LED Workshop: A Tale of Two Counties

ANSWERING QUESTIONS ACROSS DATA
LODES/ONTHEMAP, QWI EXPLORER, J2J EXPLORER
In this session you’ll learn to

- look at large scale economic trends in your area
- zoom in on local employment
- compare local, regional, and national data
- use dataset B to answer questions about dataset A
- backup claims or hypotheses with actual data
- ‘debug’ your data question like an expert
The LED workflow

- National
- State
- County
- Local

Job-to-Job
OD Job-Job
QWI
Work Indicators
LODES
OnTheMap
OD Work-Home
LODES/OnTheMap vs QWI

- National
  - State
    - Job-to-Job
    - OD Job-Job
  - County
    - QWI
    - Work Indicators
  - Local
    - LODES
    - OnTheMap
    - OD Work-Home
These datasets are complementary

LET'S TAKE A LOOK AT AN EXAMPLE
Quick Definitions

LODES/OnTheMap Employment

- ‘The reference quarter is Quarter 2 (April-June) of the year of interest. This definition of "job" is sometimes called a "Beginning of Quarter" job because it is assumed that the worker was employed at that firm on the first day of the reference quarter.’
- OnTheMap FAQ

QWI Employment

- ‘Estimate of the total number of jobs on the first day of the reference quarter. Beginning-of-quarter employment counts are similar to point-in-time employment measures, such as the QCEW.’
- QWI 101 Doc
Go To OnTheMap
https://onthemapmap.ces.census.gov/

Search “Hartford CT” (county)
Run analysis:
  Work
  Area Profile
  2014
All Private Jobs (we’ll talk about why to use all private jobs later)
Go To QWI Explorer
https://qwiexplorer.ces.census.gov/

Set
State: CT
Geography: Hartford
Ownership: Private
X Axis: Quarters (2014 Q2)
Group: NAICS 2
<table>
<thead>
<tr>
<th>NAICS 2</th>
<th>LODES 2014</th>
<th>QWI 2014 Q2</th>
<th>Absolute Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td>JT03 (all private)</td>
<td>Emp (all private)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Agriculture, Forestry, Fishing and Hunting</td>
<td>709,692</td>
<td>692,17</td>
<td></td>
</tr>
<tr>
<td>Mining, Quarrying, and Oil and Gas Extraction</td>
<td>74,70</td>
<td></td>
<td>17</td>
</tr>
<tr>
<td>Utilities</td>
<td>1,057,1069</td>
<td>12</td>
<td></td>
</tr>
<tr>
<td>Construction</td>
<td>1,561,15241</td>
<td>370</td>
<td></td>
</tr>
<tr>
<td>Manufacturing</td>
<td>531,015,2943</td>
<td>158</td>
<td></td>
</tr>
<tr>
<td>Wholesale Trade</td>
<td>2,186,821,593</td>
<td>275</td>
<td></td>
</tr>
<tr>
<td>Retail Trade</td>
<td>520,765,2093</td>
<td>17</td>
<td></td>
</tr>
<tr>
<td>Transportation and Warehousing</td>
<td>154,515,498</td>
<td>47</td>
<td></td>
</tr>
<tr>
<td>Information</td>
<td>1,158,11,510</td>
<td>71</td>
<td></td>
</tr>
<tr>
<td>Finance and Insurance</td>
<td>564,415,7963</td>
<td>1522</td>
<td></td>
</tr>
<tr>
<td>Real Estate and Rental and Leasing</td>
<td>607,75,806</td>
<td>271</td>
<td></td>
</tr>
<tr>
<td>Professional, Scientific, and Technical Services</td>
<td>333,633,3846</td>
<td>483</td>
<td></td>
</tr>
<tr>
<td>Management of Companies and Enterprises</td>
<td>1,126,011,019</td>
<td>241</td>
<td></td>
</tr>
<tr>
<td>Administrative and Support and Waste Management and Remediation Services</td>
<td>289,372,9738</td>
<td>801</td>
<td></td>
</tr>
<tr>
<td>Educational Services</td>
<td>1,197,11,881</td>
<td>90</td>
<td></td>
</tr>
<tr>
<td>Health Care and Social Assistance</td>
<td>723,867,2112</td>
<td>274</td>
<td></td>
</tr>
<tr>
<td>Arts, Entertainment, and Recreation</td>
<td>592,25,944</td>
<td>22</td>
<td></td>
</tr>
<tr>
<td>Accommodation and Food Services</td>
<td>341,353,4764</td>
<td>629</td>
<td></td>
</tr>
<tr>
<td>Other Services (except Public Administration)</td>
<td>1,677,616,614</td>
<td>162</td>
<td></td>
</tr>
<tr>
<td>Public Administration</td>
<td>00</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>4,487,964,503,96</td>
<td>54,666</td>
<td></td>
</tr>
</tbody>
</table>

