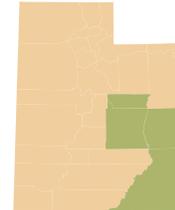


Return on Knowledge In the Southeast Service Area



BY ERIC MARTINSON, ECONOMIST

Benjamin Franklin once said, “If a man empties his purse into his head, no one can take it from him. An investment in knowledge always pays the highest return.” For this inaugural issue of Local Insights, the Department of Workforce Services (DWS) decided to analyze the Southeastern region of Utah’s economy through the lens of education. When approaching an analysis like this, the usual questions instantly came to mind: Do more highly educated people necessarily make more money? What does the education profile look like for the various industries in the Castle Country and Southeast regions of Utah? Which industries employ the highest

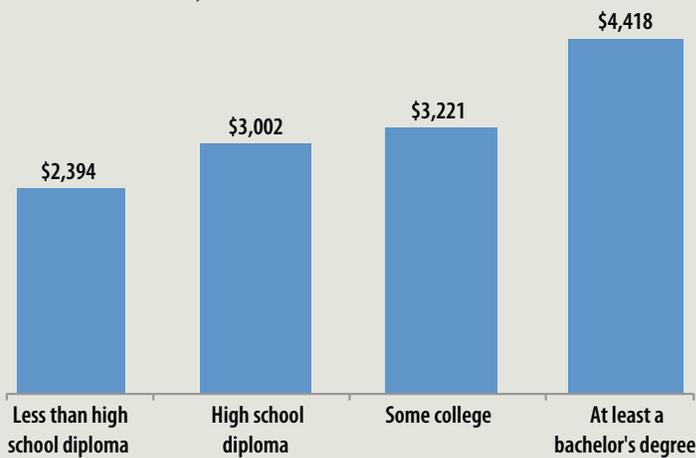
proportion of degreed workers? The aim of this article is to answer these and other questions, which will hopefully allow us to gain some interesting insights into the educational profile of the East-Southeast as well as the effects of education on workers in the area. As the article progresses, “Southeast” will refer to Carbon, Emery, Grand and San Juan counties.

The data used in this analysis were compiled from the Local Employment Dynamics (LED) database, which is a partnership between the U. S. Census Bureau and Utah’s Department of Workforce Services. The Census Bureau merges the data from DWS with current demographic information to produce this series. This merging of various data provides the ability to analyze details like average monthly wage between entire industries, even down to localized geographic areas. Previous inability to cross-tabulate dynamics like employment turnover rates by educational attainment levels or new hire counts by gender are now possible. There is an endless array of information that the relatively new LED data can provide. This article implements the analysis of a couple of different dynamics, such as the industry sectors, educational attainment, and average monthly wage in order to form a picture of the Southeast region as pertaining to education and the broader economy. Because our scope here is education, data used incorporate only those 25 years and older, an age by which one can reasonably expect to have finished her or his undergraduate studies.

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Graph 1: Average Monthly Wages by Educational Attainment 2011*



* For Workers 25 years old and above. Source: Utah Department of Workforce Services



Return on Knowledge Cont.

