LOCAL EMPLOYMENT DYNAMICS (LED) DATA: UPDATES & NEW EMPLOYMENT WORKFLOWS DATA

2016 LED Partnership Workshop

March 7, 2016

Erika McEntarfer

Matthew Graham

Lars Vilhuber

LEHD Program, Center for Economic Studies,

U.S. Census Bureau

Today we will talk about newly available data, applications and future developments

Job-to-Job Flows
- About the data, upcoming releases
- Development of new tools to analyze data

National QWI
- Data available now and future releases
- Updates to QWI Explorer

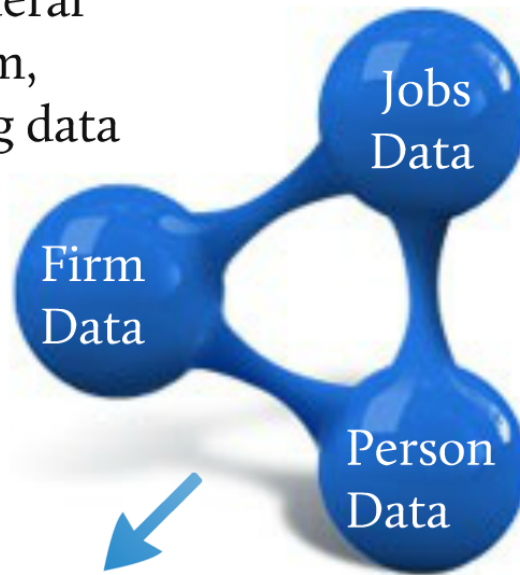New LODES/OnTheMap data available

Looking forward to the future

Job-to-Job Flows (J2J):

The third new public use statistical product derived from the Local Employment Dynamics (LED) state-federal partnership

An innovative federal statistical program, collecting existing data and ...

The LEHD Program at Census

Jobs Data

Firm Data

Person Data

..linking it together to provide new information sources at low cost

New linked national jobs data for the U.S.

FiveThirtyEight

May 21, 2014

Want a Raise? Quit Your Job

Ben Casselman

Jonathan House of The Wall Street Journal has an interesting story in Friday's paper about how a shortage of skilled workers is driving up wages in a handful of industries (oil drilling, trucking, home construction), even as overall earnings growth remains weak.
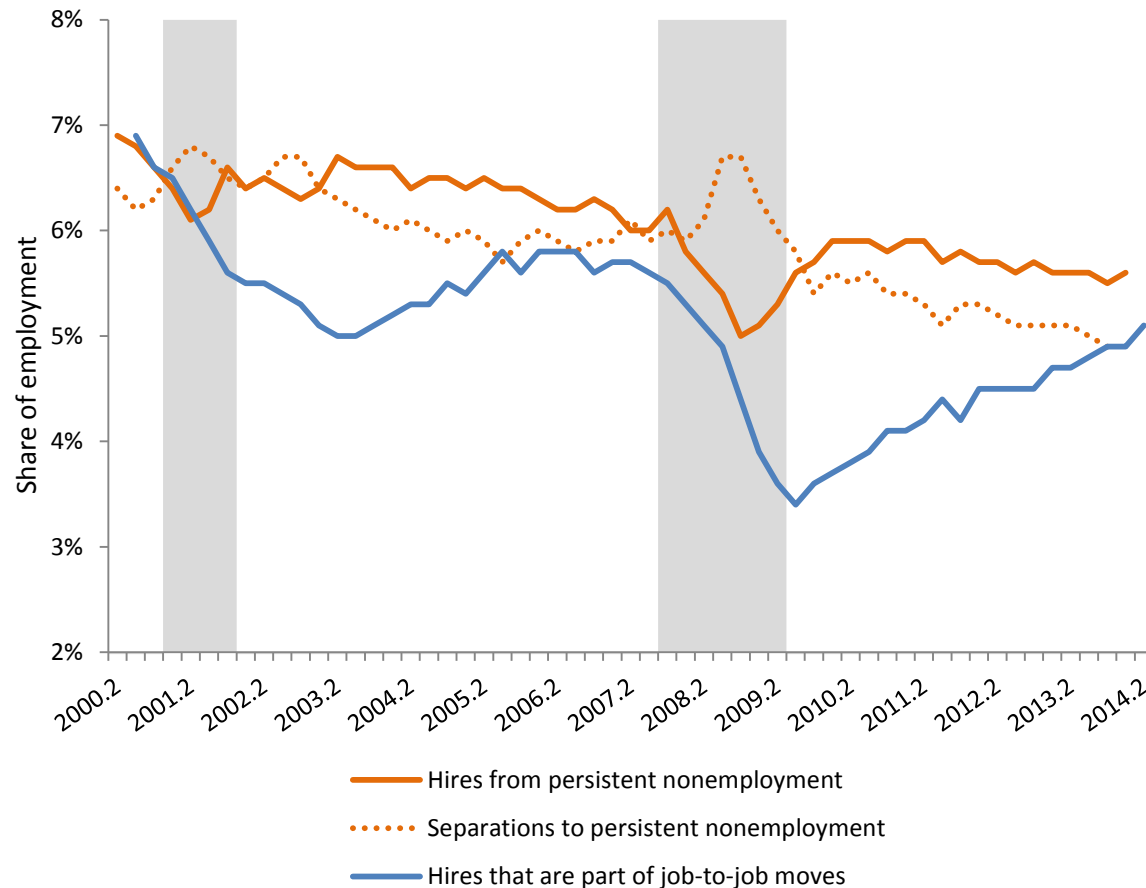
Why care about job-to-job flows?

