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Oregon Labor Trends

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Turbine Techs Not the Only Job Blown in by the Wind

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Oregon's wind industry has grown rapidly in recent years, and the Beaver State now ranks fourth in the nation for existing wind power capacity according to the American Wind Energy Association. If the wind industry continues to expand, more Oregonians may begin looking for unique job opportunities in the sector. According to the Bureau of Labor Statistics (BLS), there are three distinct phases in the development of wind energy: manufacturing, project development, and operation and maintenance.

In This Issue

Table 1

Manufacturing Phase Occupation Wages, Oregon, 2010
(All Industries)

Occupation	Average Wage
Electrical Engineers	$92,289
Industrial Production Managers	$89,958
Mechanical Engineers	$78,996
Machinist	$42,770
Computer-Controlled Machine Tool Operators	$37,691
Welders, Cutters, Solderers, and Brazers	$37,105
Quality Control Inspectors	$35,126

Phase 1: Manufacturing

Manufacturing wind turbines seems the most obvious product in this phase, but many other products are manufactured to support wind turbines. Original equipment manufacturers, or OEMs, produce wind turbines. The OEM industry consists of both national and multi-national corporations who work together to assemble these complex pieces of machinery. Besides simply manufacturing, OEMs research and develop new technology to make wind turbines more effective and competitive with other types of power generation.

Engineers must design new turbines precisely because testing giant wind turbines presents significant logistical challenges. These challenges arise when OEMs interpret the engineers' designs and translate them into functioning turbines.

Engineers design the three components of the wind turbines (blades, tower, and nacelle) separately. The OEMs construct the turbine blades out of fiberglass, which often extend greater than 100 feet. Towers are made of steel segments stacked on top of each other. The nacelle is the control tower of the wind turbine and holds the gears, generator, and other mechanical components. The nacelle allows the turbine to monitor changes in wind speed and direction and uses this information to best harness power from the wind.

Minimum qualifications for engineers doing this type of design work is a bachelor's degree in either mechanical or electrical engineering. Engineers are among the highest paid professionals typically employed in this phase of the wind development cycle as seen in Table 1.

Machinists use many different tools to produce precision metal and plastic pieces in numbers too small to be manufactured with automated machinery. They use their technical knowledge to review the engineer's blueprints to ensure pieces are matched properly. A strong mechanical background is necessary to succeed as a machinist. Computer-controlled machine tool operators run sophisticated machines to form and shape turbine components. Highly trained workers program the machines to cut new pieces according to engineers' schematics. A formal training program or apprenticeship may be required in addition to a background in mechanics to be successful in this occupation. Assemblers, who generally consist

of welders, cutters, solderers, and brazers, put the turbine components together into a larger product. Power tools are used to trim, shim, cut and make adjustments to align and properly fit components. Once aligned, components are connected with bolts and screws or are welded or soldered together. Quality-control inspectors verify that parts fit, move correctly and are properly lubricated. Inspectors record their results and submit regular reports.

Industrial production managers plan, direct, and coordinate the work on the factory floor. They determine what mix of machines, workers, and shifts are needed to ensure production is complete, accurate, and on schedule. Many industrial production managers have a college degree in business administration, management, industrial technology, or industrial engineering. Others work their way up, starting as production workers and then advancing to supervisory positions and eventually management.

Site selection requires years of research and planning.

Phase 2: Project Development

Building a wind farm starts with the complex process of site selection. Site selection requires years of research and planning. The site must have developable land, adequate wind, and suitable terrain. In addition, wind turbines must be deemed safe for local wildlife.

Public approval is also necessary, although wind farms are often built away from populated areas because of noise and safety concerns. Scientists, land acquisition specialists, asset managers, lawyers, financers, and engineers are needed to ensure the site is suitable for wind farm development.

Scientists are typically used as experts to ensure a site is suitable for a proposed wind farm. They conduct site visits, gather preliminary data, and conduct studies using computer models and other techniques. Scientists help ensure that the wind turbines will minimize impact on the surrounding environment and safely generate enough electricity to be profitable. Types of scientists performing these tasks include atmospheric scientists or meteorologists, wildlife biologists, geologists, and environmental scientists. A bachelor's degree may be sufficient for some entry-level positions, but typically a master's degree is preferred. A Ph.D. may be required for higher level positions conducting environmental impact and site suitability studies. Most scientists are certified or licensed by a state licensing board. Scientists are the highest paid workers in the project development phase (Table 2).

Property acquisition specialists design and implement land acquisition plans for new wind development sites. They work with landowners, local government, and community organizations to garner support for the proposed project. In addition, they work with lawyers, permitting specialists, engineers, and scientists to determine whether sites are suitable for wind farms, and they lead the process of obtaining the land.

Financial managers represent owners' interest in maximizing profits. They ensure the land is used efficiently by overseeing the wind farm's finances, budget, and contractual requirements.

Land acquisition specialists and asset managers need at least a bachelor's degree in business, real estate, law, engineering, or a related discipline. Companies will typically hire people with experience in land acquisition and management and train them to their specific needs.

Logisticians have to work extensively with the manufacturer and construction team to develop an optimized schedule for delivering turbine components to the worksite. They must take into account varied state regulations, mechanical limitations, and other issues to ensure the construction phase is successful. Logisticians have a bachelor's degree in a field such as engineering, business, or economics. Many do postgraduate work in logistics or supply chain management and receive on-the-job training to learn how these studies uniquely apply to the wind industry.

