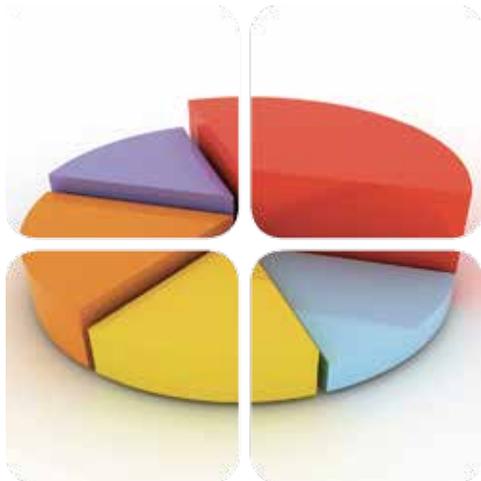


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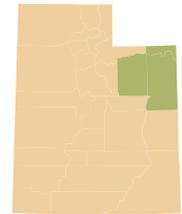


An economic and labor market analysis of the Uintah Basin Area

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The Unique Economy of the Uintah Basin: A Look at Important Industries



BY ERIC MARTINSON, ECONOMIST

Key employment and wage statistics, gathered through the Quarterly Census of Employment and Wages (QCEW) program, provide industry detail based on the North American Industry Classification System (NAICS) and illuminate an economic profile of national, regional and local (county-level) geographies. Important nonfarm industries of the Uintah Basin can be measured by employment, wages and other factors. The movements over time of these industries within the Uintah Basin (Daggett, Duchesne and Uintah counties) tell an interesting story.

Industry Share of Employment

The importance of an industry to a particular region can be defined in different ways. The most obvious method of determining the importance of an industry to a region is by the number or share of people the industry employs. Mining, particularly oil and gas extraction, is the Uintah Basin's strongest industry. This has been the case over the past decade and beyond. Although the nature of oil and gas extraction in this region historically has been of a boom-bust nature and largely determined by foreign energy prices, this industry has seen what is likely the most sustained and intense growth activity over the last decade. Pressure from rising foreign energy prices, the development of extraction technologies such as hydraulic fracturing ("fracking") and ever-growing domestic demand for energy sources have

all fueled a recent boom in mining activity in the Uintah Basin.

Analyzing the share of employment within an industry as a percentage of total nonfarm employment offers an easy determination of an industry's importance. In 2001, the highest share of Uintah Basin employees was in government (except public education). The mining industry accounted for 15.1 percent of nonfarm employment in the Basin, and retail trade followed with 13.3 percent (Figure 1). By 2012, the mining industry's share of total nonfarm employment in the region spurred to 22.1 percent, knocking government (except public education) out of the top spot, whose share of employment retreated to 14.1 percent in 2011. Large increases of share in one or many industries does not necessarily equate to declining shares in the balance of industries. For example, the fact that government's share of employment fell from 2001 to 2012 does not mean that employment declined, but merely that employment within mining increased its share of total employment pie, forcing a decrease in the size of other industry slices.

Transportation and warehousing increased its share of total employment from 2001 to 2012, as did construction. These increases in transportation and warehousing as well as construction industries conform to the idea that the boom in oil and gas over much of the past decade drive further demand and growth in the building of

in this issue

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What makes Uintah Basin's economy so unique? A look into the region's leading industries.

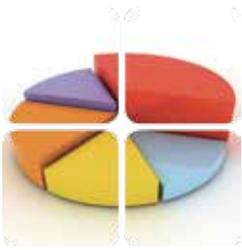
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Collecting quarterly industry data through the QCEW program shows business dynamics through employment and wages.





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infrastructure to support the burgeoning mining activity. Other important industries in terms of 2012 employment include retail trade, health care and social assistance (private), leisure and hospitality, and public education.

Whereas Figure 1 compares a 2001 snapshot of shares of total employment by industry with a 2012 snapshot, Figure 2 illustrates the change in an industry's employment share over the 11-year period. As seen in Figure 1, government and mining swap spots for highest share of employment. Mining's dominance greatly increases until the financial recession in 2007–2009, when mining activity came to a brief halt. As the recession ended, mining resumed its frenzied activity in the Basin. If nothing else, Figure 2 demonstrates not just the magnitude of mining's importance to the Uintah Basin over the past decade, but the tremendous rate of growth as well.