1. In 2000, about ½ of all hires were workers moving from one job to another.

2. Most job moves are moves 'up the job ladder'

- Almost 1/2 of wage growth for young workers is from job change (Topel & Ward, 1992).
- This job ladder is *strongly* procyclical

United States Census Bureau
U.S. Department of Commerce
Economics and Statistics Administration
U.S. CENSUS BUREAU
census.gov

4

Job-to-Job Flows:
National-level statistics on rates of job change

70% of the fall in hiring in 2008 was decline in job-to-job moves

Most of this decline comes from workers remaining longer at the lowest paying firms in recessions

Legend:
- Hires from persistent nonemployment
- Separations to persistent nonemployment
- Hires that are part of job-to-job moves

Note: Source: Job-to-Job Flows, national data. 2015Q2 release Shaded regions indicate NBER recession quarters. All data are seasonally adjusted.

United States Census Bureau
U.S. Department of Commerce
Economics and Statistics Administration
U.S. CENSUS BUREAU
census.gov

5

October 19, 2015, 9:40 AM ET

Here's Where All the Construction Workers Went

By Jeffrey Sparshott

Crews construct a Ryland Group home near Dallas.

KRIS HUDSON/THE WALL STREET JOURNAL

The Wall Street Journal has chronicled builders' complaints about a shortage of construct so shallow when employment levels are still well below those of the boom years.

Indeed, industry-wide employment cratered from 2006 to 2011, losing nearly 2.3 million jol did they all go?

Well, the Census Bureau's job-to-job flows program tracks workers as they move in and underlying microdata isn't public, but agency economists Hubert Janicki and Erika McE interesting findings.

Why care about job-to-job flows?

3. Better understanding of reallocation of workers across different industries

- 2.3 million construction jobs disappeared between 2006 and 2011. Where did these workers go?

- Can use Job-to-Job Flows data where construction separators are going.

- 60% of workers left the labor market or moved to different industries after the housing boom

Net migration of out-of-state workers into the North Dakota mining sector: 2010-2014

North Dakota Mining, Net Inflows — Less than 249 | 250-499 | 500-999 | 1000+
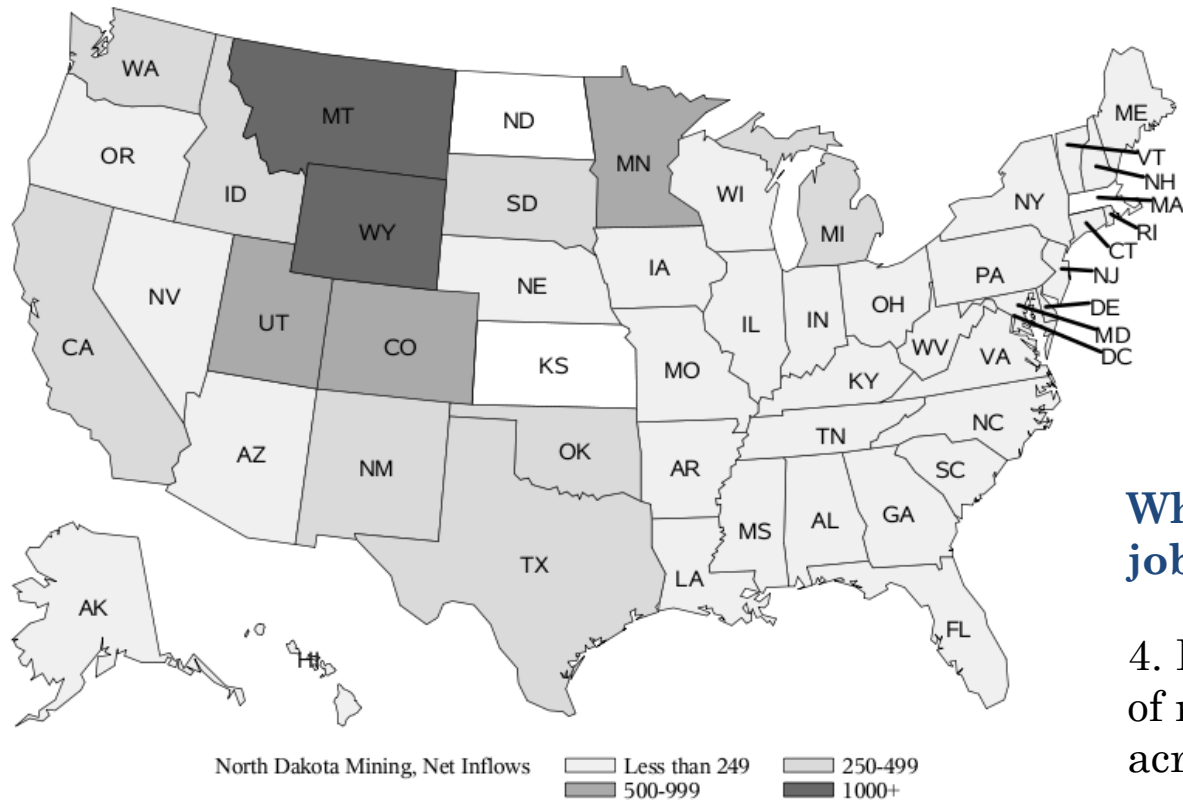
Source: U.S. Bureau of Census, Job-to-Job Flows

