN LESS INVASIVE SURGICAL TECHNOLOGY FOR CORONARY ARTERY DISEASE (NCHS)

*Shin-Yi Chou—Lehigh University*

*Michael Grossman—National Bureau of Economic Research*

*Jesse Margolis—City University of New York*

The aims of this project are to investigate the differences in changes in post-operative behavior of patients who have been treated for coronary artery disease (CAD) with surgical intervention and the effects of these differences in behavior change on patient health outcomes and cost of treatment. Percutaneous coronary intervention (PCI), the newer and less invasive procedure, and coronary artery bypass graft (CABG) surgery are the surgical interventions for CAD considered. The behavioral changes at issue pertain to cigarette smoking, the absence of a regular exercise regimen, caloric

intake, and excessive alcohol consumption. The hypothesis is that there are differences in post-operative behavior changes, and that those treated for CAD via the relatively less invasive surgery, PCI, will invest in health improvement (through improved behavior) at lower rates than those treated via the more invasive CABG surgery. This hypothesis is rooted in the idea that the two different surgical interventions convey different information about the seriousness of having CAD to the patient being treated. As a result of more serious physical and psychological

reminders, those treated with the more invasive technology (CABG) will on average reallocate more effort to health investments than those treated with the less invasive technology (PCI). The project employs data from the National Health Interview Survey linked to Medicare claims files and to the National Death Index. The multivariate analysis is based on difference-in-differences and propensity score matching methods.

---

## **DOES THE NEIGHBORHOOD FOOD ENVIRONMENT INFLUENCE THE RELATIONSHIP BETWEEN FOOD STAMP PROGRAM PARTICIPATION AND WEIGHT-RELATED OUTCOMES? (NCHS)**

*Diane Gibson—City University of New York*  
*Zhen Ma—City University of New York*

Using a sample of low-income adults, this project examines whether the availability of food retail and food service establishments in a person's neighborhood of residence (a person's "neighborhood food environment") was associated with the

types of establishments where the person purchased food, the person's daily energy intake, weight status, and weight-related co-morbidities. It considers whether these associations differed for Food Stamp Program (FSP) participants compared to

eligible nonparticipants. The project uses restricted-access geocoded data from the 2005–2008 Zip Code Business Patterns measuring the availability of food retail and food service establishments in a person's Zip Code area of residence.



---

## Appendix 4.

### CENTER FOR ECONOMIC STUDIES (CES) DISCUSSION PAPERS: 2010 and 2011

CES Discussion Papers are available at <[www.census.gov/ces](http://www.census.gov/ces)>.

#### 2010

- 10-01 “The Closure Effect: Evidence from Workers Compensation Litigation,” by Henry Hyatt, 1/10.
- 10-02 “Euler-Equation Estimation for Discrete Choice Models: A Capital Accumulation Application,” by Russell Cooper, John Haltiwanger, and Jonathan L. Willis, 1/10.
- 10-03 “Electronic Networking Technologies, Innovation Misfit, and Plant Performance,” by Robert G. Fichman and Nigel P. Melville, 2/10.
- 10-04 “Wage Premia in Employment Clusters: Agglomeration or Worker Heterogeneity?” by Shihe Fu and Stephen L. Ross, 2/10.
- 10-05 “The Effect of Class Size on Teacher Attrition: Evidence from Class Size Reduction Policies in New York State,” by Emily Pas Isenberg, 2/10.
- 10-06 “The Effect of Firm Compensation Structures on Employee Mobility and Employee Entrepreneurship of Extreme Performers,” by Seth Carnahan, Rajshree Agarwal, Benjamin Campbell, and April Franco, 3/10.
- 10-07 “Globalization and Price Dispersion: Evidence from U.S. Trade Flows,” by John Tang, 3/10.
- 10-08 “Building New Plants or Entering by Acquisition? Estimation of an Entry Model for the U.S. Cement Industry,” by Hector Perez-Saiz, 4/10.
- 10-09 “Foreign-Born Out-Migration from New Destinations: The Effects of Economic Conditions and Nativity Concentration,” by Mary M. Kritz and Douglas T. Gurak, 4/10.
- 10-10 “An Alternative Theory of the Plant Size Distribution with an Application to Trade,” by Thomas J. Holmes and John J. Stevens, 5/10.
- 10-11 “National Estimates of Gross Employment and Job Flows from the Quarterly Workforce Indicators with Demographic and Industry Detail,” by John M. Abowd and Lars Vilhuber, 6/10.
- 10-12 “Pollution Havens and the Trade in Toxic Chemicals: Evidence from U.S. Trade Flows,” by John P. Tang, 6/10.
- 10-13 “Exports, Borders, Distance, and Plant Size,” by Thomas J. Holmes and John J. Stevens, 6/10.
- 10-14 “Concentration, Diversity, and Manufacturing Performance,” by Joshua Drucker, 7/10.
- 10-15 “Comparing Measures of Earnings Instability Based on Survey and Administrative Reports,” by Chinhui Juhn and Kristin McCue, 8/10.
- 10-16 “Information and Industry Dynamics,” by Emin M. Dinlersoz and Mehmet Yorukoglu, 8/10.
- 10-17 “Who Creates Jobs? Small vs. Large vs. Young,” by John Haltiwanger, Ron S. Jarmin, and Javier Miranda, 8/10.
- 10-18 “Who Moves to Mixed-Income Neighborhoods?” by Terra McKinnish and T. Kirk White, 8/10.
- 10-19 “How Low Income Neighborhoods Change: Entry, Exit and Enhancement,” by Ingrid Gould Ellen and Katherine M. O’Regan, 9/10.
- 10-20 “Entry, Growth, and the Business Environment: A Comparative Analysis of Enterprise Data from the U.S. and Transition Economies,” by J. David Brown and John S. Earle, 9/10.
- 10-21 “Access to Workers or Employers? An Intra-Urban Analysis of Plant Location Decisions,” by Mark J. Kutzbach, 9/10.
- 10-22 “Professional Employer Organizations: What Are They, Who Uses Them and Why Should We Care?” by Britton Lombardi and Yukako Ono, 9/10.
- 10-23 “Declines in Employer Sponsored Coverage between 2000 and 2008: Offers, Take-up, Premium Contributions, and Dependent Options,” by Jessica Vistnes, Alice Zawacki, Kosali Simon, and Amy Taylor, 9/10.

