Data Visualization in the World
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Data visualization is a wave of the future that may render irrelevant the simple tables and single-axis charts that have long dominated data presentations. This article extends the discussion of data visualization that was introduced in the December 2010 Labor Market Review and provides additional examples of visual input replacing basic rows of numbers to more effectively engage data users. A standard table is great for “data geeks,” but for most people to “see” a story, it needs to be presented in a more visual manner. The Census Bureau has made great strides in this area, as detailed in the December article, but many other groups are also offering new and exciting ways to visualize data.

Google offers data visualization through its Google Public Data Explorer. The company has been working with different groups and agencies, including the Census Bureau and the Bureau of Labor Statistics (BLS), to show publically available data in more visual formats. For example, searching for “unemployment rate New Mexico” in Google yields a graph with New Mexico’s unemployment rate and a link to the Google Public Data Explorer displaying BLS-provided unemployment rate data. The latest Google project, awarded on April 18, 2011, sought to inspire innovation for data visualization. In February, Google and Eyebeam announced a “Data Viz Challenge” to the creative individual who could “make tax data exciting.”1 The winner received $5,000, and the runner-up and other finalists also received cash awards. The winner created a website that takes user input for salary and filing status to show the amount of taxes paid, using the standard deduction, for the 2009 tax year (2010 spending year) and how the tax dollars were spent, based on federal budget data provided by whatwepayfor.com. The winner created a tax pie chart showing the percentages of taxes spent in specific policy areas, including national defense and Medicare. A user can click on a segment of the pie to show taxes spent in each account (program) funded in that policy area. The tool is available at wheredidmytaxdollarsgo.com.

The BLS is beginning to use data visualization for some of its programs. The BLS Quarterly Census of Employment and Wages (QCEW) program publishes information about employment and wages by county, ownership, and industry. The QCEW program contains so many data points that the New Mexico QCEW publication alone is 200 pages. The BLS has been beta testing an interactive application that displays geographic economic data through maps, charts, and tables, allowing users to explore employment and wage data of private industry at the national, state, and county level.2 The application can be found at http://beta.bls.gov/maps/cew/us until it has been tested and is in production. Figure 1 provides average weekly wage data for the United States by range and by rank using the new BLS map application.

The chart shows the outlier (District of Columbia) quite graphically. Data choices that can be changed include map series (employment, change in employment, wages), ownership, industry supersector, and color mode. The data table is provided and can be exported to a CSV file or an XML file. Clicking on a state generates the state map with county information.

The New Mexico QCEW publication will never be visually stunning; however, LASER, the Economic Research and Analysis (ER&A) tool for providing labor market information, now provides maps and graphs for QCEW data. The upgrade to LASER completed at the beginning of 2011 offers mapping and graphing options to data series available from ER&A, including QCEW. The new area profile available in LASER offers users the best opportunity to see all ER&A data that are mapped or graphed in LASER. Once in the area profile for a selected area, users can change display options, including elements (add maps and graphs),

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2 Introducing the QCEW State and County Map Application, www.bls.gov/cew/map_application.htm
and distribution options (geography options and sort orders), and change data categories viewed. By changing the display elements to add maps and graphs, users can see New Mexico average weekly wages by county on a map, similar to the map seen above from BLS. Figures 2 and 3 show the average weekly wage graph and map from LASER.

ER&A is embarking on a new era of data visualization. Since the beginning of 2011, the Labor Market Review has been revised to be more colorful and appealing, and LASER has been upgraded to show data maps and graphs. As time passes, the bureau will strive to upgrade publications and add data visualization to make them more appealing to all audiences. For those “data geeks” out there, don’t worry, the QCEW publication will still be 200 pages long and Tables A through D will still show rows and columns of data.

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**Workforce Information Tip**

**How do I find information on green employment?**

1. Start at [www.greenjobs.state.nm.us](http://www.greenjobs.state.nm.us).
2. Click on “Career Services.”
3. Click on “What are green jobs” for an explanation of the concept and its four core areas.
4. Click on “List of Green Jobs” for a table of specific occupational titles.
5. Click on “Green Skills” to access a table detailing the most important job skills for the top 25 green occupations.
6. Review the information in the “Develop” column to identify training available for a specific career or certification.
7. Use the “Job Search” link to apply for or map the locations of current green job openings in NM Workforce Connection.

For more information, please contact Suzan Reagan, LMI Webmaster, at (505) 383-2731.