Source: J2J origin-destination data. J2J data is not yet available for Massachusetts and Kansas , data for all other states is present. Net migration of out-of-state workers is hires into the North Dakota mining sector of workers who recently held a job in a different state, minus flows of North Dakota mining workers to jobs in that state.

Why care about job-to-job flows?

4. Better understanding of reallocation of workers across different geographies

Job-to-Job Flows: Data Releases in 2015-16

- *Released in FY2015*:
    - National J2J counts and rates (NSA, SA)
    - State J2J counts and rates (NSA, SA)
        - By industry, demographics, firm age/size
    - Origin-destination J2J counts (NSA)
        - State-to-state worker flows, industry-to-industry

- *Forthcoming in FY2016*:
    - Yet to be released data for New England and KS.
    - CBSA-level origin-destination J2J data
    - Industry by demographics origin-destination data
    - 3-digit NAICS origin-destination data
    - Earnings associated with origin and destination jobs in O/D files

Challenges for Job-to-Job Flows

- First LED statistical product which exploits ability to track workers across state lines….
  - But voluntary nature of partnership means increased risk to all from states exiting partnership
  - e.g. WY is no longer participating, so some CBSAs in CO and ND will be suppressed

- Noise in unemployment insurance jobs data
  - Firm non-reporting in UI causing noise in employment flows series
  - Working on more aggressive detection and imputation of nonreporting units in upcoming releases

Possible future enhancements to J2J

'Blue sky' thoughts on new possible statistics from J2J:

- Employment and earnings outcomes for displaced workers separating to longer nonemployment spells

- Modeled estimates to make data more timely
  - Currently there's a 9-month lag, but job-to-job flows mirror JOLTS trends quite well.

- Future links to education data to better understand labor supply pipelines and worker reskilling after layoffs
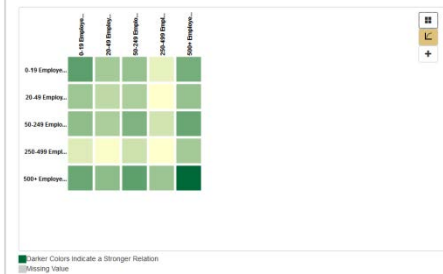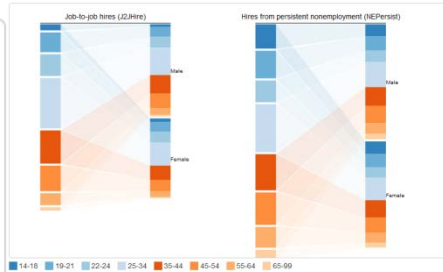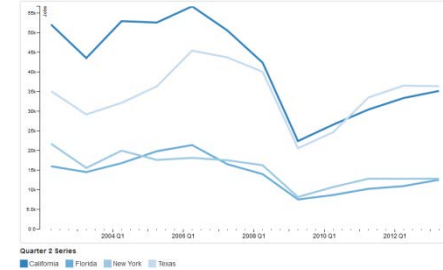
Dissemination of Job-to-Job Data

Current

- CSV and Excel files for download

Version: R2015Q2 ▾   State/Territory: United States ▾   Type: j2j ▾   Format: XLS ▾