- 
- 10-24 “Past Experience and Future Success: New Evidence on Owner Characteristics and Firm Performance,” by Ron Jarmin and C.J. Krizan, 9/10.
- 10-25 “Computer Networks and Productivity Revisited: Does Plant Size Matter? Evidence and Implications,” by Henry R. Hyatt and Sang V. Nguyen, 9/10.
- 10-26 “Employer-to-Employer Flows in the United States: Estimates Using Linked Employer-Employee Data,” by Melissa Bjelland, Bruce Fallick, John Haltiwanger, and Erika McEntarfer, 9/10.
- 10-27 “Are All Trade Protection Policies Created Equal? Empirical Evidence for Nonequivalent Market Power Effects of Tariffs and Quotas,” by Bruce A. Blonigen, Benjamin H. Liebman, Justin R. Pierce, and Wesley W. Wilson, 9/10.
- 10-28 “A Dynamic Structural Model of Contraceptive Use and Employment Sector Choice for Women in Indonesia,” by Uma Radhakrishnan, 9/10.
- 10-29 “Competition and Productivity: Evidence from the Post WWII U.S. Cement Industry,” by Timothy Dunne, Shawn D. Klimek, and James A. Schmitz, Jr., 9/10.
- 10-30 “Local Environmental Regulation and Plant-Level Productivity,” by Randy A. Becker, 9/10.
- 10-31 “Clusters and Entrepreneurship,” by Mercedes Delgado, Michael E. Porter, and Scott Stern, 9/10.
- 10-32 “Decomposing the Sources of Earnings Inequality: Assessing the Role of Reallocation,” by Fredrik Andersson, Elizabeth E. Davis, Matthew L. Freedman, Julia I. Lane, Brian P. McCall, and L. Kristin Sandusky, 9/10.
- 10-33 “Characteristics of the Top R&D Performing Firms in the U.S.: Evidence from the Survey of Industrial R&D,” by Lucia Foster and Cheryl Grim, 9/10.
- 10-34 “Clusters, Convergence, and Economic Performance,” by Mercedes Delgado, Michael E. Porter, and Scott Stern, 10/10.
- 10-35 “Delegation in Multi-Establishment Firms: The Organizational Structure of I.T. Purchasing Authority,” by Kristina Steffenson McElheran, 10/10.
- 10-36 “NBER Patent Data-BR Bridge: User Guide and Technical Documentation,” by Natarajan Balasubramanian and Jagadeesh Sivadasan, 10/10.
- 10-37 “Tariff Pass-Through, Firm Heterogeneity and Product Quality,” by Zhi George Yu, 10/10.
- 10-38 “Soft Information and Investment: Evidence from Plant-Level Data,” by Xavier Giroud, 11/10.
- 10-39 “Workplace Concentration of Immigrants,” by Fredrik Andersson, Monica García-Pérez, John Haltiwanger, Kristin McCue, and Seth Sanders, 11/10.
- 10-40 “Job Referral Networks and the Determination of Earnings in Local Labor Markets,” by Ian M. Schmutte, 12/10.
- 10-41 “Migration Decisions in Arctic Alaska: Empirical Evidence of the Stepping Stones Hypothesis,” by Lance Howe and Lee Huskey, 12/10.
- 2011**
- 11-01 “Local Manufacturing Establishments and the Earnings of Manufacturing Workers: Insights from Matched Employer-Employee Data,” by Charles M. Tolbert and Troy C. Blanchard, 1/11.
- 11-02 “Plant-Level Productivity and Imputation of Missing Data in the Census of Manufactures,” by T. Kirk White, Jerome P. Reiter, and Amil Petrin, 1/11.
- 11-03 “The Effects of Environmental Regulation on the Competitiveness of U.S. Manufacturing,” by Michael Greenstone, John A. List, and Chad Syverson, 2/11.
- 11-04 “Towards Unrestricted Public Use Business Microdata: The Synthetic Longitudinal Business Database,” by Satkartar K. Kinney, Jerome P. Reiter, Arnold P. Reznec, Javier Miranda, Ron S. Jarmin, and John M. Abowd, 2/11.
-