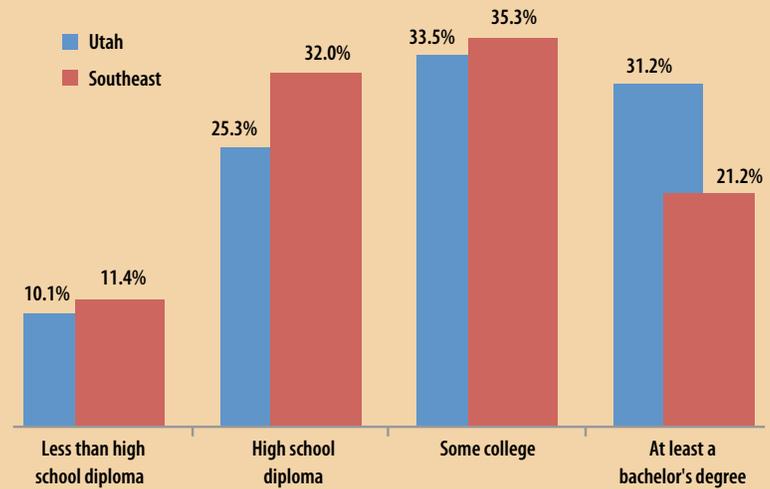
Higher Education = Higher Wages

Irrespective of industry, as a worker's level of education increases, typically so does that worker's average monthly wage. This thinking is the common sense reason that the national rate of enrollment in higher learning has hit record highs during the aftermath of the deepest recession since the Great Depression. But is there any hint as to what extent education does pay off? Does this payoff differ significantly by industry? If so, by how much? This depends on the level of education and on the industry. For instance, in mining, one of the Southeast's most important industries, a worker with a bachelor's degree will make an average of \$1,101 more a month than will his or her associate who has only a high school degree. A health care employee with some college (but who has not earned a bachelor's degree) will make, on average, \$408 more per month than a co-worker who has only taken some college courses but has not yet graduated. A utilities professional with at least a bachelor's degree makes, on average, \$2,296 more than his associate who only has a high school degree. In fact, those who have at least a bachelor's degree make an average of \$1,197 more in monthly wages than those who have just some college experience. Additionally, those with at least a bachelor's degree make an average \$1,416 more per month than do those with just a high school degree (Graph 1). As the proverb goes, "Education pays more."

Educational Profile of Southeastern Utah

Currently, 88.5 percent of the Southeast's employed workers have a high school degree or equivalent (Graph 2). This is right on par with the state average of 89.9 percent

Graph 2: Educational Attainment of Southeast's Employed Workers, 2011*



* For Workers 25 years old and above. Source: Utah Department of Workforce Services

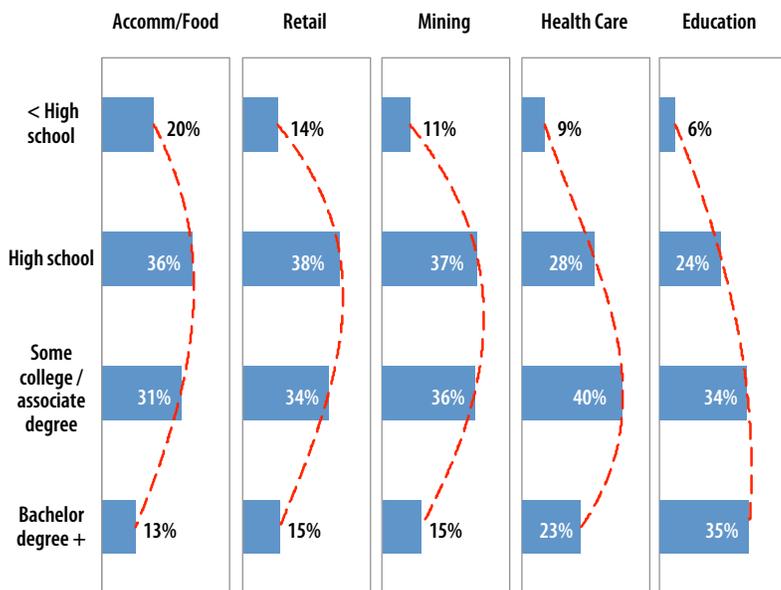
of workers who graduate from high school. When it comes to bachelors' degrees, however, 21.2 percent of the Southeast's workers have one, compared to Utah's average of 31.2 percent, a difference of 10 percentage points.

Many differences can point to this phenomenon. One simple reason is the unique economy of the Southeast region. The majority of functions within the coal mining industry of Castle Country (Carbon and Emery counties)—an important industry in terms of total employed workers—do not require undergraduate degrees. Support industries like transportation also typically employ mostly those who lack a bachelor's degree. Likewise, in Grand and San Juan counties, the tourism economy does not necessarily require much higher education to fulfill the majority of functions within accommodations/food services and arts/recreation sectors. Also, some of those who do pursue advanced degrees attend schools outside of the region. It is likely that the Southeast will sometimes not get these graduates back as workers.