View Files

Upcoming

- Application currently under development
- Beta version scheduled for a summer release
- Accommodate staged data releases
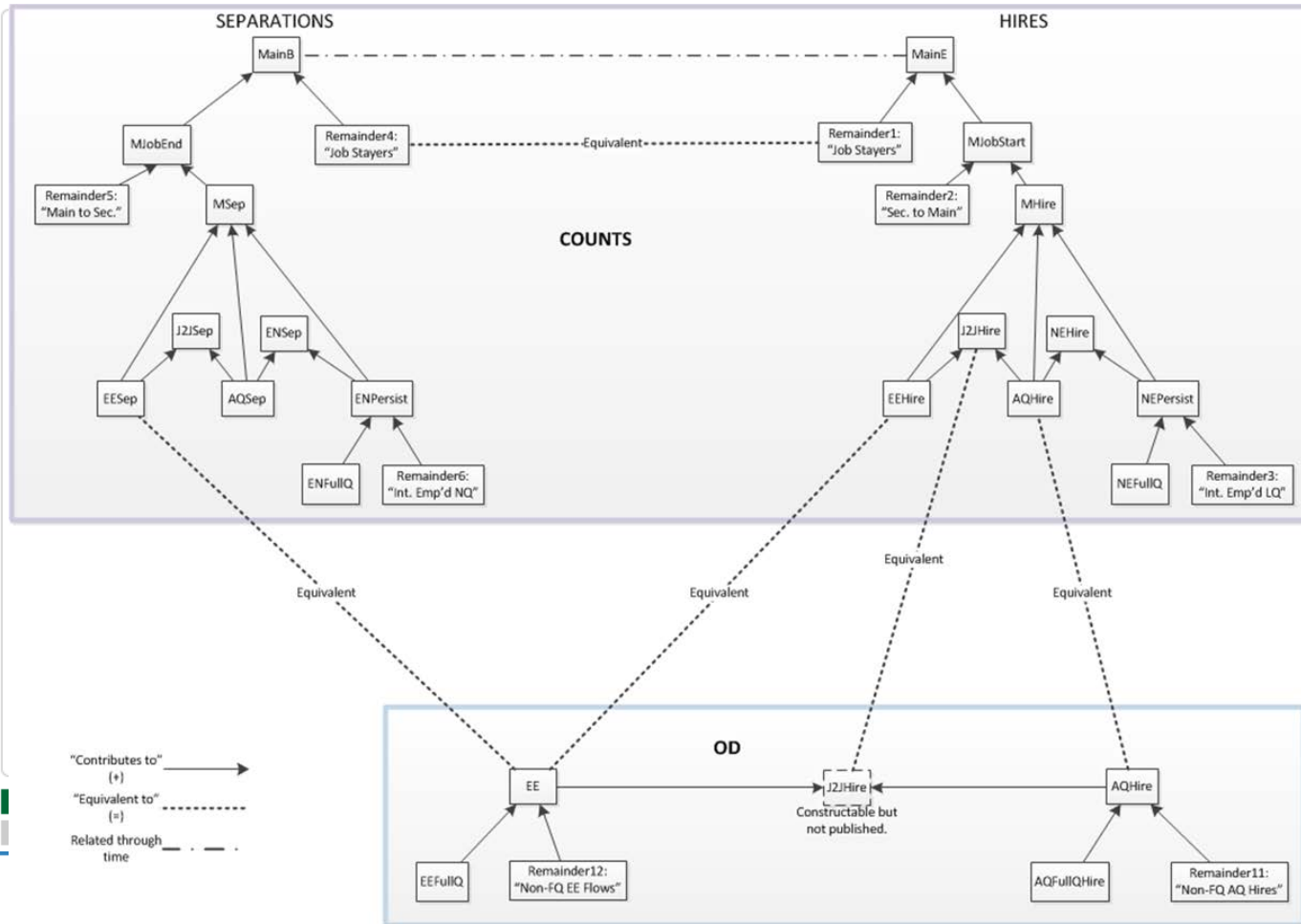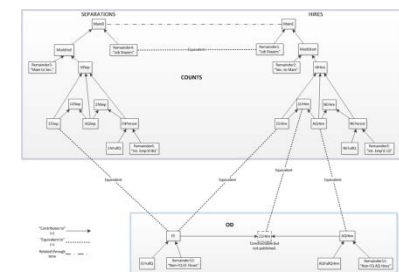- Disseminate *and* Educate
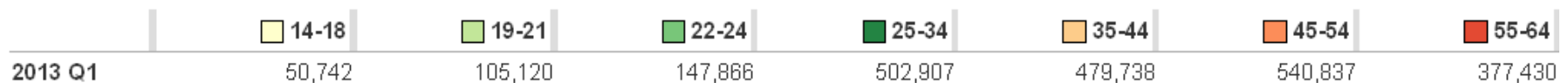
Job-to-Job Explorer

National QWI

Unlocking the Powerful Labor-Force Information
of the Quarterly Workforce Indicators

Why are QWIs Important?

- Indicators on Employment, Employment Change (Firm and Individual), and Earnings

- Detailed Firm Characteristics (geography, industry, age, size)

- Detailed Worker Demographics (sex, age, education, race, ethnicity)

- 3 Quarter lag, coverage varies by state

- Used by economic developers, urban planners, policy analysts, workforce researchers, and academics