- 
- 11-05 "Beyond Cobb-Douglas: Estimation of a CES Production Function with Factor Augmenting Technology," by Devesh Raval, 2/11.
- 11-06 "What Do I Take With Me: The Impact of Transfer and Replication of Resources on Parent and Spin-Out Firm Performance," by Rajshree Agarwal, Benjamin Campbell, April M. Franco, and Martin Ganco, 2/11.
- 11-07 "Assessing the Incidence and Efficiency of a Prominent Place Based Policy," by Matias Busso, Jesse Gregory, and Patrick Kline, 2/11.
- 11-08 "How Does Size Matter? Investigating the Relationships Among Plant Size, Industrial Structure, and Manufacturing Productivity," by Joshua Drucker, 3/11.
- 11-09 "Does the Retirement Consumption Puzzle Differ Across the Distribution?," by Jonathan D. Fisher and Joseph Marchand, 3/11.
- 11-10 "Do Market Leaders Lead in Business Process Innovation? The Cases(s) of E-Business Adoption," by Kristina Steffenson McElheran, 4/10.
- 11-11 "Post-Merger Restructuring and the Boundaries of the Firm," by Vojislav Maksimovic, Gordon Phillips, and N.R. Prabhala, 4/11.
- 11-12 "Parental Earnings and Children's Well-Being and Future Success: An Analysis of the SIPP Matched to SSA Earnings Data," by Bhashkar Mazumder and Jonathan Davis, 4/11.
- 11-13 "LEHD Infrastructure Files in the Census RDC - Overview of S2004 Snapshot," by Kevin L. McKinney and Lars Vilhuber, 4/11.
- 11-14 "Errors in Survey Reporting and Imputation and Their Effects on Estimates of Food Stamp Program Participation," by Bruce D. Meyer and Robert M. Goerge, 4/11.
- 11-15 "The Cyclicalities of Productivity Dispersion," by Matthias Kehrig, 5/11.
- 11-16 "Raising the Barcode Scanner: Technology and Productivity in the Retail Sector," by Emek Basker, 5/11.
- 11-17 "The Case of the Missing Ethnicity: Indians Without Tribes in the 21st Century," by Carolyn A. Liebler and Meghan Zacher, 6/11.
- 11-18 "The Emergence of Wage Discrimination in U.S. Manufacturing," by Joyce Burnette, 6/11.
- 11-19 "Using the Survey of Plant Capacity to Measure Capital Utilization," by Yuriy Gorodnichenko and Matthew D. Shapiro, 7/11.
- 11-20 "Estimating Measurement Error in SIPP Annual Job Earnings: A Comparison of Census Bureau Survey and SSA Administrative Data," by John M. Abowd and Martha H. Stinson, 7/11.
- 11-21 "Impacts of Central Business District Location: A Hedonic Analysis of Legal Service Establishments," by Frank F. Limehouse and Robert E. McCormick, 7/11.
- 11-22 "Management Challenges of the 2010 U.S. Census," by Daniel H. Weinberg, 8/11.
- 11-23 "The Productivity Advantage and Global Scope of U.S. Multinational Firms," by Raymond Mataloni, Jr., 8/11.
- 11-24 "Wage Dynamics along the Life Cycle of Manufacturing Plants," by Emin Dinlersoz, Henry Hyatt, and Sang Nguyen, 8/11.
- 11-25 "Productivity Dispersion and Plant Selection in the Ready-Mix Concrete Industry," by Allan Collard-Wexler, 8/11.
- 11-26 "Nature versus Nurture in the Origins of Highly Productive Businesses: An Exploratory Analysis of U.S. Manufacturing Establishments," by J. David Brown and John S. Earle, 9/11.
- 11-27 "A Guide to the MEPS-IC Government List Sample Microdata," by Alice Zawacki, 9/11.
- 11-28 "Modeling Single Establishment Firm Returns to the 2007 Economic Census," by Emin M. Dinlersoz and Shawn D. Klimek, 9/11.
- 11-29 "Newly Recovered Microdata on U.S. Manufacturing Plants from the 1950s and 1960s: Some Early Glimpses," by Randy A. Becker and Cheryl Grim, 9/11.

