North Dakota
DEPARTMENT OF COMMERCE
DIVISION OF ECONOMIC DEVELOPMENT & FINANCE

Economic Development by the Numbers

A source for data and statistical information to assist in promoting your community, county and state

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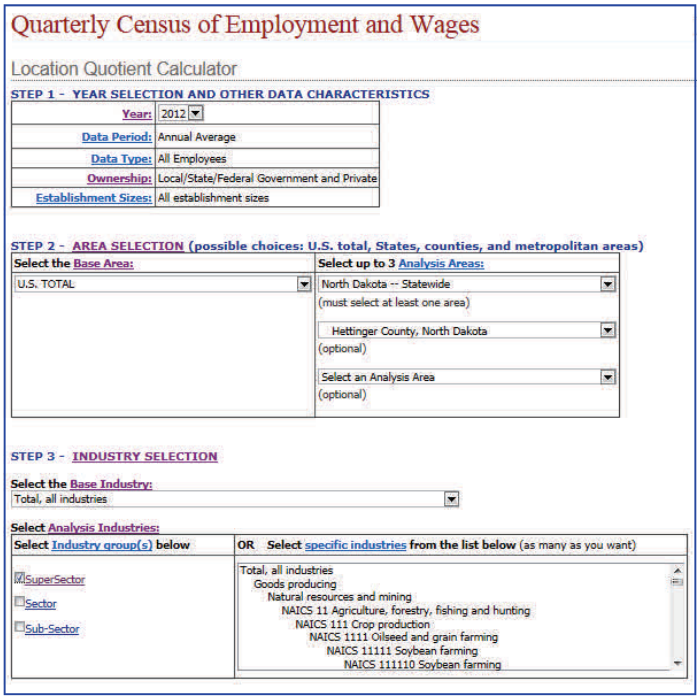
Feature: Location Quotient Calculator

The Bureau of Labor Statistics (BLS) provides a powerful tool on its web site: the **Location Quotient Calculator**. Location quotients are used to compare the industrial activity levels among different areas of the country. They can, for example, be used to compare state employment by industry to that of the nation. Location quotients can also be used to compare employment in a city, county or metropolitan statistical area (MSA) to employment in the state. The Quarterly Census of Employment and Wages (QCEW) is the data source used for this feature.

Featured Web Site: http://data.bls.gov/location_quotient/ControllerServlet

It only takes a few quick selections from the BLS web form to specify a base, or reference area (usually the United States as a whole), and a base or reference industry (usually the private sector, all industries). The industries are classified by following the North American Industry Classification System (NAICS).



Users may select up to three geographic areas to be compared to the base area and may choose numerous industries to be compared to the base industry. This includes options from standard industry lists, such as the NAICS SuperSector, Sector, or SubSector levels. Users may also select any number of specific NAICS industries for analysis. So let's give this a try and attempt to compare Hettinger county to the state and the nation.

Let's start with the Location Quotient Input Form. (link here or use the url above). There are three steps involved in setting up the parameters for an analysis. **STEP 1** allows users to select a year. Since 2012 is the most recent year available, we'll stick with that. Data for 2013 should be ready in a few months.

STEP 2 requires the selection of the base area and the analysis areas. BLS has done a good job of providing hyperlinks to definitions of certain words and phrases that may be confusing for users. Click on BASE AREA and you will see it is defined as the reference area and, while "United States Total" can be overridden for special purposes, users are cautioned that doing so may cause them to get results that have "little or no economic meaning". So hmmm, let's see, I think we should select **U.S. Total**. Then, under ANALYSIS AREA select **North Dakota** in the first box and **Hettinger County** in the second.

Step 3 asks for the base industry and the analysis industries. A quick look at the definition for the BASE INDUSTRY provides another cautionary note. Users are told to select **Total, All Industry**, for the best results. When it comes to the ANALYSIS INDUSTRIES, users have more options. Under INDUSTRY GROUPS users can select either SuperSector (list of 11, private-sector NAICS categories, Sector (list of 20, 2-digit NAICS) or Sub-sector (list of 93, 3–digit NAICS). For our purposes we will select **SuperSector**. Now, select **Get Results.**

The Calculator provides three sets of data (partial tables shown below) based of QCEW (Quarterly Census of Employment and Wages) information: 1) Employment, 2) Percentage of Employment and 3) Location Quotients.

Employment calculated from Quarterly Census of Employment and Wages Data

Industry	U.S. TOTAL	North Dakota -- Statewide	Hettinger County, North Dakota
Base Industry: Total, all industries	110,645,869	344,538	512
Natural resources and mining	1,988,119	28,462	17
Construction	5,586,553	29,389	39
Manufacturing	11,904,945	25,158	37
Trade, transportation, and utilities	25,229,389	94,721	167
Information	2,677,224	6,933	19

Percentage of Employment calculated from Quarterly Census of Employment and Wages Data

Industry	U.S. TOTAL	North Dakota -- Statewide	Hettinger County, North Dakota
Base Industry: Total, all industries	100.00%	100.00%	100.00%
Natural resources and mining	1.80%	8.26%	3.32%
Construction	5.05%	8.53%	7.62%
Manufacturing	10.76%	7.30%	7.23%
Trade, transportation, and utilities	22.80%	27.49%	32.62%
Information	2.42%	2.01%	3.71%

Location Quotients calculated from Quarterly Census of Employment and Wages Data

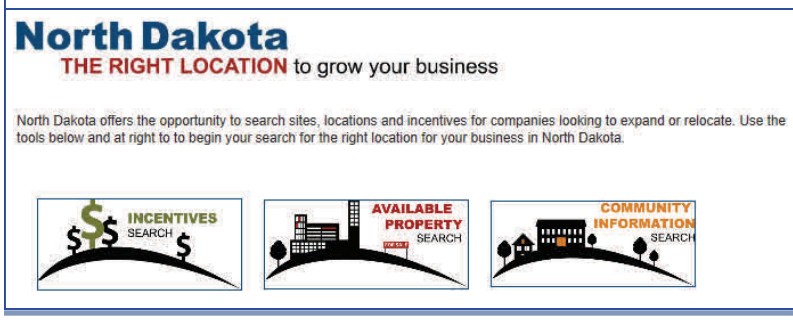
Industry	North Dakota -- Statewide	Hettinger County, North Dakota
Base Industry: Total, all industries	1.00	1.00
Natural resources and mining	4.60	1.85
Construction	1.69	1.51
Manufacturing	0.68	0.67
Trade, transportation, and utilities	1.21	1.43
Information	0.83	1.53

The Employment and Percentage of Employment tables are self-explanatory, of course. As for the Location Quotient (LQ) table, an LQ of 1 means the industry has the same share of employment in the analysis area as it does in the reference area. If the LQ is greater than 1, it has a greater share than the reference area. This implies that an area is producing more of a product than is consumed by area residents. The excess is then available for export outside the area. As one would expect, the 4.60 LQ for Natural Resources and Mining in North Dakota is considerably larger than 1. Even in Hettinger county it's a 1.85.

How Do They Calculate That?

LQs are calculated by first, dividing local industry employment by the all industry total of local employment. Second, reference area industry employment is divided by the all industry total for the reference area. Finally, the local ratio is divided by the reference area ratio.

Location quotients can also be used to analyze occupations. BLS provides charts of occupations with the highest location quotients. It's very interesting to see how LQ in eastern and western North Dakota differ.



ED&F WEB SITE UPDATE

If you've visited the Economic Development and Finance web site lately, you've probably noticed the appearance has changed and some of our databases are not fully operational at this time. Updates should be complete soon and we hope to give you more insight into web site changes in the next issue of this publication.

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