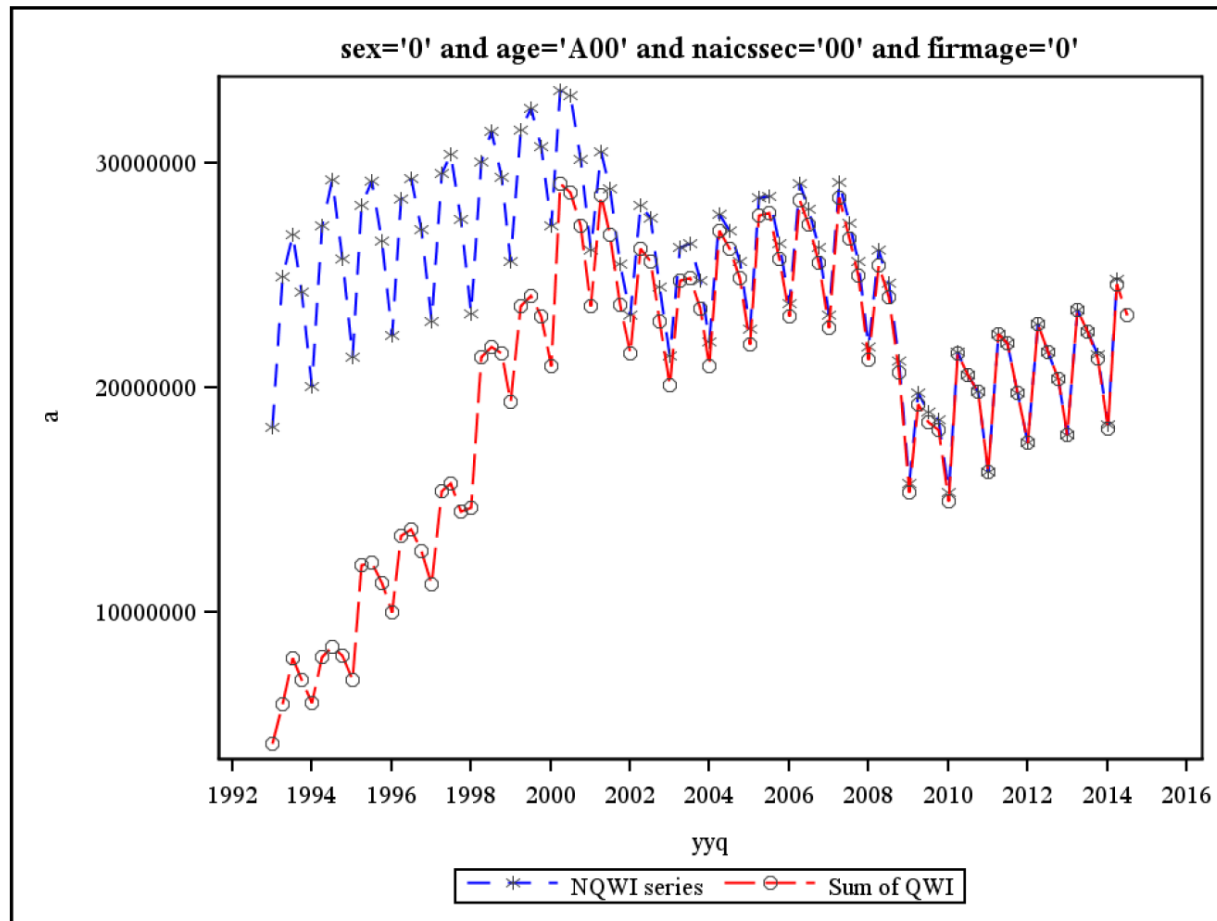|	14-18	19-21	22-24	25-34	35-44	45-54	55-64
2013 Q1	50,742	105,120	147,866	502,907	479,738	540,837	377,430

National QWI

- National QWI are derived from existing public-use state-level QWI

- Using multiple imputation models that account for missing data, the methodology generates a _consistent estimate_ of the national series, including measures of its uncertainty.

- Provided in _levels_ and _rates_

National QWI

- Methodology robust to
    - Historical absence of data
    - Temporary absence of most current data
- Preferable to simply adding up available state-level data

U.S. Department of Commerce
Economics and Statistics Administration
U.S. CENSUS BUREAU
census.gov

Sum of QWI vs. National QWI

Beta Releases in 2015

- Private sector only

- Since R2015Q1: NAICS Sectors
  - Sex by age
  - Sex by education

- New in R2015Q3:
  - Firm-age
  - Firm-size

United States Census Bureau

U.S. Department of Commerce
Economics and Statistics Administration
U.S. CENSUS BUREAU
census.gov

Forthcoming Beta Releases

- Update to R2015Q4 (imminent)

- All ownership

- NAICS subsectors (NAICS3)

- Race by ethnicity tabulations

Other enhancements

- Seasonal adjustment

  - Question: which of the **584,988,768** (+ national) series should be adjusted?