- 
- 11-30 "Job Displacement and the Duration of Joblessness: The Role of Spatial Mismatch," by Fredrik Andersson, John C. Haltiwanger, Mark J. Kutzbach, Henry O. Pollakowski and Daniel H. Weinberg, 9/11.
- 11-31 "Who Works for Startups? The Relation between Firm Age, Employee Age, and Growth," by Page Ouimet and Rebecca Zarutskie, 10/11.
- 11-32 "Acquiring Labor," by Page Ouimet and Rebecca Zarutskie, 10/11.
- 11-33 "Migration and Dispersal of Hispanic and Asian Groups: An Analysis of the 2006–2008 Multiyear American Community Survey," by William H. Frey and Julie Park, 10/11.
- 11-34 "Cheaper by the Dozen: Using Sibling Discounts at Catholic Schools to Estimate the Price Elasticity of Private School Attendance," by Susan Dynarski, Jonathan Gruber, and Danielle Li, 10/11.
- 11-35 "Long-Run Earnings Volatility and Health Insurance Coverage: Evidence from the SIPP Gold Standard File," by Matthew S. Rutledge, 10/11.
- 11-36 "Changes in Firm Pension Policy: Trends Away from Traditional Defined Benefit Plans," by Kandice A. Kapinos, 11/11.
- 11-37 "Further Evidence from Census 2000 about Earnings by Detailed Occupation for Men and Women: The Role of Race and Hispanic Origin," by Daniel H. Weinberg, 11/11.
- 11-38 "Entry Costs and Increasing Trade," by William F. Lincoln and Andrew H. McCallum, 12/11.
- 11-39 "An Analysis of Sample Selection and the Reliability of Using Short-term Earnings Averages in SIPP-SSA Matched Data," by Jonathan Davis and Bhashkar Mazumder, 12/11.
- 11-40 "Black-White Differences in Intergenerational Economic Mobility in the U.S.," by Bhashkar Mazumder, 12/11.
- 11-41 "Firm Market Power and the Earnings Distribution," by Douglas A. Webber, 12/11.
- 11-42 "Export Prices of U.S. Firms," by James Harrigan, Xiangjun Ma, and Victor Shlychkov, 12/11.



## Appendix 5.

### NEW DATA AVAILABLE THROUGH CENSUS RESEARCH DATA CENTERS (RDCs) IN 2010 AND 2011<sup>1</sup>

Table A-5.1.  
**BUSINESS DATA**

<b>Data product</b>	<b>Description</b>	<b>New or updated years</b>
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.	2006–2009
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.	2007–2009
Census of Auxiliary Establishments	The Census of Auxiliary Establishment Survey covers auxiliary establishments of multi-establishment firms. The primary function of auxiliary establishments is to manage, administer, service, or support the activities of the other establishments of the company. Examples of such establishments are corporate offices, centralized administrative offices, district and regional offices, data processing centers, warehousing facilities, accounting and billing offices, and so forth. Data include sales, employment and payroll, billings, inventories, capital and R&D expenditures, and selected purchased services.	2002, 2007
Census of Construction Industries	The Census of Construction Industries (CCN) is conducted every 5 years as part of the Census Bureau's Economic Census program. Data collected in the CCN include employment (construction worker and other), payroll, value of construction work, cost of materials, supplies and fuels, cost of work subcontracted out, capital expenditures, assets and type of construction.	2007
Census of Finance, Insurance, and Real Estate	The Census of Finance, Insurance, and Real Estate (CFI) is conducted every 5 years as part of the Census Bureau's Economic Census program. In 2007, the CFI includes NAICS sectors 52 and 53. Data collected include employment, payroll, detailed industry, and the amount of revenue by detailed source. The files also include responses to special inquiries included on the forms for certain detailed industries.	2007

<sup>1</sup>These 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.