Wages

Another way to measure an industry's importance is by assessing wages paid within that given industry. The more money an industry introduces into an economy through compensation, the more potential impact that industry makes in its local economy: wages drive purchasing power within local economies, largely determining aggregate spending of an economy; taxes on wages contribute to public goods and services; etc. An industry that employs a large share of the region's workers or pays a large share of the region's wages typically helps to drive the economic viability or sustainability in that area. The mere impact of an important employer in

Figure 1: Uintah Basin Industry Employment
as a Percentage of Total Nonfarm Employment, 2001 vs. 2012

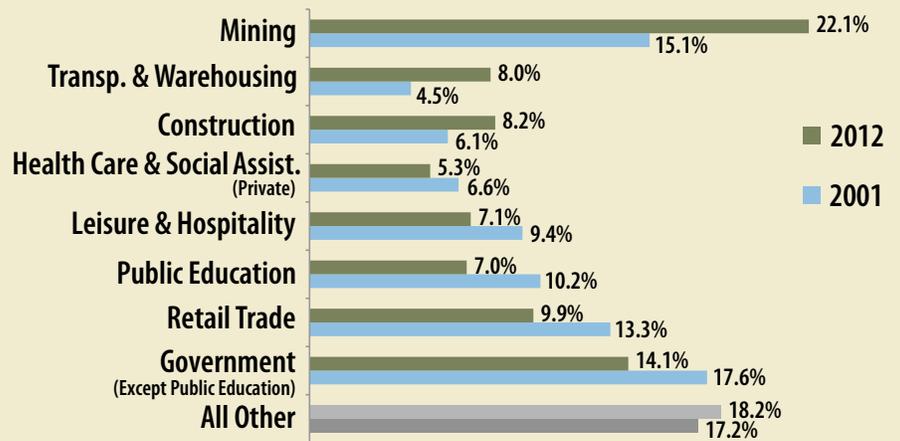
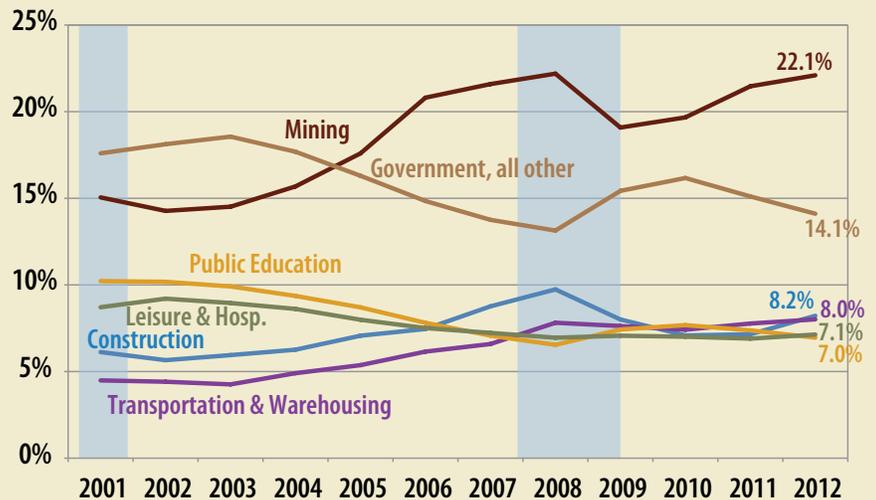


Figure 2: Uintah Basin Important Industry Employment
as a Percentage of Total Area Employment, 2001–2012



some industry deciding to cut its workforce dramatically could potentially devastate an economy.

In line with the sheer number of those employed within the mining industry, it follows that mining was also the most important industry in terms of wages in 2012. As a share of total wages paid in the Uintah Basin region, mining accounted for 35.4 percent of these wages in 2012. In a distant second place is government (except public education), responsible for 11.2 percent of total wages in the Basin; construction and transportation and warehousing paid 9.3 percent each in total area wages to their workers. The next six highly ranked, wage-important industries are mostly the same industries that also rank highest in terms of employment and can be found in Figure 3.