  - Manual revision not feasible

  - Starting with National QWI

  - Developing robust common policy on release of large groups of seasonally adjusted data

Other enhancements

- Towards a machine-readable schema
  - CSV-based
  - Provides same information as the previous document
  - Machine-readable in Excel, SAS, R

  lehd.ces.census.gov/data/schema/latest/

Updates on QWI Dissemination

LEHD's Data Dissemination Strategy

Provide a wide variety of access points to the data to accommodate as many user needs as possible:

- Web tool users: Create your own table, chart, and map using the flexible user-interface of **QWI Explorer**

- Intermediate data users: Extract the exact indicators and characteristics needed using the **LED Extraction Tool**

LEHD's Data Dissemination Strategy

For advanced users:

- Access single raw QWIPU files from
  http://lehd.ces.census.gov/data/#qwi

- Bulk download of raw QWIPU from
  http://lehd.ces.census.gov/pub/

- Integration into the Census API (Beta release):

http://beta.dataweb.rm.census.gov/data/timeseries/qwi.html

What's New

United States™ Census Bureau

U.S. Department of Commerce
Economics and Statistics Administration
U.S. CENSUS BUREAU
census.gov

What's New in the LED Extraction Tool

- National QWI
  - All Private Jobs Only
  - NAICS 3, Race/Ethnicity coming soon
- Cross-State Queries
  - All State totals in one table