<b>Data product</b>	<b>Description</b>	<b>New or updated years</b>
Census of Manufactures	The Census of Manufactures (CMF) is conducted every 5 years as part of the Census Bureau's Economic Census program. The CMF provides data on manufacturers including employment, payroll, workers' hours, payroll supplements, cost of materials, value added by manufacturing, capital expenditures, inventories, and energy consumption. It also provides data on the value of shipments by product class and materials consumed by material code.	2007
Census of Mining	The Census of Mining (CMI) is conducted every 5 years as part of the Census Bureau's Economic Census program. The CMI provides data on mining establishments including employment, payroll, workers' hours, payroll supplements, cost of supplies, value added, capital expenditures, inventories, and energy consumption. It also provides data on the value of shipments by product class and supplies consumed by material code.	2007
Census of Retail Trade	The Census of Retail Trade (CRT) is conducted every 5 years as part of the Census Bureau's Economic Census program. In 2007, the CRT includes NAICS sectors 44–45 (retail trade) and 72 (accommodation and food services). Data collected include employment, payroll, detailed industry, and the amount of revenue by detailed source. The files also include responses to special inquiries included on the forms for certain detailed industries.	2007
Census of Services	The Census of Services (CSR) is conducted every 5 years as part of the Census Bureau's Economic Census program. In 2007, the CSR includes NAICS sectors 51 (information), 54 (professional, scientific, and technical services), 56 (administrative & support and waste management & remediation services), 61 (educational services), 62 (health care and social assistance), 71 (arts, entertainment, and recreation) and 81 (other services, except public administration). Data collected include employment, payroll, detailed industry, and the amount of revenue by detailed source. The files also include responses to special inquiries included on the forms for certain detailed industries.	2007
Census of Transportation, Communications and Utilities	The Census of Transportation, Communications, and Utilities (CUT) is conducted every 5 years as part of the Census Bureau's Economic Census program. In 2007, the CUT includes NAICS sectors 22 (utilities) and 48–49 (transportation and warehousing). Data collected include employment, payroll, detailed industry, and the amount of revenue by detailed source. The files also include responses to special inquiries included on the forms for certain detailed industries.	2007
Census of Wholesale Trade	The Census of Wholesale Trade (CWH) is conducted every 5 years as part of the Census Bureau's Economic Census program. In 2007, the CWH includes NAICS sector 42. Data collected include employment, payroll, detailed industry, and the amount of revenue by detailed source. The files also include responses to special inquiries included on the forms for certain detailed industries.	2007

<b>Data product</b>	<b>Description</b>	<b>New or updated years</b>
Commodity Flow Survey	The Commodity Flow Survey (CFS) is the primary source of data on domestic freight shipments by U.S. establishments in mining, manufacturing, wholesale, auxiliaries, and selected retail industries. It is a shipper-based survey and is conducted every 5 years as part of the Census Bureau's Economic Census program. It provides a modal picture of national freight flows, and represents the only publicly available source of commodity flow data for the highway mode.	2007
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.	2008–2010
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.	2008–2010
Foreign Trade—Exporter Database	The Exporter Database is a set of files used to create the Profile of U.S. Exporting Companies. The files are created by matching yearly export transaction records to the company information from the Business Register.	2007–2009
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 2009. 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.	2006–2009
Linked/Longitudinal Firm Trade Transactions Database	The Linked/Longitudinal Firm Trade Transactions Database (LFTTD) links individual trade transactions to firms in the United States. This data has two components: (1) transaction-level export data (Foreign Trade—Export) linked to information on firms operating in the United States; (2) transaction-level import data (Foreign Trade—Import) linked to information on firms operating in the United States. The firm identifiers on the LFTTD can be used to link trade transactions by firms to many other Census data products (LBD, Economic Censuses, surveys, etc.).	1992–2009

<b>Data product</b>	<b>Description</b>	<b>New or updated years</b>
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.	1992–2010
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).	2008–2010
Ownership Change Database	The Ownership Change Database (OCD) tracks changes in ownership of manufacturing establishments between consecutive years of the Census of Manufactures.	1992–1997 1997–2002
Pollution Abatement Costs and Expenditures Survey	The Pollution Abatement Costs and Expenditures (PACE) survey provides data on manufacturing plants' operating costs and capital expenditures associated with pollution abatement. These expenditures are further broken down by media (air, water, solid waste) and type of cost. A number of other items have also been collected by the PACE survey through its history. For many years, microdata files were only available for 1979 forward. Relatively recently, CES discovered the microdata files from the 1974–1978 PACE surveys on an old Census mainframe. No further surveys were conducted or are planned following the 2005 survey.	1974–1978, 2005
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.	2006–2009
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.	2002–2009
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).	2007

<b>Data product</b>	<b>Description</b>	<b>New or updated years</b>
Survey of Industrial Research and Development (SIRD) and 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.	2006–2007 (SIRD)  2008 (BRDIS)

Table A-5.2.  
**HOUSEHOLD DATA<sup>1</sup>**

<b>Data product</b>	<b>Description</b>	<b>New or updated years</b>
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.	2006–2010
American Housing Survey	The American Housing Survey (AHS) collects data on the nation’s housing, including apartments, single-family homes, mobile homes, vacant housing units, household characteristics, income, housing and neighborhood quality, housing costs, equipment and fuels, size of housing unit, and recent movers. National data are collected in odd-numbered years and data for each of 47 selected metropolitan areas are collected about every 4 years, with an average of 12 metropolitan areas included each year.	2005, 2007–2009
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.	2009, 2010
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.	2008, 2009
National Longitudinal Mortality Study	The National Longitudinal Mortality Study (NLMS) is a database developed for the purpose of studying the effects of demographic and socioeconomic characteristics on differentials in U.S. mortality rates. The NLMS consists of data from Current Population Surveys, Annual Social and Economic Supplements, and a subset of the 1980 Census combined with death certificate information to identify mortality status and cause of death.	1998
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

<sup>1</sup> 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.