The average annual wage for the Uintah Basin in 2012 was \$46,038 (Figure 4). Although there were 8 of the 21 total sectors whose average annual wages were higher than the Basin's average of \$46,037, only 4 of these 8 industries also employed an average of over 950 workers in 2012: mining, construction, transportation and warehousing, and wholesale trade. Of the employment-leading industries, mining had by far the highest average annual wage in 2012 with \$73,820. Wholesale trade's average wage was \$62,388. The transportation and warehousing industry's average annual wage was \$52,412, and construction's was \$51,822 in 2012. While the utilities industry had the highest annual average wage of any industry in 2012 (\$90,246), it only employed an average of 243 workers for the year.

Together, the level of employment and wages paid give a great portrait of which industries are important to a particular locality. So far in the Uintah Basin, mining, transportation and warehousing, and construction all stand out with the highest levels of employment combined with highest total and average wages. There is still at least one other important metric for evaluating an industry's importance to an area: the location quotient.

Location Quotients

Location quotients (LQs) are a regularly used method for regional analysis of labor market conditions. A location quotient can be generated from different variables, such as occupational employment, industrial output, revenue, etc., but are most often generated using industry employment. This location quotient measures the relative concentration of a given industry in a given locality. The LQ can be relative to the nation, the state in which a locality resides, or even a sub-state region. Most often, though, LQs are calculated relative to the nation. These quotients are used to identify potential sources of competitive advantage, or areas of regional specialization. Otherwise put, the LQs provide a basis of determining which industries of a particular local economy are basic or export industries.

Industry employment LQs are calculated by simply dividing the ratio of regional industry employment as a percentage of total regional employment by the ratio of national industry employment as a percentage of national total employment. As a good rule of thumb, industries with an LQ of 1.2 or higher indicate some degree of specialization, an LQ between 0.8 and 1.2

Figure 3: Uintah Basin Industry Wages as a Percentage of Total Wages, 2012

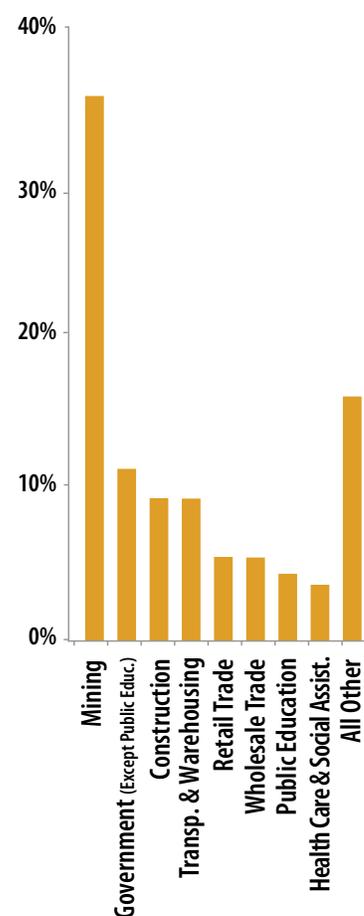
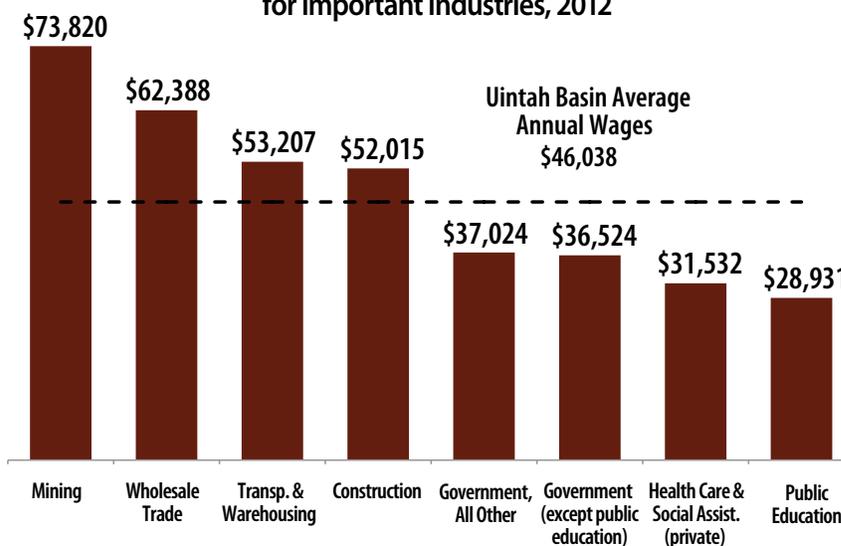
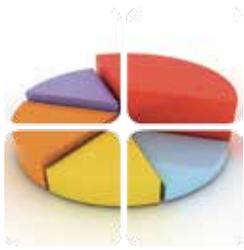


