QWI and Shift-Share Analysis: Tapping a Powerful Resource

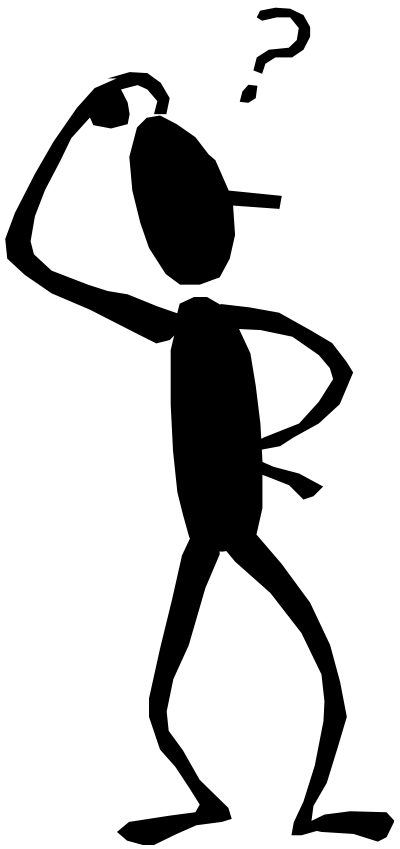
2013 LED Partnership Workshop

June 12, 2013

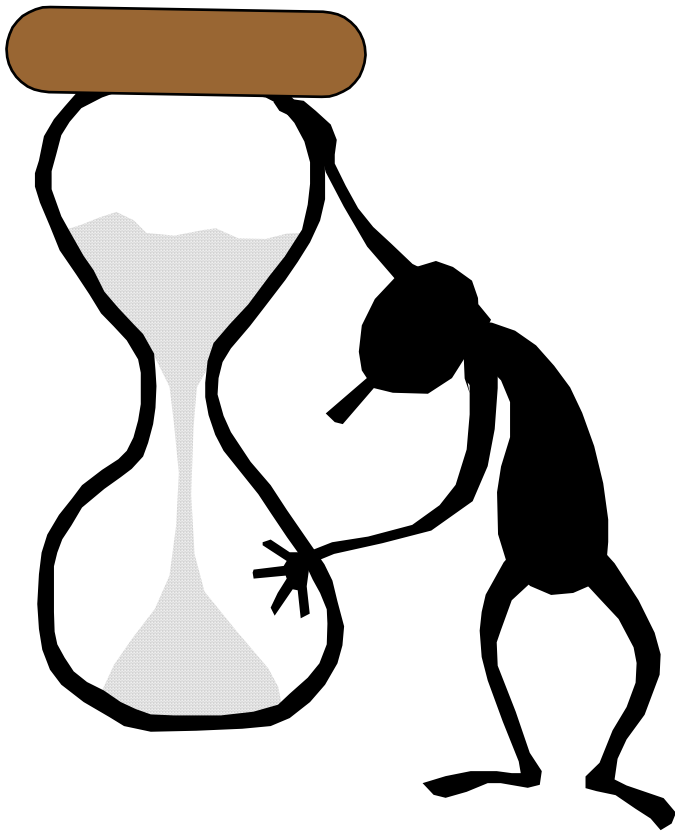
Shift-What??

Shift – Share Analysis

- Looks at the growth or decline over time for a specific industry or industrial group and determines if that change is coming from.
  - The larger geography – the change due to the patterns that impact the larger economy.
  - Local effect – This is the change due to the local economy on the measure sometimes referred to as the “Competitive Effect”.
  - The local factor independent of state/local change or overall local economy – also known as the “Interactive Change”.
- Note: These changes add to the total change.



Over Time?



- Shift-Share requires two point in time
- Same quarter - different year
  - Enables point-to-point comparisons
- As an alternative, you can use moving average
  - Eliminates possible seasonal variation
  - Limits the potential of outliers

What Can I Look at?