Some promising trends, however, can help increase the number of Southeast's degreed workers. Already a vital part of the Southeast economy, the growing educational services industry continues to exhibit the need for more degreed workers. From 2000 to 2010, the average year-over growth rate in the education taskforce averaged 3.4 percent. This is the highest average growth rate over ten years of any other industry in the region. The need for more workers in the healthcare industry has grown as well, with an industry average year-over growth rate from 2000 to 2010 at 2.6 percent. As the following graph shows (Graph 3), healthcare and education are industries whose profile is skewed more towards a higher level of education relative to other important industries in the area. Consider also that, of all bachelor's degree holders in the region who are employed, 19 percent work in education and 12 percent in healthcare.

Other industries important to the Southeast, like accommodation/food service, retail and mining, tend to employ mostly those with only some college experience or less.

Graph 3: Educational Attainment by Industry, 2011*



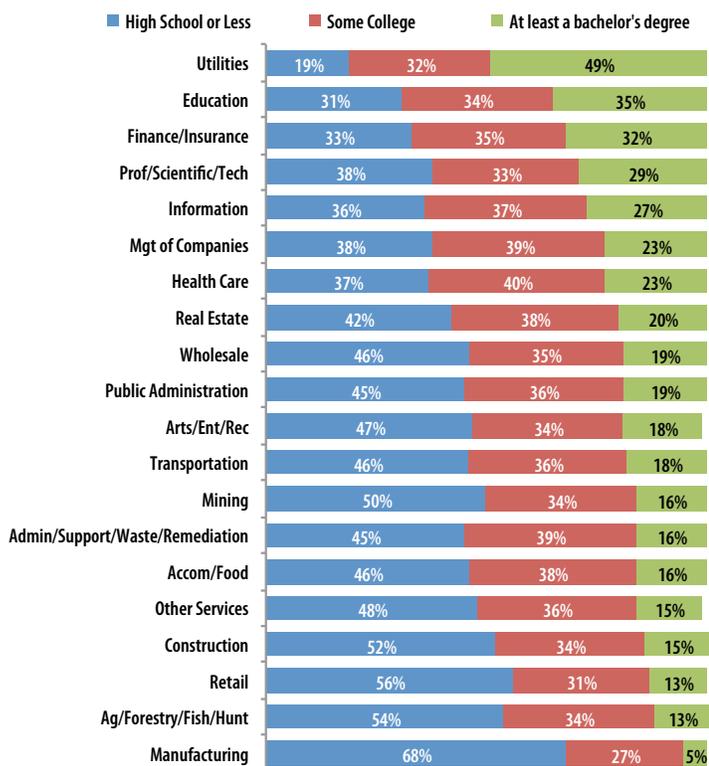
* For Workers 25 years old and above. Source: Utah Department of Workforce Services

More on Educational Attainment by Industry

The following “100 percent stacked bar” chart breaks down educational attainment by industry (Graph 4). Those with less than a high school degree and those with only a high school degree were combined into the “high school or less” category (in blue). The stacked chart is sorted based on those with a bachelor’s degree (in green). Industries with the highest proportion of degreed workers are prioritized from the top down. As can be seen in Graph 4, the utilities industry employs the highest percentage of undergraduate or higher degreed workers per capita at 49 percent. Thirty-two percent make up employees with some college, leaving 19 percent who have at most a high school degree. Graph 4 shows that 35 percent of the education industry’s task force in the Southeast hold a bachelor’s degree. This leaves 34 percent who have some college and 31 percent who have at most a high school degree.

In the arts/entertainment/recreation and accommodation/food services industries, which together make up the leisure and hospitality sector, the degreed workers represents 18 and 16 percent of the workforce respectively. Transportation, construction, retail and mining follow a similar profile. Sixty-eight percent of those in the manufacturing industry are those with a high school diploma or equivalent only.

Graph 4: Educational Attainment by Industry, 2011*



* For Workers 25 years old and above. Source: Utah Department of Workforce Services

Relativity

After considering the educational profile of the Southeastern region, as well as the degree to which having an education matters, it makes sense to analyze these factors relative to each other. The following multi-layered analysis should prove to be both interesting and practical to employers and job-seekers alike. While the overall average wage per worker in a given industry tells us which industries typically pay more for the average worker, the wage difference within those industries between workers with a high school diploma and a bachelor’s degree tells us which industries tend to value higher education more in terms of compensation. In this analysis, the average monthly wages per worker at any level of education can be measured by the y-axis in the graph below (Graph 5). The average difference in monthly wages between those with high school diplomas only and those with at least a bachelor’s degree can be tracked on the x-axis of the same graph. Finally, this analysis relates these characteristics to the



Worker Educational Attainment Cont.

relative size of each industry based on the percentage of total employed workers in the Southeast. Once again on the same graph, the relative size can be seen by the size of the bubble that represents each given industry.