Figure 4: Uintah Basin Average Annual Wages for Important Industries, 2012





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indicates a 'normal' distribution of an industry within the region (relative to the national spread of industry employment) and an LQ lower than 0.8 may indicate a potential scarcity of that industry in that particular region. These thresholds will always depend on the size of a particular region or the nature of a particular industry. As an example, if a region's LQs are all at or near 1, the region has an economy that resembles the national economy in that it may be sufficiently diversified.

If employment levels and wage statistics were not enough to prove that mining is the most important industry in the Uintah Basin region, the fact that the industry employment location quotient for mining in 2012 was 37.7 should signal this industry's utter dominance in the region. In terms of location quotients, nothing else even

compares. Transportation and warehousing, the industry with the second highest LQ, had an LQ of 2.5 in 2012. The third highest industry LQ was utilities, 1.8, followed by construction, 1.7. Combining share of employment, wages and location quotients should offer a quick way to determine the Uintah Basin's most important industries.

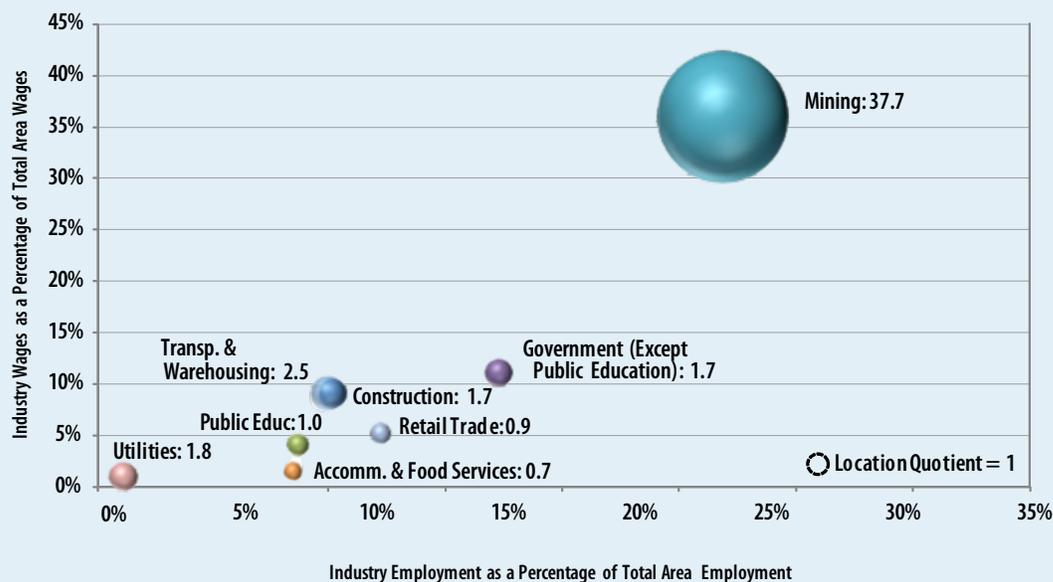
Figure 5 synthesizes these three metrics into an easy-to-identify visualization of the Basin's most important industries in 2012. The location of the industry bubble on the chart is determined by the x and y axes. The x-axis measures the share of industry employment as a percentage of total area employment. The y-axis measures industry wages as a percentage of total area wages. Finally, the relative size of the bubble indicates the degree of the industry's specialization in the region: the higher the

location quotient, the more specialized that given industry in 2012. Clearly the elephant in the room here is mining. Not only did the mining industry in the Basin employ the highest share of nonfarm payroll workers in 2012, but it also paid the highest share of total wages, and its location quotient is much, much higher than that of any other industry. Mining is clearly the industry that drives the entire regional economy. Based on these measures, the next most important industries to the Uintah Basin in 2012 were transportation and warehousing and construction, followed by government.

As far as important industries in the area, mining steals the show. Responsible in 2012 for one in five nonfarm payroll jobs and over one third of total wages paid in the region and by far the biggest export industry, mining drives virtually everything in the Basin.