Table A-5.3.

**LONGITUDINAL EMPLOYER-HOUSEHOLD DYNAMICS (LEHD) DATA**

<b>Data product</b>	<b>Description</b>	<b>New or updated years</b>
Business Register Bridge	The Business Register Bridge (BRB) is a link between LEHD employer microdata and Business Register (BR) firms, and establishment microdata. Since the concepts of “firm” and “establishment” differ between the LEHD employer microdata and the BR, the BRB provides a crosswalk at various levels of business-unit aggregation. The most detailed crosswalk is at the level of Employer Identification Number (EIN)—State-four-digit Standard Industry Classification (SIC) Industry-County. The bridge includes the full list of establishments in the LEHD data and in the BR that are associated with the business units (e.g., EIN-four-digit SIC-State-County) in the crosswalk and measures of activity (e.g., employment, sales).	1990–2008
Employer Characteristics File	The Employer Characteristics File (ECF) consolidates most firm-level information (size, location, industry, etc.) into two easily accessible files. The firm-level file has one record for every year and quarter in which a firm is present in either the covered Employment and Wages (ES-202) program data or the unemployment insurance system (UI) wage records. Firms are identified by the LEHD State Employer Identification Number (SEIN). The data in the firm-level file is aggregated from the core establishment-level file, where establishments are identified by reporting unit number within SEIN, called SEINUNIT.	1989–2008
Employment History File	The Employment History File (EHF) provides a full time series of earnings at all within-state jobs for all quarters covered by the LEHD system and provided by the state. It also provides activity calendars at a job, firm and sub-firm reporting unit level. It can be linked to other Census Bureau files through the Protected Identity Key (PIK) and the LEHD SEIN.	1985–2008
Geocoded Address List	The Geocoded Address List (GAL) is a dataset containing unique commercial and residential addresses in a state geocoded to the census block and latitude/longitude coordinates. It consists of the GAL and a crosswalk for each processed file-year. The GAL contains each unique address, a GAL identifier, its geocodes, a flag for each file-year in which it appears, data quality indicators, and data processing information. The GAL Crosswalk contains the GAL identifier.	1990–2008
Individual Characteristics File	The Individual Characteristics File (ICF) for each state contains one record for every person who has ever been employed in that state over the period spanned by the state’s unemployment insurance records. It consolidates information from multiple input sources on gender, age, citizenship, point-in-time residence, and education. Information on gender, education, and age is imputed ten times when missing.	1985–2008



<b>Data product</b>	<b>Description</b>	<b>New or updated years</b>
Quarterly Workforce Indicator	The Quarterly Workforce Indicators (QWI) establishment file contains quarterly measures of workforce composition and worker turnover at the establishment level for selected states. The LEHD establishment-level measures are created from longitudinally integrated person and establishment-level data. Establishment-level measures include: (1) Worker and Job Flows—accessions, separations, job creation, job destruction by age and gender of workforce; (2) Worker composition by gender and age; (3) Worker compensation for stocks and flows by gender and age; and (4) Dynamic worker compensation summary statistics for stocks and flows by gender and age. The LEHD-QWI may be used in combination with the LEHD BRB to match to other Census Bureau micro business databases and can be matched by firm-establishment identifiers to other LEHD infrastructure files.	1990–2008
Unit-to-Worker	The unemployment insurance records underlying the LEHD infrastructure files provide neither establishment identifiers (except for Minnesota) nor industry or geographic detail of the establishment—only a firm identifier. Between 60 and 70 percent of state-level employment is in single-unit employers (employers with only one establishment) for which a link through the firm identifier is sufficient to provide such detail. For the remaining 30 to 40 percent of employment, such links have to be imputed. The Unit-to-Worker Impute (U2W) file contains ten imputed establishments for each employee of a multiunit employer. The file can be linked to other Census Bureau datasets through the PIK and the LEHD SEIN-SEINUNIT.	1990–2008

---

## Appendix 6.

### **CENSUS RESEARCH DATA CENTER (RDC) PARTNERS**

#### **Atlanta Census RDC**

Julie Hotchkiss, Executive Director

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

#### **Boston Census RDC**

Wayne Gray, Executive Director

National Bureau of Economic Research

#### **California Census RDC (Berkeley)**

John 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)**

Lucia Foster, Director of Research, Center for Economic Studies

#### **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  
Michigan State University

#### **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  
Fordham University  
Mount Sinai School of Medicine  
National Bureau of Economic Research  
New York University  
Princeton University  
Russell Sage Foundation  
Rutgers University  
Stony Brook University  
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  
Fordham University  
Mount Sinai School of Medicine  
National Bureau of Economic Research  
New York University  
Princeton University  
Russell Sage Foundation  
Rutgers University  
Stony Brook University  
University at Albany, State University of New York  
Yale University