For example, it is observed that the utilities industry provides the highest overall average monthly wage per worker at just under \$7,400 per month. This industry expresses a gap in average monthly wages between high-school-diploma-only workers and degreed workers, with the latter group making an average of approximately \$1,300 more than the prior. Finally, as the size of the industry's bubble shows, the utilities sector is slightly below the average size of 5 percent in terms of employment, accounting for 3.7 percent of all employed workers in the Southeast.

Having a bachelor's degree pays more in any industry within the Southeast region. While return on investment will differ according to industry, most pay anywhere from \$500 to over \$2,000 per bachelor's degreed worker each month. Having a degree almost always adds significant value to any business, as the

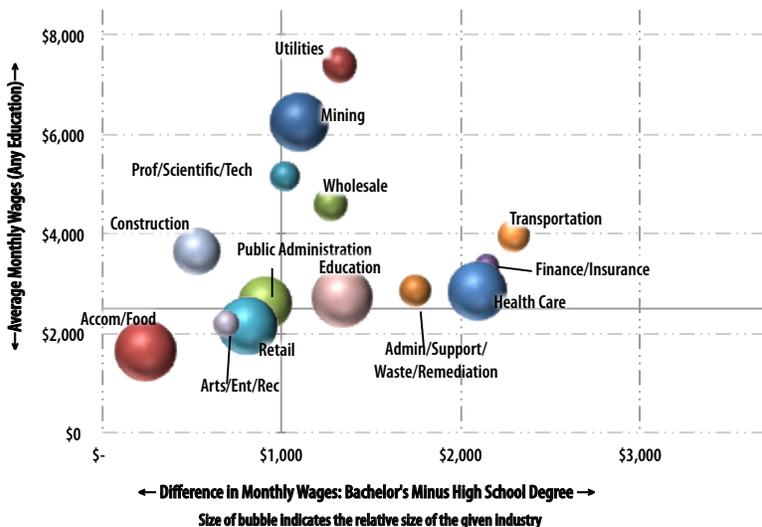
data strongly point out. This graph shows the other tell-tale power sectors of the Southeast economy: leisure and hospitality (comprised of accommodation/food services and arts/entertainment/recreation), retail, education and healthcare. We see that the leisure and hospitality sector provides an average monthly wage of \$1600 for accommodation/food services and just under \$2200 for arts/entertainment/recreation. Though the wage gap between degreed workers and workers with at most a high school diploma in the accommodation/food services industry is relatively small (about \$250), the gap expands in the recreation industry (about \$700).

Retail, education, and healthcare provide an average monthly wage of \$2,157, \$2,706, and \$2,863, respectively. The difference in the premium paid for education between these industries is also apparent, with retail at a gap of \$813 in monthly wages between high school diploma compensation and bachelor's degree compensation, education at a gap of \$1,742 between the same two groups of workers and healthcare at a gap of

\$2,094. This can easily be explained by the difference in pay between certain healthcare professionals (doctors or physician's assistants versus other workers like administrative assistants or janitors within the same industry).

Another fascinating tidbit can be seen within the mining sector, which seems to stand apart from the other important industries of the Southeast. As the graph indicates, mining, on average, is the second highest-paying industry in the Southeast. The average worker, regardless of educational attainment, will make more than \$6000 per month. What's more, the mining sector values employees with a bachelor's degree. On average, employees with a bachelor's degree will earn \$1100 more a month than their associates who have only a high school diploma. The coal mining of Castle Country and the uranium tailings relocation project in Grand County account for a large portion of the mining activities in the Southeast. Therefore, as an all-important industry, mining provides substantial employment in the region, its workers are paid one of the highest monthly wages on average and its premium on higher education is obvious.