What's New in QWI Explorer

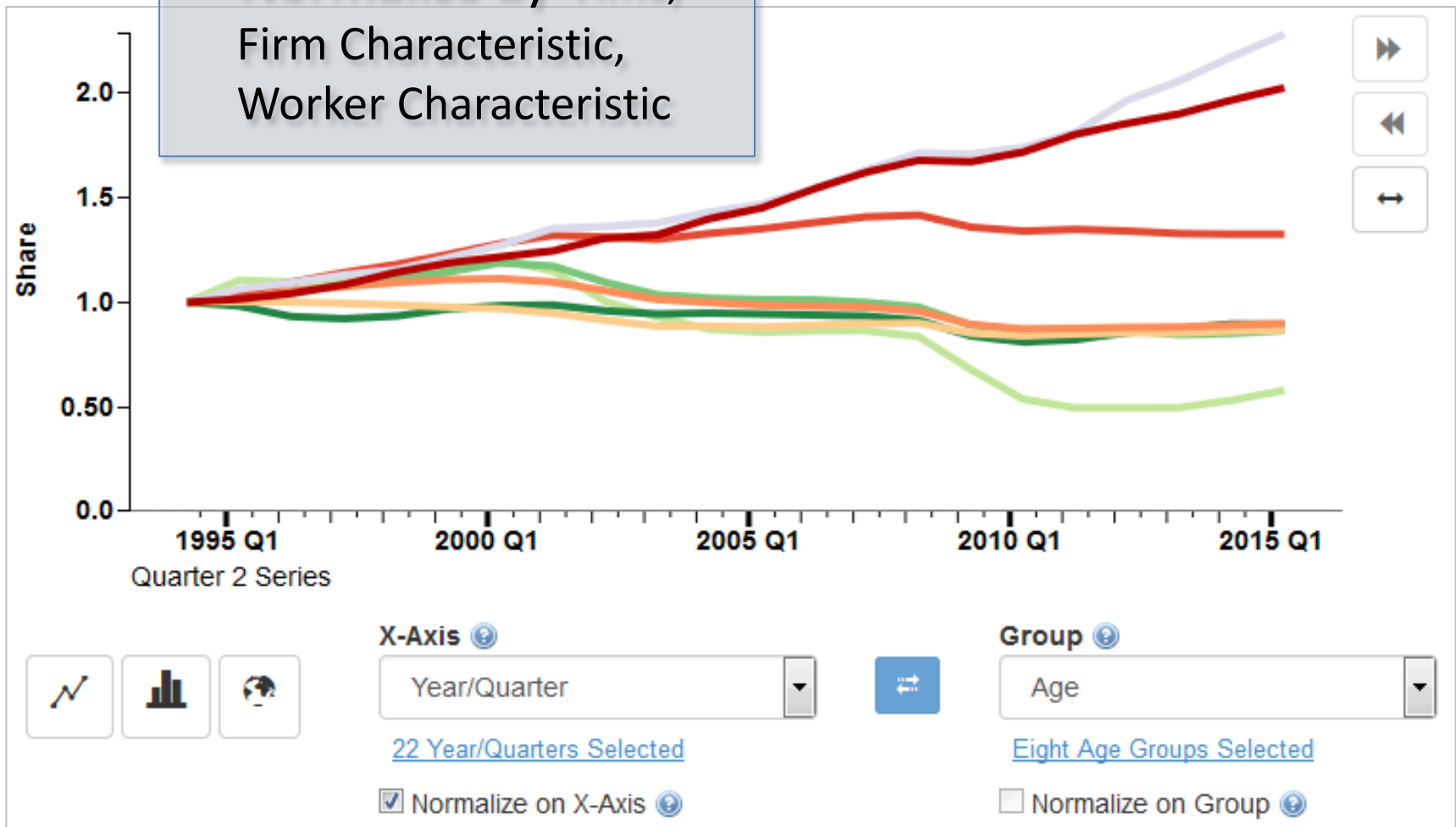- Improved Bar Charts

- Data Normalization

- Group by Indicator
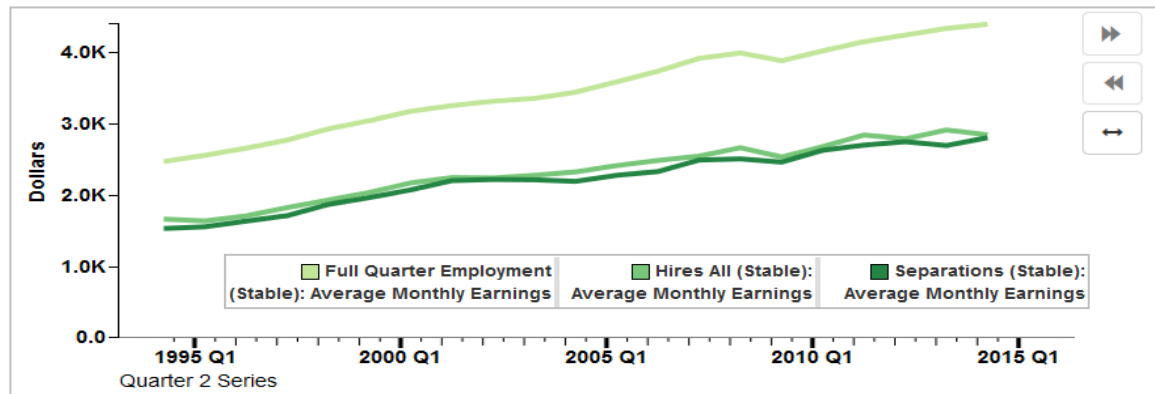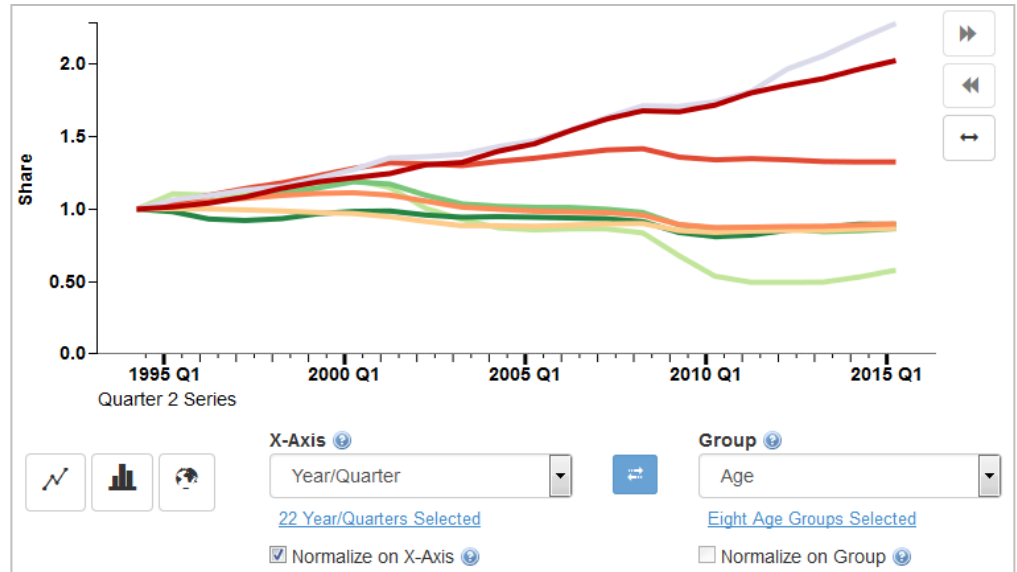
QWI Explorer: Data Normalization

- **Normalize by T**ime,
  Firm Characteristic,
  Worker Characteristic

U.S. Department of Commerce
Economics and Statistics Administration
U.S. CENSUS BUREAU
census.gov