Differences still exist

- The entire QWI series is re-processed with each release
- LODES/OnTheMap never gets reprocessed
- Misc. Methodology Differences
- Mostly minor (subjective)
A little bit about coverage
and some numbers to go with it

**In**

- Employees Covered Under UI
  - National QWI\(^1\) puts Jan 2015 employment at 115 million
  - For comparison: ACS\(^2\) puts employment at 150 million
  - \(^\wedge\) There are some major universe differences here

**Out (Ballpark Figures)**

- Active Military (1.2 million\(^3\))
- Self-Employed (14.4 million\(^4\))
- Postal Service (639,789\(^5\))
- Secretive Federal Agencies (???)
- Miscellaneous cases – students employees at a university, DHS dock workers
- Federal employees... hold on for 1 slides

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1 Beginning of quarter employment, private employment only
2 ACS 2015 1-year civilian employment
3 Pop Estimates Program 2010-2016 as of Jan 1, 2015
4 2015 ACS 1-year, National B24070
5 USPS.com, career and non-career employees
UI = Unemployment Insurance

Wage Records

- Record of individual earnings for covered jobs (remember? no military, no postal, no secretive agencies, no self employment, etc.)
  - Not claims for unemployment insurance

- Records are collected for operation of state UI program

- Includes:
  - Total quarterly earnings for each job
Government Work

- Are Federal workers in the data?
  - QWI: NO
  - LODES/OnTheMap: YES

- State and local government also in system, though some reporting inconsistencies

- Set both datasets to private employment and avoid the issue

- Also, private employment is the **only option** for national QWI
That’s enough detail

READ THE DOCS FOR MORE
HTTPS://LEHD.CES.CENSUS.GOV
Two dominant cities in two dominant counties

Hartford, CT (Hartford County)  Pittsburgh, PA (Allegheny County)
### Why these two?

<table>
<thead>
<tr>
<th>Hartford, CT (Hartford County)</th>
<th>Pittsburgh, PA (Allegheny County)</th>
</tr>
</thead>
<tbody>
<tr>
<td>“If Hartford goes bankrupt in the next few years, as looks increasingly likely, it will come at the worst possible time, potentially squandering a rare chance at rebirth and only greasing the wheels of out-migration and job loss.”</td>
<td>“Pittsburgh, the feted champion of the new urbanism, went bankrupt in 2003 and has since undergone an impressive rejuvenation”</td>
</tr>
<tr>
<td>“The deeper, more daunting question is what besides a tax break will make Connecticut a place people want to live and work. The state still hasn’t found the answer” - Slate</td>
<td>“From 2010-2015, worker productivity shot up 10 percent, average annual wages increased 9 percent and the overall standard of living rose 13 percent in the Pittsburgh region” – Pittsburgh Post Gazette</td>
</tr>
</tbody>
</table>
A little about **Hartford County**

Note that we’re swinging to the county level

- Anyone from Hartford?
- Insurance capital of the US
- “Suburbs are inferior to thriving cities”
- Corporations are leaving, most recently
  - Aetna
  - GE
- Population shrinking

- This is the media narrative, but is it true?
Exploring Hartford with QWI Explorer
https://qwiexplorer.ces.census.gov/

Set
State: CT
Geography: Hartford
Ownership: Private
X Axis: Quarter 2 Series (1996-2016)
Group: NAICS 2

Does this look like a failing county?!
Getting National Comparisons with QWI Explorer

Set
State: United States
Ownership: Private
X Axis: Quarter 2 Series (1996-2016)
Group: NAICS 2

It's still pretty hard to compare to Hartford
Export QWI to Excel

- Normalize in QWI helps but we can do more by hand
- Let’s take the top 4 industries in Hartford and compare them to National
  - Manufacturing, Health Care, Finance and Insurance, Retail
  - Let’s keep in the ‘all’ category for fun
- Click Get Data
- Export as XLSX
National QWI vs Hartford