Graph 5: Average Wage (High School vs. Bachelor's Degree) by Industry, 2011*



* For Workers 25 years old and above. Source: Utah Department of Workforce Services

Conclusion

By and large industries value education. The higher the level of one's education, the higher the wages one is likely to make. There are industries that pay more for higher levels of education than others. But in a dominating industry like mining, although a bachelor's degree is not needed to perform the vast majority of positions, higher education is still well rewarded. When, on average, a degreed worker makes over \$1000 per month more than those with a high school degree or less, it behooves the Carbon, Emery, Grand and San Juan counties to continue to aim for a higher population of workers who have at least a bachelor's degree.



Slow Recovery

BY ERIC MARTINSON, REGIONAL ECONOMIST

Castle Country

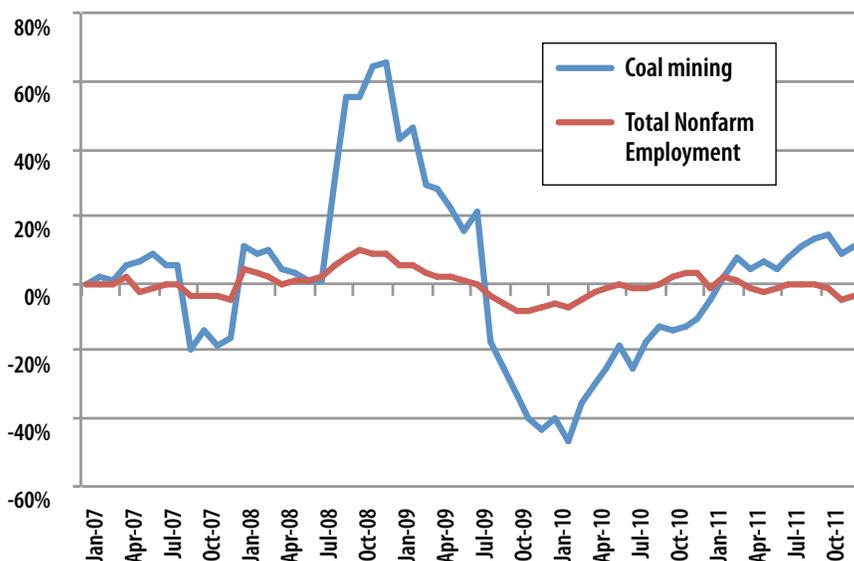
Driven largely by coal mining, Castle Country (Carbon and Emery counties) has had relatively active labor markets. Both counties' unemployment rates are higher than the state unemployment rate but are lower than the national unemployment rate. Coal mining in Carbon County started to add jobs beginning last year. The year-over change in coal mining jobs has been positive throughout 2011, which is an improvement from the previous year. Carbon County also showed some positive momentum in the construction industry throughout 2011. After a drop in total coal mining jobs within Emery County to about 500 in late 2008, the number of jobs in coal mining held constant until early 2011, when the total number in jobs dropped again to just fewer than 400 and has remained constant throughout 2011.

Carbon County

At 6.6 percent, Carbon County's unemployment rate is higher than the state's unemployment rate of 5.8 percent. It is still 1.6 percentage points lower than the national average of 8.2 percent, however. What is visible is an overall downward trend in year-over change in total employment for the county during 2011.