Figure 5: Uintah Basin Important Industries, 2012

Share of Employment, Share of Total Wages and Location Quotient





A Year in Review: The Uintah Basin Economy in 2012

BY ERIC MARTINSON, ECONOMIST

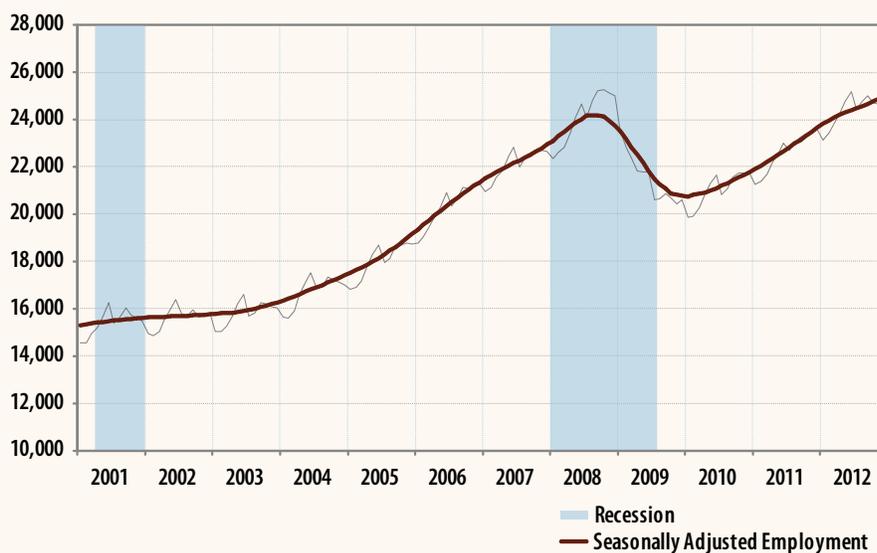
The recent release of fourth quarter Quarterly Census of Employment and Wages (QCEW) data allows for a 2012 year in review for the Uintah Basin and its economic performance.

The Uintah Basin had another great year in terms of economic activity. The average level of employment in the Uintah Basin in 2012 was 24,387. This was 1,766 more jobs than, or a 7.8 percent increase from, the average level of employment in 2011. By any standards, 2012 was another great year for the Basin's labor economy. It was a continued story of the major oil and gas boom that has been in effect in the region since around 2003, with the exception of the Great Recession period throughout 2008 and 2009. In fact, in August of 2012, the highest count of monthly employment came the closest to its all-time high of 20,537 (in September of 2008) when it reached 20,099, which remains the highest post-recession job level to date.

The Uintah Basin had an annual average seasonally adjusted unemployment rate of 4.0 percent, a year-over-year decrease of 1.3 percent and less than half what the Basin's unemployment rate was during 2009 at the height of the recession's aftermath.

Throughout 2012, the majority of job gains came from the goods production sector, more specifically within mining and construction. Strong job gains were also seen in transportation and warehousing as well as wholesale trade. Industries that saw the least average growth from 2011 to 2012 were arts; entertainment and recreation; educational, health and social services; management of companies and enterprises; information; and federal employment.

Figure 6: Uintah Basin Total Nonfarm Payroll Employment
Daggett, Duchesne and Uintah Counties, 2001–2012



Uintah County

Uintah County's annual average employment level in 2012 was 14,940, a year-over increase of 5.3 percent for county nonfarm payroll employment. The largest employment gains in 2012 occurred in mining, construction, trade, transportation and utilities, and leisure and hospitality. The educational, health and social services industry failed to increase its annual average employment in 2012.

The average rate of unemployment in Uintah County during 2012 was 3.9 percent, the lowest average county unemployment rate in 2012 and 1.8

percent lower than the state's average unemployment rate during 2012. Initial unemployment claims (on a four-week, moving-average basis) throughout 2012 were close to parity with 2007, the height of the housing boom.

While annual average employment in Uintah County was higher during 2012 than it was in 2011, total county employment growth started to cool off during the second half of 2012. While the average rate of year-over-year change in total employment during the first half of 2012 was 7.2 percent (January–June), the rate of year-over-year growth slowed to



A Year in Review (continued)

an average of 3.5 percent during the second half of 2012 (July–December). A slowing of mining employment growth has been the main contributor to the cool-off as stabilizing natural gas prices have led to less gas exploration and extraction activities in Uintah County. In fact, the fourth quarter of 2012 saw the first year-over decreases in monthly employment within mining since mid-2010, one year after the recession ended.

