Local Employment Dynamics: Partnership, Employment, and Public-Use Data

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Themes

- Strength (and Savings) in Partnership
- Innovation is “Baked In”
- Infrastructure Supports Many Uses
- New Data Products/Tools must be demonstrated
Questions

Which industries in my region are hiring older workers?

Younger workers?

Workers without a high school diploma?

What do these jobs pay?
Questions

Where do the workers employed downtown live?

What share of workers employed in my community also live there?

What share of workers with a short commute have a college degree?
Questions

Where did ND’s oil and gas workers come from (industry/geography)?

Where did MI’s auto workers go to (industry/geography)?
Local Employment Dynamics Partnership

Then:
- Begun in late 1990s with a few states
- Goal to generate new labor market statistics from existing records (UI and firm info)

Now:
- 53 partner states/territories
- 3 data products
- 4 web-based data tools
- A culture of innovation and cost savings
What’s In a Partnership?

- Sharing of costs (and data)
- Breadth of expertise
- Diversity of ideas and needs
- National scale and local knowledge
- But it requires commitment and maintenance...
Building on State Inputs

- We combine **state records** with other admin/census/survey data from the **Census Bureau** and **other Federal agencies**
- We can then create public statistics on:
  - Firms & Establishments
  - Jobs & Workers
  - By Firm and Person Characteristics
- Without new respondent burden
Admin. Records & LED Infrastructure

- Economic Survey Data
- Business Register
- UI* Wage Records
- OPM*
- Federal Records
- Demographic Census/Survey Data

• Job data cover over 95% of private employment and most state, local, and federal jobs
• Data availability: 1990-2014, start year varies by state, rolling end date

Linked National Jobs Data

QCEW = Quarterly Census of Employment and Wages
UI = Unemployment Insurance
OPM = Office of Personnel Management
Protecting Personal Information

- Some records enter the Census Bureau with SSNs, some with other personally identifiable information
- First, the SSN is replaced with a “protected identification key” (PIK).
- The PIK is used for all further matching.
Costs & Benefits, Risks & Rewards

- Universe-level data, but limited variables
- Less expensive than surveys, but less control
- More work cleaning the data, but if the data are being used elsewhere, then they are already pretty clean.
- Large frame micro-data linkages allow innovative data products
- Cutting-edge confidentiality protection is key
LED Data Products (QWI, LODES, J2J) provide indicators/measures about persons, jobs, or firms by different combinations of geography, time, characteristics detail, and variable construction.

Person Characteristics:
Age, Sex, Race, Ethnicity, Education

Firm Characteristics:
Ownership, Industry, Age, Size

Residence or Employment (Establishment) Location
LED Data Products

- Quarterly Workforce Indicators (QWI)
  - Employment, Job Creation, Job Destruction, Hires, Separations, Turnover, Earnings
  - By industry, county, and worker characteristics

- LEHD Origin Destination Employment Statistics (LODES)
  - Employment and Workplace-Residence Connections
  - Detailed geography + firm/worker characteristics

- Job-to-Job Flows (Beta)
  - Data being released over coming months
Choosing Among LED Data Products

<table>
<thead>
<tr>
<th>Data Product</th>
<th>Why Choose It?</th>
<th>Potential Drawbacks</th>
</tr>
</thead>
<tbody>
<tr>
<td>QWI</td>
<td>You need employment, hires, separations, turnover, or earnings by detailed</td>
<td>No geography below county; no residential information</td>
</tr>
<tr>
<td></td>
<td>industry or person characteristics, quarterly time resolution, or a relatively</td>
<td></td>
</tr>
<tr>
<td></td>
<td>short data lag</td>
<td></td>
</tr>
<tr>
<td>LODES</td>
<td>You need employment for detailed or customized geography, or you need the</td>
<td>Annual time resolution; less detailed firm/person</td>
</tr>
<tr>
<td></td>
<td>residential patterns of the workforce</td>
<td>characteristics; significant data lag (temporary)</td>
</tr>
<tr>
<td>J2J</td>
<td>You need to understand transitions of workers among jobs</td>
<td>Data product still under development*</td>
</tr>
</tbody>
</table>
Choosing Data 1

When should I be interested in using LED data compared to other available statistics?

Suppose I’m primarily interested in Employment

Do I need the latest national estimate available?

- **Current Employment Statistics** (CES)
  - Employment by industry - ‘the payroll survey’
- **Current Population Survey** (CPS)
  - Employment status and demographics - ‘the household survey’

Some sub-state geographies are available concurrently through **Local Area Unemployment Statistics** (LAUS)
Choosing Data 2

But suppose I need either sub-national employment data or statistics by detailed industry:

**Quarterly Census of Employment and Wages** (QCEW)
- Employment by detailed industry, sub-state geography and better employment coverage (6-month lag)

**Quarterly Workforce Statistics** (QWI)
- Employment by detailed industry, sub-state geography, and *worker demographics* (age, sex, education, race) and *fewer cell suppressions* than the QCEW (9-month lag)

**American Community Survey** (ACS)
- Employment status by more sub-state geographies than CPS/LAUS (9-month lag)

**LODES/OnTheMap**
- Employment at the *block-level* (>1 year lag)

**County Business Patterns** (CBP)
- Employment at the zipcode-level (>1 year lag)
Quarterly Workforce Indicators (QWI)

- Detailed workforce dynamics, by worker characteristics and firm characteristics

- Popular uses:
  - Local workforce demographics
  - Local industry workforce trends
  - Workforce turnover, job creation and destruction

Starting wages college educated men in high-tech industries in CA
Quarterly Workforce Indicators (QWI)

- Can see workforce composition by detailed firm characteristics
- Such as what share of the workforce at startup firms is female?