---

**Triangle Census RDC (Duke and RTI)**

Gale Boyd, Executive Director

Appalachian State University  
Duke University  
East Carolina University  
Elizabeth City State University  
Fayetteville State University  
North Carolina Agricultural & Technical State  
University  
North Carolina Central University  
North Carolina State University  
RTI International  
University of North Carolina at Asheville  
University of North Carolina at Chapel Hill  
University of North Carolina at Charlotte  
University of North Carolina at Greensboro  
University of North Carolina at Pembroke  
University of North Carolina Wilmington  
University of North Carolina School of the Arts  
Western Carolina University  
Winston-Salem State University

---

## Appendix 7.

# LONGITUDINAL EMPLOYER-HOUSEHOLD DYNAMICS (LEHD) PARTNERS

### LOCAL EMPLOYMENT DYNAMICS (LED) STEERING COMMITTEE

As of December 2011.

**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)  
Greg Weeks  
Labor Market and Economic Analysis  
Washington Employment Security Department

### FEDERAL PARTNERS

U.S. Department of Agriculture  
U.S. Department of Commerce, National Oceanic and Atmospheric Administration  
U.S. Department of the Interior  
U.S. Office of Personnel Management

### STATE PARTNERS

As of December 2011.

**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**  
Bill Schooling, State Demographer and Labor Market Information Director  
Office of Employment and Population Statistics  
Arizona Department of Administration

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

---

**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**

James Moore, Deputy Director  
Office of Policy, Performance and Economics  
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, Labor Market Information Contact  
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**

Inayat Noormohamad, Director  
Labor Market Information Services  
Kansas Department of Labor

**Kentucky**

Tom Howell, Manager  
Research and Statistics Branch  
Kentucky Office of Employment and Training

**Louisiana**

Raj Jindal, Director  
Information Technology  
Louisiana Workforce Commission

**Maine**

Chris Boudreau, Director  
Center for Workforce Research and Information  
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**

Elizabeth (Betty) McGrath, Ph.D., Director  
Labor Market Information Division  
Employment Security Commission of North  
Carolina

**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 Department of Employment

**Pennsylvania**

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

---

***Puerto Rico***

Elda Ivelisse Pares, Director  
Labor Market Information/Bureau of Labor  
Statistics  
Puerto Rico Department of Labor

***Rhode Island***

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

***South Carolina***

Brenda Lisbon, Labor Market Information Director  
Labor Market Information  
South Carolina Department of Employment  
and Workforce

***South Dakota***

Bernie Moran, Director  
Labor Market Information Center  
South Dakota Department of Labor and Regulation

***Tennessee***

Linda J. Davis  
Research and Statistics Division  
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***

Greg Weeks, Ph.D., 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  
Wisconsin Department of Workforce Development

***Wyoming***

Tom Gallagher, Manager  
Research and Planning  
Wyoming Department of Employment



---

## Appendix 8. CENTER FOR ECONOMIC STUDIES (CES) STAFF LISTING (December 2011)

\* Indicates contractor.

### *Senior Staff*

<b>Lucia Foster</b>	Chief Economist and Chief of CES
Vacant	Assistant Center Chief for LEHD [LEHD Area]
Vacant	Assistant Center Chief for Research [Economic Research Area]
Vacant	Assistant Center Chief for Research Support [Research Support Area]
<b>Randy Becker</b>	Principal Economist and Special Assistant to the Chief Economist
<b>Erika McEntarfer</b>	LERG Team Leader
<b>Shigui Weng</b>	Chief of Data Staff
<b>Walter Kydd</b>	Chief of LEHD Production and Development Branch
Vacant	Chief of LEHD Quality Assurance Branch
Vacant	Lead RDC Administrator

### *Economic Research Area*

<b>Paul Hanczaryk*</b>	Senior Research Statistician
<b>Arnold Reznick</b>	Disclosure Avoidance Officer
<b>David White*</b>	IT Specialist
<b>Ahmad Yusuf</b>	Statistician

### *Business Economics Research Group*

<b>J. David Brown</b>	Economist
<b>Leland Crane</b>	Graduate Research Assistant
<b>Ronald Davis</b>	Statistician
<b>Ryan Decker</b>	Graduate Research Assistant
<b>Emin Dinlersoz</b>	Economist
<b>Teresa Fort</b>	Graduate Research Assistant
<b>Cheryl Grim</b>	Senior Economist
<b>Fariha Kamal</b>	Economist
<b>Shawn Klimek</b>	Senior Economist
<b>C.J. Krizan</b>	Senior Economist
<b>Kristin McCue</b>	Senior Economist
<b>Javier Miranda</b>	Senior Economist
<b>Alice Zawacki</b>	Senior Economist