Total area wages in Uintah County during 2012 increased year-over-year by 8.7 percent, or \$55.8 million. This increase in wages paid to Uintah County workers contributed to the year-over increase in taxable sales of 20.3 percent from 2011 to 2012. Construction values saw an enormous year-over increase in 2012. The number of permitted dwelling units in the county increased by 106 percent from values during 2011, and permit-authorized construction values also doubled.

Duchesne County

The average annual level of employment for Duchesne County in 2012 was 9,046, over 1,000 more jobs on average than in 2011. Over half of these job gains (632 to be exact) were a result of job gains in mining (427 jobs, or 24.2 percent higher than 2011) and construction (205 jobs, or 29.6 percent higher than 2011). Other strong job gains in Duchesne County for 2012 include transportation and warehousing, an average of 129 more jobs than in 2011, and wholesale trade, with 82 more jobs

than in 2011, on average. There were a few industries that lost jobs over 2012, but not one of these job losses was significant.

Overall, Duchesne County's unemployment rate averaged 4.1 percent for 2012, the second lowest in Utah and just above Uintah County's average unemployment rate of 3.9 percent for 2012. Initial unemployment claims (on a four-week, moving-average basis) throughout 2012 were in line with an economically robust 2007.

Mining, the county's leading industry, reached its peak value in April of 2012 as employment hit 2,176 jobs. This amounted to a 32 percent increase, year-over-year. By December, this growth rate fell to 11 percent, just one third of the peak growth rate.

Just as in Uintah County, the overall employment situation in Duchesne County began to show signs of a cool off toward the end of 2012. While total nonfarm employment in the county had exceeded its all-time high by April of 2012 and was higher yet in the last month of 2012, year-over-year growth dipped in December 2012 below 10 percent, the first time in over a year and a half.

Overall, total nonfarm payroll wages for Duchesne County in 2012 saw a staggering 19 percent increase over wages in 2011, or an increase of \$65.7 million by year's end. Taxable sales rose in 2012 by 35 percent compared to 2011. Construction was also up in 2012. Permitted dwelling units showed a 33 percent increase in Duchesne County,

and total permit-authorized construction values were up 25 percent in 2012 compared to values in the previous year.