The Eight Quarterly Workforce Indicators

- Beginning of Quarter Employment Total number of workers who were employed by the same employer in both the current and previous quarter
- The difference between current and previous employment at each business
- The number of new jobs that are created by either new area businesses or the expansion of employment by existing firms.
- Total number of accessions that were also not employed by that employer during the previous four quarters.
- Total number of workers who were employed by a business in the current quarter, but not in the subsequent quarter.
- Turnover Rate = (1/2) * (full-quarter accessions + full-quarter separations) / employment stable jobs
- Total quarterly earnings of all full-quarter employees divided by the number of full-quarter employees, divided by 3.
- Total quarterly earnings of all full-quarter new hires divided by the number of full-quarter new hires, divided by 3.

What do I need to start?

You need to identify the following

– The QWI of interest

– The industry

– Specific demographic of interest

In addition,

– The time periods to compare

  - Note: Data is not seasonally adjusted

– Select the geographic areas (county level and higher)

Tremendous Flexibility

- You could select multiple counties to create a new area
  - Not bound by physical proximity
- Add or delete counties to a predefined area (workforce board or MSA’s)

What can I do with this?

Determine if changes in

Employment, Turnover, Separations, Wages are due to

- The state
- Local economy
- The local industry

For different age groups, education and race/ethnicity by sex

Answering What Questions?

- Who is filling what jobs?
- What industries are biggest employers?
- What industries employ the largest numbers of particular types of worker?
- Which industries are expanding/contracting employment?
- What industries are creating the most jobs?
- What industries are hiring the most workers?
- Which industries are hiring older workers?

By sex, age, race and education

Anything Else?

- Which industries are hiring young workers?
- What geographic areas are doing the most hiring?
- What workers are leaving jobs?
- What industries are workers leaving?
  - 1. What is the turnover rate in the workforce?
  - 2. What proportion of workers are new?
- What are the average earnings of core employees?
- What are new hires earning?

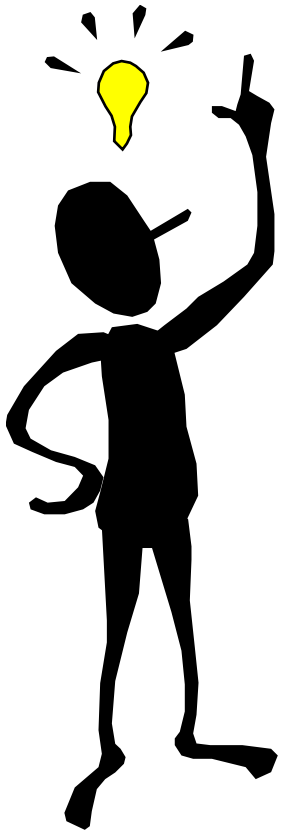
By age groups, by sex, by industry, education and race

All of this without being concerned with confidentiality!

Industrial Sectors/Clusters

- You could select a group of industries or other interested subgroups
- It is possible to report both the industries and the aggregate
- Can share the data and the analysis
  - **does not** contain confidential information

Implications



- Moves us from being a vendor to a partner

By

  - giving our partners tools to understand their economic trends.

And,

  - enabling those who want to combine or compare various categories captured with QWIs.

In our Partners Hands

- Empowers local users to combine subsets of data to fit their needs.
- Creates the point of starting analysis that businesses and policy makers can use
- Allows LMI producers to assist our partners as they review policies and prepare plans they can use.
- Customize reports and prepare data for additional analysis
- Moves the discussion from what data is available to what can you me tell about…

Advantages

- Employment data is readily available
  - No issues with confidentiality
  - Detailed information
    - Eight measures
      - New Hires, Employment, Average Wage, Separations, Turnover, Average Wages for New Hires, Job Created and Net Job Change
        - » By Age, Sex, Race, Education and Industry by County

    Quarterly data from 1990 to 2012
      - (2012 1th quarter now available)

An Example

Question:

- How has the rate of separations for those aged 25 to 34 changed in Milwaukee County since 2007 **and** how does that compare to the working population **and** how does this compare to the state?