- Hartford_v_National.xlsx

- Charts from this excel demo to follow just incase we’re running short on time
ALL PRIVATE EMPLOYMENT
Q2 YEAR OVER YEAR % CHANGE

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- National
- Hartford
MANUFACTURING
Q2 YEAR OVER YEAR %CHANGE

- National  - Hartford

RETAIL TRADE
Q2 YEAR OVER YEAR %CHANGE

- National
- Hartford
HEALTH CARE AND SOCIAL ASSISTANCE
Q2 YEAR OVER YEAR %CHANGE

- National
- Hartford
FINANCE AND INSURANCE
Q2 YEAR OVER YEAR %CHANGE

National

Hartford
At this point I’d swing back to QWI Explorer

- Check what’s been going on in Financial and Insurance industries since 2011 in:
  - NAICS 3 digit and NAICS 4 digit
    - Link
  - Is there another component to this?
    - Sex
    - Age
    - Race
    - Education

- And this is just the default indicator – there are 32 others!
- It’s called ‘explorer’ for a reason
Get as **in-depth** as you want

FOR EXAMPLE...
Hypothesis: youth employment is inordinately impacted in Hartford

This example takes youth employment from Hartford and adjusts it to be relative to
1) A **2% expected growth** target
2) **Population growth** (national, as defined by the pop estimates program, ~1.13%)
Tie J2J to QWI

National

State

Job-to-Job

OD Job-Job

County

QWI

Work Indicators

Local

LODES

OnTheMap

OD Work-Home
Hartford county is dominant

- Let’s use this to do a quick jump into J2J
- Because Hartford county is the largest in CT (by employment) let’s look at the basic J2J flows to understand a bit more
  - [https://j2jexplorer.ces.census.gov/](https://j2jexplorer.ces.census.gov/)
  - Look at flows from CT to other States and Industries
Moving on to more positive stories
Allegheny, PA - home of Pittsburgh

- Once again, a fairly dominant county in PA

- Let’s use J2J to check on the workers coming in
  - Hires to PA from what state?

- Then we’ll swing back to QWI to get the perspective of what a healthy economy should look like
  - Or at least this is the media narrative

- This isn’t a J2J training
- But notice how it all fits together
Back to the bread and butter starting place of QWI Explorer (for me anyway)
- Allegheny county, Q2 series, private employment, NAICS 2

Let’s switch this up a bit
- Look at some earnings data
- Pittsburgh had some financial problems around 2003-2004
- “Ten years ago, Pittsburgh’s credit rating was at junk bond status” – Pittsburgh Tribune-Review

Let’s use the earnings and employment data to figure out what Pittsburgh did right
- Best paying industries are mining, utilities, professional scientific services, management
- See pitt_v_national.xlsx
National QWI vs Allegheny

▶ pitt_v_National.xlsx

▶ Charts from this excel demo to follow just in case we’re running short on time

▶ Relative Stable Earnings

▶ Relative Beginning of Quarter Employment
Utilities
Q2 Relative Stable Earnings Change

--- National --- Allegheny
Professional, Scientific, and Technical Services
Q2 Relative Stable Earnings Change

National

Allegheny
Management of Companies and Enterprises
Q2 Relative Stable Earnings Change

--- National  --- Allegheny
Mining, Quarrying, and Oil and Gas Extraction
Q2 Relative Beginning of Quarter Employment Change

National
Allegheny
Utilities
Q2 Relative Beginning of Quarter Employment Change

- - - - National - - Allegheny
Professional, Scientific, and Technical Services
Q2 Relative Beginning of Quarter Employment Change


-5% 0% 5% 10% 15% 20% 25% 30% 35%
Management of Companies and Enterprises
Q2 Relative Beginning of Quarter Employment Change

--- National  --- Allegheny
## Comparing in Explorer

<table>
<thead>
<tr>
<th>National</th>
<th>Allegheny</th>
<th>Hartford</th>
</tr>
</thead>
<tbody>
<tr>
<td><a href="#">Link</a></td>
<td><a href="#">link</a></td>
<td><a href="#">link</a></td>
</tr>
</tbody>
</table>

See top_level_comparison.xlsx
TLDR; Not everything is a simple story

Use the data together
LODES/OnTheMap
QWI
J2J
Earlene Dowell
Jody Hoon-Starr