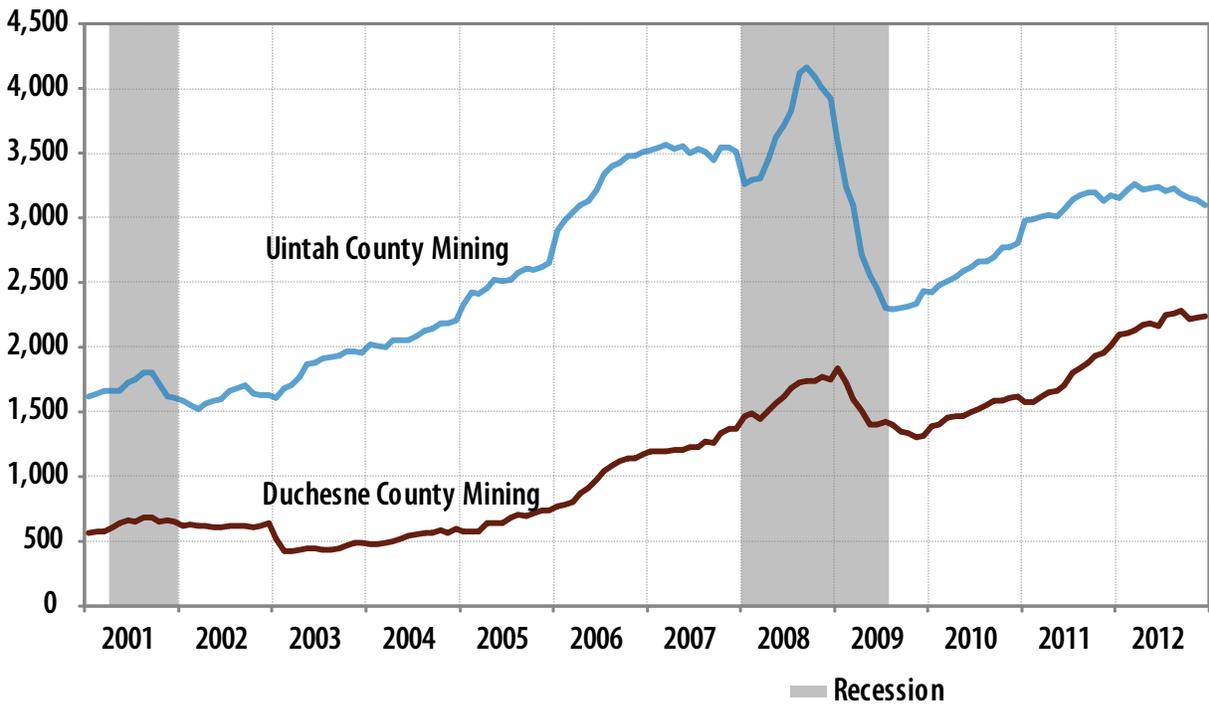
Daggett County

The average annual level of employment for Daggett County in 2012 was 401, 15 jobs less on average than in 2011. The goods producing sector gained three jobs over 2012. The net effect of these job gains was erased by the loss of 18 jobs in the services sector, one third of which came from government. Leisure and hospitality in Daggett County showed no growth as the single job gain in accommodation and food services was met with a job loss in arts, entertainment and recreation. The other 11 job losses occurred in trade, transportation and utilities.

The overall picture in the Uintah Basin during 2012 was very positive. It continued to lead the state in growth, which was fueled by the oil and gas boom that has been in effect for the major part of the last decade. Based on the last quarter in 2012, it seems that employment in the region, and within oil and gas in particular, was starting to cool down.

Overall, Uintah Basin's 2012 picture was positive. It continued to lead the state in growth, fueled by the oil and gas boom.

Figure 7: Uintah Basin Mining Payroll Employment
Duchesne and Uintah Counties, 2001-2012





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The Dynamics of Industry Data

BY MELAUNI JENSEN, LMI ANALYST

Labor Market Information (LMI) is a powerful resource that provides people with a variety of information pertaining to the workforce. LMI can show information about an industry as well as current local economic conditions. It can help policy makers and economic developers understand the productivity of the workforce, economic activity and the overall health of the economy, information that is important for estimating tax revenue and modifying county or city services. It can also demonstrate to educators and economic developers the employment and wage outcomes of graduates and what industries are strongest in local areas.

Every state in the U.S. partners with the Bureau of Labor Statistics (BLS) to gather and produce complete employment and wage information that represents workers covered by state Unemployment Insurance (UI) laws. This data program is called the Quarterly Census Employment and Wages (QCEW)s. Used to track the establishment levels, these quarterly statistics are important to many other federal and state programs, as it is an accurate reflection of the size of the workforce. Employment data represents the number of covered workers who worked during the pay period or received pay. It does not include those in the military, those who are self-employed, domestic workers, unpaid family workers and railroad workers already covered by the railroad UI system. Wages represent total compensation paid during that quarter, regardless of whether the work was completed at that same period of time, and including vacation or other paid leave, bonuses and tips.

QCEW data is the most comprehensive and respected economic database available, giving the best picture of the economy. QCEW includes data on the number of business establishments and their monthly employment and wages for each quarter. The data is categorized by industry, county and ownership. In accordance with BLS policy, data is not published at the individual firm level, but instead is aggregated and reported for specific statistical uses.

Our economists analyze this data after collection using the North American Industry Classification System. NAICS, as it is often referred to, was developed with Canada and Mexico in an effort to improve the comparability of employment in industries, thus improving the reflected economic activities. This powerful coding system categorizes each establishment into a detailed industry profile based on what they produce or the service they provide and gives five levels of categorized detail.

QCEW data can be used to show the dynamics of businesses: how they open and close and how they expand and retract. It can also show job creation, terminations and layoffs. Here in Utah, we comply with an agreement with the federal government to disseminate this information in a variety of ways. The data is used in products such as FirmFind and Industry Employment and Wages, both interactive tools on our website at jobs.utah.gov/jsp/wi/utalmis/default.do. We also use this data in the Labor Market Information annual report and the analyses contained in this publication. For a further breakdown of NAICS, visit census.gov/eos/www/naics/.