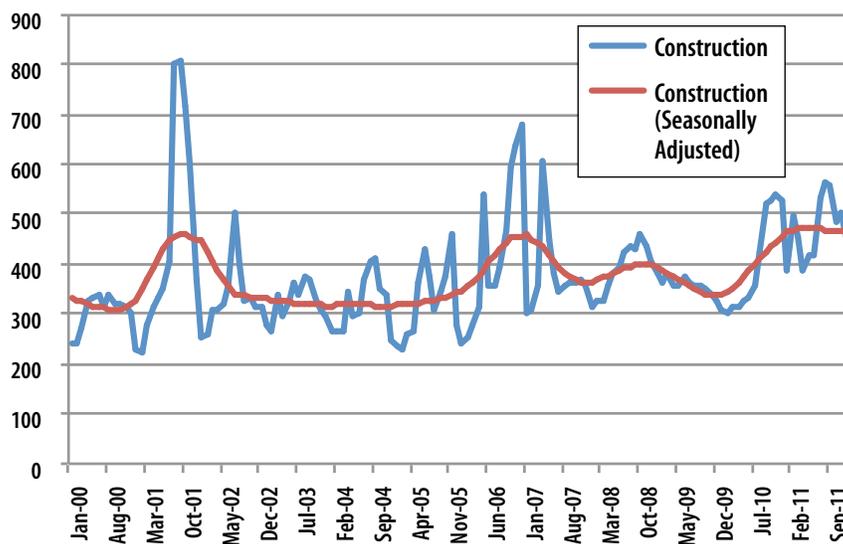
As Carbon County's leading industry in terms of employment, coal mining has yet to achieve its pre-recessionary job count. However, year-over job growth in 2011 has been positive. In fact, the average growth in coal mining jobs for the fourth quarter of 2011 was 11.3 percent (Graph 6). After displaying a relatively strong growth rate in 2010, construction jobs seemed to hit a peak in early 2011 and have since flattened out a bit (Graph 7). Seasonally adjusting the data allows us to see this trend more clearly (Graph 8). Transportation and warehousing has had gradually increasing employment since 2007. Retail trade has seen a very gradual decline in employment since 2007 but seems to have finally hit the bottom of the trough and appears to be on an upward trend over the past few quarters. On the other hand, healthcare jobs show a slight decrease in employment during 2011.

Graph 6: Carbon Year-Over Change in Nonfarm Jobs



Source: Utah Dept. of Workforce Services; U.S. Bureau of Labor Statistics.

Graph 7: Carbon County Construction Jobs



Source: Utah Dept. of Workforce Services; U.S. Bureau of Labor Statistics.



**Slow Recover
Cont.**

Emery County

Like Carbon County, Emery County's unemployment rate is higher than the state's unemployment rate of 5.8 percent yet still lower than the national rate of 8.2 percent. The downward trend in year-over change in total employment during most of 2011 seemed poised to reverse itself in the closing months of last year.

Considered Carbon County's sister economy, Emery's economy relies heavily upon coal mining activities for many of the jobs in the county. This industry saw a drop in employed workers at the end of 2008, from around 800 employed to about 500. Coal mining jobs held this level until yet another drop in employed workers resulted in about 400 in early 2011. Construction has provided a relatively consistent supply of jobs now for the past three years, with the latest drop in employment likely due to seasonality. Retail trade and utilities

industries also have been holding steady job counts over the past few years.

Southeast

Gauging the employment situation in Grand County by its current unemployment rate of 8.5 percent, it is apparent that the recessionary effects are still present to some degree. However, this rate has been on a downward trend since mid-2010. Anchored by its seasonal industries, jobs in Grand County's leisure/hospitality and retail sectors have held constant or have even slightly increased despite the recent recession. Job decreases mainly seemed to occur within the construction and mining industries since 2008. The story in San Juan County is a little more troubling, with a current unemployment rate of 10.1 percent, the second highest county unemployment rate in the state. What looks promising is the trend of steadily increasing jobs in the mining sector, which have more than

doubled since 2006, no doubt contributing to the drop in the unemployment rate from a high of 13.5 percent in January 2010.