QWI Online

All Firm Ages and Sizes | Private Employment - by Firm Age | Private Employment - by Firm Size

AgeGroup/Sex | Education/Sex | Race/Ethnicity

LEHD State of Wisconsin County Reports - Quarterly Workforce Indicators

Select Criteria below. A new report will be created below as selections change.

Year: 2012 | Geographic Grouping: County or Information by Detailed Industry
Quarter: Q1 | County: 079 Milwaukee
Sex: Male and Fema | Industry: All NAICS Sectors
AgeGroup: 14-99 | Ownership: All (1-5)

Download Dataset | Print Table

QWI Quick Facts	Milwaukee (Q1)	Milwaukee (Avg:Selected + 3 Prior qtrs)	Wisconsin (Q1)	Wisconsin (Avg:Selected + 3 Prior qtrs)
Total Employment	475,569	485,409	2,593,704	2,639,406
Net Job Flows	-9,095	-1,556	-3,933	12,878
Job Creation	17,032	20,395	96,273	125,290
New Hires	52,660	63,662	250,907	313,993
Separations	73,913	77,916	314,952	383,987
Turnover	8.9%	8.4%	7.3%	7.9%
Avg Monthly Earnings	$4,332.00	$4,164.00	$3,651.00	$3,591.00
Avg New Hire Earnings	$2,219.00	$2,308.25	$1,970.00	$2,098.75

View Detailed Comparison Reports

For more information

The data 2011(2)-2012(1)

Age Group	Industry	Milwaukee	Wisconsin
14-99	All Industries	77,916	383,987
14-99	Manufacturing	4,407	33,542
25-34	All Industries	19,720	87,347
25-34	Manufacturing	1,134	7,557

- For 2011(2) to 2012 (1) 20 percent of the separations in state were in Milwaukee
- Separations in Manufacturing accounted for 5 percent in Milwaukee and 9 percent statewide
- In Manufacturing, 26 percent of the separations in Milwaukee were in the age group 25-34; statewide 23 percent
- 18 percent of manufacturing workforce is 25-34; Milwaukee and statewide

The data 2006(2)-2007(1)

Age Group	Industry	Milwaukee	Wisconsin
14-99	All Industries	92,008	451,665
14-99	Manufacturing	22,476	97,461
25-34	All Industries	5,128	43,503
25-34	Manufacturing	1,152	9,600

- For 2006(2) to 2007 (1) 20 percent of the separations in state were in Milwaukee
- Separations in Manufacturing accounted for 24 percent in Milwaukee and 22 percent statewide
- In Manufacturing, 27 percent of the separations in Milwaukee were in the age group 25-34; statewide 22 percent
- 18 percent of Milwaukee's workforce is 25-34; statewide 19 percent

The Math

- Total Change = Local Base Year Specific Group * (Surrounding Area Comparison Year Total / Surrounding Base Year Total)-1
- Specific Change = Local Base Year Specific Group *((Surrounding Area Comparison Year Specific Group /Surrounding Base Year Specific Group)-1) -((Surrounding Area Comparison Year Total / Surrounding Base Year Total)-1)
- Local Specific Change = Local Base Year Specific Group * ((Local Comparison Year Specific Group/ Local Base Year Specific Group) -1) – (Surrounding Area Comparison Year Specific Group / Surrounding Area Base Year

Note when added together these = change in specific group from base year to comparison year

Findings

Milwaukee's separations in manufacturing for 25-34 year olds did not match the expected change in the state.

- If Milwaukee had matched the state overall, it would have experienced a decline of 428 separations.
- If Milwaukee had experienced the same rate of separations for this age group, as the state in Manufacturing, separations would have increased by 183.
- If the 25-34 year olds in Manufacturing in Milwaukee had experienced the same separation as Milwaukee the separations would have increased by 227.
- Actual change was a decrease of 18 (-428+183+227)

Implication

- Milwaukee's separations for those 25 to 34 who worked in Manufacturing is different from the state and the industry at large

Now we can start to evaluate why

Thank you

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