What's New in QWI Explorer

- Compare indicators within the a table, chart, or map
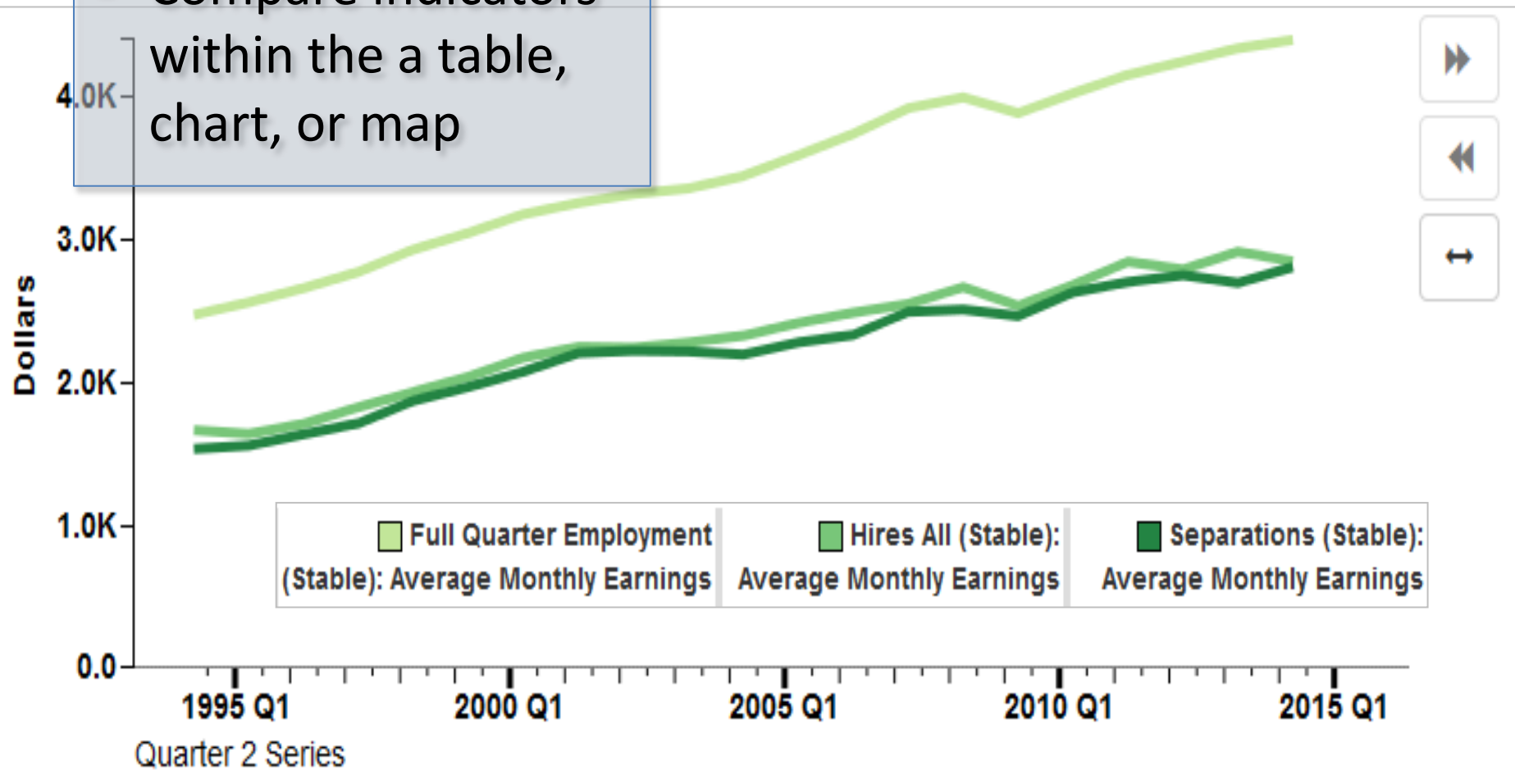
Beta Release of QWI data in Census API

- The Census API allows developers to design web/mobile apps that provide users with quick and easy access to an increasing pool of publicly available datasets – now included the Quarterly Workforce Indicators (QWI).

- Still some bugs to resolve (wildcarding not working), full release in 2-3 months

- For more information on the Census API: http://www.census.gov/developers/

United States™ Census Bureau

U.S. Department of Commerce
Economics and Statistics Administration
U.S. CENSUS BUREAU
census.gov

Beta Release of QWI data in Census API

- Examples
    - State by Race/Ethnicity:
      http://beta.dataweb.rm.census.gov/data/timeseries/qwi/rh?get=race,Emp,year,quarter&for=state:01&time=2015-Q1
    - County by Sex/Age:
      http://beta.dataweb.rm.census.gov/data/timeseries/qwi/sa?get=Emp,year,agegrp,quarter&for=county:195&in=state:02&time=2015-Q1
    - Metro/Micro Area by Sex/Education:
      http://beta.dataweb.rm.census.gov/data/timeseries/qwi/sa?get=Emp,year,agegrp,quarter&for=metropolitan+statistical+area/micropolitan+statistical+area:19060&in=state:24&time=2015-Q1

Outlook

Coming Soon

- National QWI and cross-state queries in QWI Explorer

- Local Storage in QWI Explorer

    - Customize your preferences – choose to remove conflict popups, set default settings, etc.

- Sub-state queries across states in the LED Extraction Tool

LODES & OnTheMap

New LODES data and OnTheMap updates
- 2012 & 2013 data released last summer
- **2014 data released last week**

Updated OnTheMap for Emergency Management
- 2013 LODES and 2009-2013 ACS 5-year estimates
- 2014 LODES and 2010-2014 ACS coming later this Spring

Looking forward (near term)

Recent years saw aggressive push in development and release of new LED data and tools:

- **2010-2013:** worker education, race & ethnicity, firm age and size, federal workers added to QWI and LODES, maturation of OnTheMap
- **2014-2016**: development and release of QWI Explorer, Job-to-Job Flows, National QWI

Near term next goal: shore up data quality

- Wage record impute to improve flow statistics
- Improvements to geography quality
- Improvements to establishment to worker imputes

Looking forward (further out)

We are also beginning research and development on the next generation of LED data products

Some ideas we are currently exploring:

- Linked education-employment products
- Entrepreneurship statistics
- Inequality and economic mobility statistics
- Displaced worker outcomes
- Job quality measures ('good jobs')