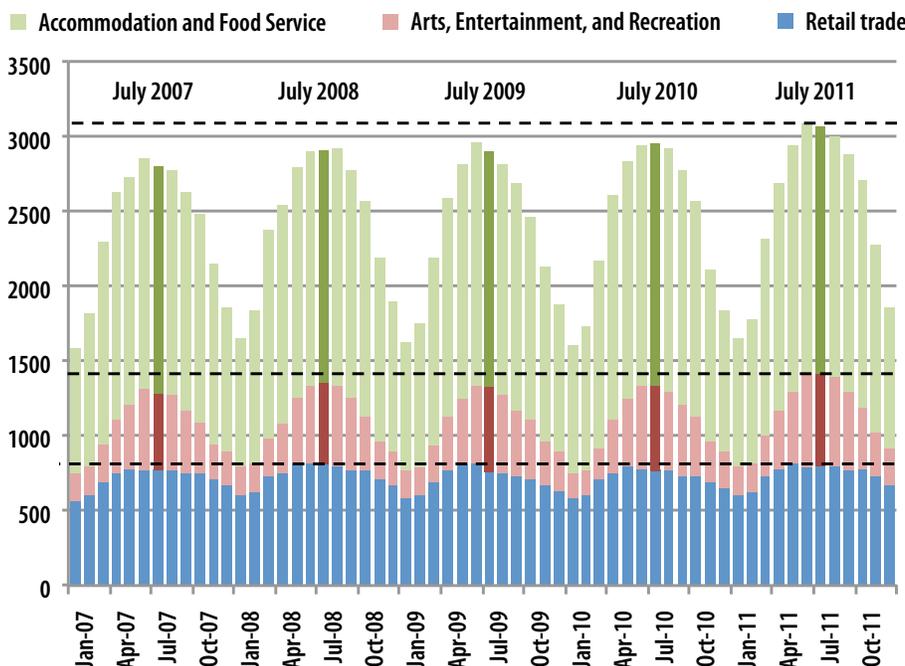
Grand County

Unemployment in Grand County is currently at 8.5 percent, higher than both state and national rates. This is, however, a vast improvement from the period between mid-2009 to about mid-2011 when unemployment rates were persistently above 10 percent. Grand County's unique labor economy can be studied by looking at two different employment categories: seasonal employment and year-round employment.

There are three main industries whose staffing patterns are very seasonal. The most important industry in terms of employment in Grand County is accomodation/food services. With the number of jobs at just above 800 during the slowest period (late winter), employment has typically peaked to around double that number in the active season (summer) and appears to be increasing as the county's economy grows over time, despite the most recent recession. This growth year-after-year can also be recognized in another of Grand County's seasonal industries: recreation. Because Grand County is an outdoor mecca, enthusiasts flock to Moab, Green River, Arches National Park and a host of other attractions during the spring, summer and fall months. Another industry that is tied to the seasonal transition is retail trade, which typically equips around 600 employees during the slowest month and provides up to around 800 when the county is most active (Graph 8).

Despite Grand County's seasonal economy, there are industries that maintain a relatively steady level of employment. These are industries like mining, construction, healthcare and public administration. Public administration is an important part of Grand County's economy, currently accounting for an average of around 400 jobs year-round, and only slightly

Graph 8: Grand County Jobs in Seasonal Industries, Stacked



Source: Utah Dept. of Workforce Services; U.S. Bureau of Labor Statistics.

fluctuates with the seasons compared to recreation and accomodation/food services. Healthcare in Grand County is gradually providing more jobs as time progresses. Mining job levels seem to be holding relatively stagnant, whereas the construction industry continues the slipping that began with the recession.

San Juan County

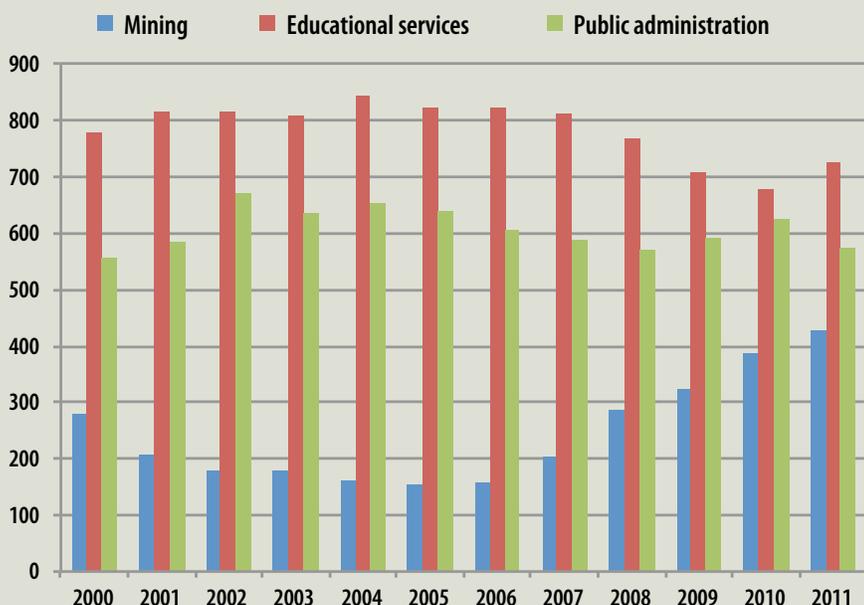
Unemployment, currently at a rate of 10.1 percent, is uncharacteristically high in San Juan County and has been since the beginning of the recession. While the unemployment rate has yet to dip below the 10 percent threshold, it has significantly dropped from its highest rate of 13.5 percent in January 2010. Compared with a state average of 17 percent public administration employment, more than 4 in 10 jobs in the county are derived from government entities (including education). Public administration has been on a downward trend since late 2010 when analyzed by year-over changes in jobs. Recent developments within the mining industry have increased job growth over the past six years (Graph 9), a welcome trend in San Juan County. ■