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

<b>Evan Buntrock</b>	Graduate Research Assistant
<b>Steve Ciccarella</b>	Graduate Research Assistant
<b>Chris Goetz</b>	Graduate Research Assistant
<b>Henry Hyatt</b>	Economist
<b>Emily Isenberg</b>	Economist
<b>Mark Kutzbach</b>	Economist
<b>Kevin McKinney</b>	Economist
<b>Esther Mezey</b>	Graduate Research Assistant
<b>Giordano Palloni</b>	Graduate Research Assistant

---

<b>Kristin Sandusky</b>	Economist
<b>Liliana Sousa</b>	Economist
<b>Doug Webber</b>	Graduate Research Assistant

*Research Data Center (RDC) Administrators*

<b>Angela Andrus</b>	California Census RDC (UC-Berkeley & Stanford)
<b>Melissa Banzhaf</b>	Atlanta Census RDC (Federal Reserve Bank of Atlanta)
<b>J. Clint Carter</b>	Michigan Census RDC (University of Michigan, Ann Arbor)
<b>Abigail Cooke</b>	California Census RDC (UCLA)
<b>James Davis</b>	Boston Census RDC (National Bureau of Economic Research)
<b>Gina Erickson</b>	Minnesota Census RDC (University of Minnesota, Minneapolis)
<b>Jonathan Fisher</b>	New York Census RDC (Baruch College, New York City)
<b>W. Bert Grider</b>	Triangle Census RDC (Duke University & RTI)
<b>Frank Limehouse</b>	Chicago Census RDC (Federal Reserve Bank of Chicago)
<b>Michael Strain</b>	New York Census RDC (Cornell University)
Vacant	Census Bureau Headquarters RDC (Suitland MD)

*Longitudinal Employer-Household Dynamics (LEHD) Area*

<b>Gilda Beuzile</b>	IT Specialist
<b>Earlene Dowell*</b>	Contractor
<b>John Fattaleh</b>	IT Manager
<b>Kimberly Jones</b>	Research/Program Administrator
<b>Lars Vilhuber*</b>	Economist
<b>George (Chip) Walker*</b>	Communications and Marketing Consultant

*LEHD Production and Development Branch*

<b>Tao Li*</b>	SAS Programmer
<b>Cindy Ma</b>	SAS Programmer
<b>Gerald McGarvey*</b>	Contractor
<b>Jeronimo (Bong) Mulato*</b>	System Engineer
<b>Camille Norwood</b>	SAS Programmer
<b>Rajendra Pillai*</b>	Contractor
<b>Ryan Sellars*</b>	Web Developer
<b>C. Allen Sher*</b>	Contractor
<b>Robin Walker*</b>	Contractor
<b>Jun Wang*</b>	SAS Programmer
<b>Chaoling Zheng</b>	Webmaster

---

*LEHD Quality Assurance Branch*

<b>Carl Anderson*</b>	Contractor
<b>Alex Blocker</b>	Graduate Research Assistant
<b>Jason Fairbanks</b>	Economist
<b>Matthew Graham</b>	Geographer
<b>Heath Hayward</b>	Geographer
<b>Vicky Johnson*</b>	Contractor
<b>Dan Northrup*</b>	Contractor
<b>Robert Pitts*</b>	GIS Analyst Project Manager
<b>Stephen Tibbets*</b>	Economist

*Research Support Area*

<b>Cathy Buffington</b>	IT Specialist (Data Management)
<b>Annetta Titus</b>	Assistant to Assistant Center Chief for Research Support

*Data Staff*

<b>Jason Chancellor</b>	Survey Statistician
<b>Todd Gardner</b>	Survey Statistician
<b>Quintin Goff</b>	Survey Statistician
<b>Mike Goodloe</b>	Survey Statistician
<b>Daniel Orellana</b>	Survey Statistician
<b>David Ryan</b>	IT Specialist (Data Management)
<b>Anurag Singal</b>	IT Specialist (Data Management)
<b>Ya-Jiun Tsai</b>	IT Specialist (Data Management)
<b>Michele Yates</b>	Survey Statistician
<b>Lakita Ayers</b>	IT Specialist (APPSW)
<b>Redouane Betrouni</b>	IT Specialist (APPSW)
<b>Raymond Dowdy</b>	IT Specialist (APPSW)
<b>Lori Fox</b>	IT Specialist (APPSW)
<b>Vickie Kee</b>	Team Leader
<b>Jeong Kim</b>	IT Specialist (APPSW)
<b>Xiliang Wu</b>	IT Specialist (APPSW)

*Administrative Staff*

Vacant	Secretary for Chief Economist
<b>Becky Turner</b>	Secretary for Assistant Center Chief for Research
<b>Deborah Wright</b>	Secretary for Assistant Center Chief for Research Support
<b>Dawn Anderson</b>	Secretary for Assistant Center Chief for LEHD
<b>Claudia Perez</b>	Secretary for LEHD Production and Development Branch





