



Date Assigned: Wednesday, 10.23.13, 2:45pm (Week 9)

Date Due: Wednesday, 11.06.13, 12:00pm (Week 11)

Weighted Value: 15 points

Estimated Workload: 6 - 8 hours

OVERVIEW

Complete an economic analysis of your selected community using Location Quotient **and/or** Shift-Share analysis, and submit a summary report of your findings.

LEARNING OBJECTIVES

- To relate information content provided by *Lecture 8: Economic Analysis* and assigned readings.
- Demonstrate proficiency with two economic analysis approaches for measuring and projecting economic bases; Location Quotient and Shift-Share analyses.
- To gain an awareness and working knowledge of the U.S. Census Bureau's Economic Census, including industry classifications (NAICS), geographic area coding, and data sets, based on economic data for your community selected for *Community Profile*.
- To be able to represent economic data with appropriate data graphics, and communicate findings and analysis in the form of a summary letter report.

ASSIGNMENT

Goal: Develop an economic analysis of your community selected for the *UPP 502 Community Profile* final project. The analysis is to contain a Location Quotient analysis **and/or** Shift-Share analysis.

Step 1: Go to the U.S. Census Bureau's Economic Census website at: <http://www.census.gov/econ/census07/>.

Step 2: Review the Economic Census web site and familiarize yourself with 2002 and 2007 Industry Series data, Geographic Area Series data, NAICS codes, reliability of data, and other relevant information.

Step 3: Complete a Location Quotient **and/or** Shift-Share Analysis, which are explained by *Lecture 8: Economic Analysis*.

You are required to complete only **one** of these economic analysis approaches, but may complete both for purpose of advanced learning, or **optional** use in your Community Profile.

Your economic analysis shall include **four** NAICS 2-digit code industries (NAICS sector level). Select the industries that appear to be most relevant to your selected community.

Location Quotient Analysis: The Location Quotient (LQ) is basically an approach for quantifying the concentration of a specific industry in a specific geographical place relative to a larger geographical region.

In more exact terms, LQ is a ratio that compares a specific place (i.e., your community) to a larger reference region (i.e., the nation) according to some characteristic (i.e., a specific industry). Suppose X is the amount of specific industry jobs in your community (say, manufacturing), and Y is the total amount of all jobs in your community. X/Y is then the “concentration” of manufacturing jobs in your community. If X' and Y' are similar data points for some larger reference region (the nation), then the LQ or *relative* concentration of manufacturing jobs in your community compared to the nation is (X/Y) / (X'/Y').

$$LQ_i = \frac{\frac{e_i^t}{e_T^t}}{\frac{E_i^t}{E_T^t}}$$

Location Quotient equation

The Location Quotient equation is provided in the left margin, where;

- e_i^t = local specific industry employment
- e_T^t = local total industry employment
- E_i^t = national specific industry employment
- E_T^t = national total industry employment

Tip: It would be a good idea to organize the inputs (e_i^t , e_T^t , E_i^t , E_T^t) used in determining LQ in an Excel spreadsheet, for your own use.

The Economic Census provides key statistics for various geographic areas; states, metropolitan and micropolitan areas (MA's), counties, and places with 2,500+ inhabitants. The level of geographic detail varies by area. Statistics for smaller areas are more frequently withheld to avoid disclosing information about individual firms.

Using the 2007 Economic Census, choose the geographic area that is appropriate for your community. It is expected that fine-grain data (places with 2500+ inhabitants) is available for all selected communities. If not, you will need to expand your scope beyond your community's boundaries to the smallest available geographic area data set, or use coarser-grained data. In this case, explain your selection of geographic area in your report, and provide some explanation on how this may (or may not) have affected your findings.

Shift-Share Analysis: This type of approach is used for retrospectively decomposing changes in employment in a set of urban areas or regions. Planners may use this approach to examine the sources of employment growth or decline relative to time.

For step-by-step instructions, refer to *Supplemental Instructions: Performing Shift-Share Analysis*, which is posted on Bb via 'Assignments > Homework Assignments > HW-8: Economic Analysis'.

While these instructions use a 10-year: 1979-1989 time range, you are to use a **5-year: 2002-2007** time range.

Step 4: Complete a summary report of your economic analysis for your selected community using one or both of the above described approaches, Location Quotient **and/or** Shift-Share analysis. Results are to be reported with relevant data graphics (tables, charts) of your choosing.

ITEMS OF CONSIDERATION

While completing your economic analysis, students are encouraged to consider the following items, so as to provide accuracy and consistency in reporting your findings.

- If any Economic Census data is provided as a range of values, then simply include the average of the range's low and high number. For example, for a sector range of 20-99 employees, use an employee count of 60.
- The Economic Census provides a detailed portrait of the nation's economy once every five years, from the national to the local level, for years ending in '7' or '2'. As 2012 data is not scheduled to be released by the U.S. Census Bureau until 2014, you will rely upon 2007 data for Location Quotient Analysis, and 2002 / 2007 data for Shift-Share Analysis.
- Summary report to include all factors used in LQ equation for each NAICS industry sector, so as to allow one (including instructor during grading) to replicate and/or check your findings.

DELIVERABLES

Students are to submit **two** print copies of their summary report to the instructor at the start of class on assignment's due date, one of which will be returned with grade and review comments.

- *Format: letter report (long version)*, refer to Purdue OWL > Subject Specific Writing > Writing in Engineering > Handbook on Report Formats > [The Report Body](#), and 'Letter Report (long version)' example posted on Bb.

Include a heading, introduction, methods (and data sources), findings, analysis, conclusion, and closing. Recommendations are not requested.

Address the report to your client, which in this case, is the appropriate staff member (for example, the village / city planner) of your selected community.

- *Particulars: 3 page max.* (including data graphics), single- or 1½-spaced, 8.5" x 11". If report includes both Location Quotient and Shift-Share analyses, then a 4 page max.

EVALUATION CRITERIA

- *Comprehension:* student demonstrated ability to complete an economic analysis using Location Quotient and/or Shift-Share analysis.
- *Analysis:* student demonstrated ability to provide critical analysis of their findings.
- *Communication:* student represented economic data with appropriated data graphics, and communicated findings and analysis in the required format.
- *Completeness:* deliverables were submitted in a complete and orderly manner.
- *Timeliness:* deliverables were submitted by due date.