Southeast TOP JOBS in Demand



1. Maids and Housekeeping Cleaners
2. Hotel, Motel, and Resort Desk Clerks
3. Office Clerks, General
4. Truck Drivers, Heavy and Tractor-Trailer
5. Construction Laborers
6. Maintenance and Repair Workers, General
7. Registered Nurses
8. Combined Food Preparation and Serving Workers, Including Fast Food
9. Janitors and Cleaners, Except Maids and Housekeeping Cleaners
10. Tellers

Graph 9: San Juan County Education, Public Administration, and Mining Jobs



Source: Utah Dept. of Workforce Services; U.S. Bureau of Labor Statistics.



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Executive Director: Kristen Cox

Director, WRA: Rick Little

Supervising Economist: Carrie Mayne

Writers: Eric Martinson, MeLauni
 Jensen

Chief Editor: Kathy Hopkinson

Designers: Pat Swenson, Winston
 Inoway

Economic Analysis

Studies have shown that the world economy has been going through extraordinary changes in its organization, structure, integration and interdependency. Accelerating technological change has increased the intensity of business competition and economic development, forcing continual adjustments to a changing environment. Economies benefit from this technological change only when local chambers of commerce, government, businesses and others involved in economic development are able to accurately assess relevant economic factors to develop policies geared at boosting local economies in accordance with said technological advancements. With the power of economic information, policies are designed to maintain and help the local economy to grow, be more competitive in earnings and provide better job opportunities to give residents and employees a valuable tie to their community or business.

To gain a better understanding of an area and its economy, it is important to recognize current local and regional trends and conditions. Knowledge of the local economy typically comes from some sort of analysis. This kind of insight is part of the necessary preparation for an area to create an effective strategy in the decision-making process. Understanding what is happening in the area and why it is happening allows local chambers, government and businesses to make better choices. Every region in Utah has its own unique strengths and challenges and is typically different from any of the surrounding areas. Each area or business needs certain tools to answer necessary questions that will enable it to influence its job and income situation.

Workforce Research and Analysis (WRA), a division of the Utah Department of Workforce Services, understands the need for decision makers to have as much information as possible to improve the welfare of the resident population and promote opportunity. In an effort to strengthen the understanding of local economic areas, WRA uses the knowledge and experience of the department staff's economists. Years of education and experience working with labor statistics and local economic data give these economists the expertise to answer complex questions. WRA gathers data that include employment and payroll information through surveys and employer reporting, allowing the economists to shed light on how each area's economy is functioning. They are able to determine the strengths, weaknesses, trends and overall shape of the local economy and work to apply those ideas into indications about the future economy.

WRA produced this new quarterly publication focused on local economic analysis to provide relevant information for decision-making in the areas of regional planning, local economic development and policy design. Issues are available about the statewide economy and eight different sub-state areas: Bear River, Castle Country/Southeast, Central Utah, Mountainland, Southwest, Wasatch Front North, Wasatch Front South, and Uintah Basin. The statewide version will focus on items affecting the entire state of Utah, including job-training strategies, re-employment and labor exchange activities. All will provide the reader with an in-depth look at the economy. Each issue will also inform the reader of notable DWS policy changes and focus, explaining why it affects each area.

We hope you enjoy your experience with this publication.