Percentage of Female Workers at New Firms, 2002 - 2012

Note: "New Firms" are firms of age 0 or 1. "Actual" is the percentage of female workers at new firms observed in the data. "Constant 2002 Industry Shares" measures the hypothetical percentage of female workers at new firms, assuming that the distribution of new firms across industries remained constant at their 2002Q2 levels. Data is for privately-owned firms and excludes workers in the following states: AZ, AR, DC, MA, MS & NH.

Source: U.S. Census Bureau, Center for Economic Studies, Quarterly Workforce Indicators, 2013 Q3 Release
Choosing Data 3

Suppose I’m primarily interested in **Hires/Separations/Turnover**

Do I need the most current national data (1 month lag) or do I want to differentiate between quits and layoffs?

- **Job Openings and Labor Turnover Survey (JOLTS)**

Do I need sub-national data (state/county), data by worker demographics, or for detailed industries?

- **Quarterly Workforce Statistics (QWI)**
Choosing Data 4

Suppose I’m primarily interested in **Wages**

**State and Regional Wage Information by Occupation?**
- Occupational Employment Statistics (OES)

**Wages by Detailed Industry and Geography?**
- Quarterly Census of Employment and Wages (QCEW)

**Wages by Detailed Industry and Geography and by Worker Demographics? Starting Wages for New Hires by Industry and Geography?**
- Quarterly Workforce Statistics (QWI)
Choosing Data 5

Suppose I’m primarily interested in **Commuting**

*Transportation mode, time to work, work at home?*
- American Community Survey (ACS) Commuting Data

**Commuting for Detailed/Custom Areas or Multiple Jobholders?**
- LEHD Origin-Destination Employment Statistics (LODES)
Job-to-Job Flows

- Types of questions that can be answered:
  - How did the growth and decline in construction jobs in the last decade impact the ability of low-wage workers to move to better jobs?
  - Where are North Dakota’s oil boom workers coming from?

- Download data from http://lehd.ces.census.gov/data/j2j_beta.html
Public Data Tools

- All tools are free and available 24/7.
- **Live Demonstrations of**
  - QWI Explorer
  - LED Extraction Tool (QWI)
  - OnTheMap
  - OnTheMap for Emergency Management
Real World Examples

Some brief examples of from our users...
LODES: An Examination of Maryland Enterprise Zones

Baltimore EZ Commuting Analysis

Of the 214 thousand workers employed in Census blocks intersected by Baltimore’s Enterprise Zone Boundaries between 2002 and 2011, 28 thousand (13%) both lived and worked within prior or current EZ boundaries, and 32% of residents worked in the EZ.
LODES: An Examination of Maryland Enterprise Zones

Baltimore EZ Commuting Analysis

<table>
<thead>
<tr>
<th>Living in the Study Area</th>
<th>2002</th>
<th>2011</th>
<th>Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Baltimore City</td>
<td>280,957</td>
<td>242,084</td>
<td>-13.8%</td>
</tr>
<tr>
<td>Baltimore Enterprise Zones</td>
<td>102,475</td>
<td>89,006</td>
<td>-13.1%</td>
</tr>
</tbody>
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<tr>
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<tr>
<td>Baltimore City</td>
<td>132,983</td>
<td>111,257</td>
<td>-16.3%</td>
</tr>
<tr>
<td>Baltimore Enterprise Zones</td>
<td>36,719</td>
<td>28,060</td>
<td>-23.6%</td>
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<tr>
<td>Baltimore City</td>
<td>147,974</td>
<td>130,827</td>
<td>-11.6%</td>
</tr>
<tr>
<td>Baltimore Enterprise Zones</td>
<td>65,756</td>
<td>60,946</td>
<td>-7.3%</td>
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<tr>
<td>Baltimore City</td>
<td>319,016</td>
<td>325,608</td>
<td>2.1%</td>
</tr>
<tr>
<td>Baltimore Enterprise Zones</td>
<td>220,497</td>
<td>213,790</td>
<td>-3.0%</td>
</tr>
</tbody>
</table>
QWI: Education and Employment in Utah

- 2012 Average Annual Income:
  - Less than high school: $26,651
  - High school or equivalent: $32,298
  - Some college or Associate degree: $38,173
  - Bachelor degree or above: $58,467

- 2012 Average Unemployment Rate:
  - Less than high school: 11.4%
  - High school or equivalent: 7.1%
  - Some college or Associate degree: 5.3%
  - Bachelor degree or above: 2.9%
QWI: A Comparison of I-95 and I-270 Corridors
Kansas City, MO – Earnings Tax

- Civic Council of Greater Kansas City
- 1% Earnings Tax on gross compensation for all those living or working in KCMO
- In 2010 & 2011, ballot challenges to the tax were brought to voters
- LODES and QWI from LED helped the community focus on “issues and outcomes” and showed “tax and benefits are shared with non-KCMO residents.”
Takeaways

- The LED Partnership provides unique data products and tools at a relatively low cost.
- LED data products (QWI, LODES, J2J) can give insight into local and regional economies and labor markets.
- LED’s web tools provide free, 24/7 access to a basic analytical platform for the data.
Bon Voyage!

- Local Employment Dynamics
  - lehd.ces.census.gov

- Contact
  - Robert.Sienkiewicz@census.gov
  - Matthew.Graham@census.gov
  - Earlene.KP.Dowell@census.gov

- Tools
  - QWIExplorer.ces.census.gov
  - LEDExtract.ces.census.gov
  - OnTheMap.ces.census.gov
  - OnTheMap.ces.census.gov/em.html