After the site is selected and construction begins, workers are needed to install the turbines and support structures. This requires the work of many skilled people, including construction workers, crane operators, wind turbine service technicians, and truck drivers.

Construction laborers work to prepare the site and build any necessary infrastructure before the wind farm construction begins. Many do not have any formal training and learn on the job. Wind farm construction typically accounts for a large number of jobs compared to other phases of wind development, but the construction jobs tend to be temporary.

Construction equipment operators and laborers build accessible roads to the sites. Crane operators lift the pieces of the turbine off the truck as they arrive, stack the tower, and place the blades. Operators are certified to operate

Table 2

Project Development Phase Occupation Wages, Oregon, 2010 (All Industries)

Occupation	Average Wage
Financial Managers	$106,681
Atmospheric Scientist	$78,393
Geologist	$75,009
Environmental Scientist	$64,638
Logisticians	$64,220
Wildlife Biologist	$63,643
Electrician	$61,985
Property, Real Estate Managers	$52,262
Construction Equipment Operator	$49,722
Construction Laborer	$34,071

their equipment and learn their skills through on-the-job training, and apprenticeships or union training.

Finally, electricians are needed to connect the energy from the turbine's generator to the power grid of the community. Electricians use a variety of tools such as conduit benders, wire strippers, and power tools while installing wiring. Most electricians participate in an apprenticeship program that combines on-the-job training with related classroom instruction. Apprenticeships usually last four years and include electrical theory, blueprint reading, electrical code requirements and soldering.

Phase 3: Operation and Maintenance

Wind turbines don't need regular human supervision to function. Instead, energy flows are observed locally or remotely and local wind turbine technicians are deployed if problems arise. These "wind techs" climb up and down the ladders inside the tower to reach the nacelle and blades. They perform routine checks, and do preventative maintenance. Wind techs must respond, diagnose, and fix any problems quickly to minimize losses to the energy company.

Because of the relative newness of the wind energy industry in the United States, there are many paths one can take to become a wind turbine technician. Mechanical skills and the aptitude to understand how a turbine functions are important. Many wind techs come from technician jobs in other industries. Electrician training and experience has also proved helpful. Community colleges in Oregon are beginning to offer training in renewable energy technology. Leading the way is the Columbia Gorge Community College with its nationally recognized program for wind technicians.

The Employment Department hopes to begin providing wage data for wind turbine technicians and other emerging occupations by 2013. It's estimated that the average annual wage range is between $35,000 and $40,000 for wind turbine technicians.

There is no doubt that expansion of the wind industry in Oregon in recent years has led to many new career opportunities. With wind power giant Vestas recently deciding to locate its North American headquarters in Portland, statewide discussion about jobs in the wind industry has increased markedly. Many other companies and local producers have begun to show that they too will play an important role in the sector's development. As Oregonians look for career opportunities in the wind industry, it will be important to remember that the sector employs many types of workers. ■

Unemployment Rates and Job Growth in Oregon's Metro Areas

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- Unemployment rates in U.S. metros ranged from 2.8 percent to 30.4 percent in September. Oregon metros continued to see relatively high unemployment. Corvallis ranked 61st nationwide, but the state's other five metros ranked among the highest one-third of all 372 metro areas.
- In September, 182 metro areas nationwide saw a significant decline in unemployment rates over the previous year. Three of Oregon's metros saw an over-the-year improvement. Eugene posted the largest drop, 1.1 percentage points. Jobless rates were essentially unchanged over the year in Bend, Medford, and Salem.
- Eugene was the only Oregon metro area with job growth over the year (0.2%). Bend experienced the highest rate of job contraction for state metro areas (-3.6%), while the smallest of the metro declines occurred in Medford (-0.4%).

September 2010

	Unemployment Rate*	Over-the-Year Job Growth*
Oregon	**9.9%**	**-0.3%**
Corvallis	6.7%	-1.9%
Salem	9.6%	-2.3%
Portland	9.8%	-1.1%
Eugene	10.1%	0.2%
Medford	11.4%	-0.4%
Bend	13.1%	-3.6%

*Source data not seasonally adjusted

'Tis the Season for Seasonally Adjusted Data

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Did you know that there are two unemployment rates for Oregon? And two monthly employment estimates? Both the unemployment rate and the monthly nonfarm employment estimates are reported in an unadjusted series and a seasonally adjusted series.

Unless you are using annual average data, which does not have a seasonal component, it is very helpful to know which series you are looking at and when it is appropriate to use each series.

Seasonal Adjustment Reveal Economic Trends

Seasonal events such as weather changes and holidays can influence economic activity and create fluctuations in economic data that are measured monthly or quarterly. These seasonal events are a given in the economy and usually are not a cause of concern, but they sometimes mask the underlying trends in the economy.

The monthly unemployment rate is a classic example of a time series that is influenced by seasonal events. Over the course of each calendar year, the unemployment rate fluctuates with the seasons. Unemployment is generally higher in winter months and lower in summer months. The annual high and low tendencies in the unemployment rate are the seasonal patterns. By seasonally adjusting data, we can look beyond the seasonal patterns to see changes in the economy.

Seasonal events such as weather changes and holidays can influence economic activity.

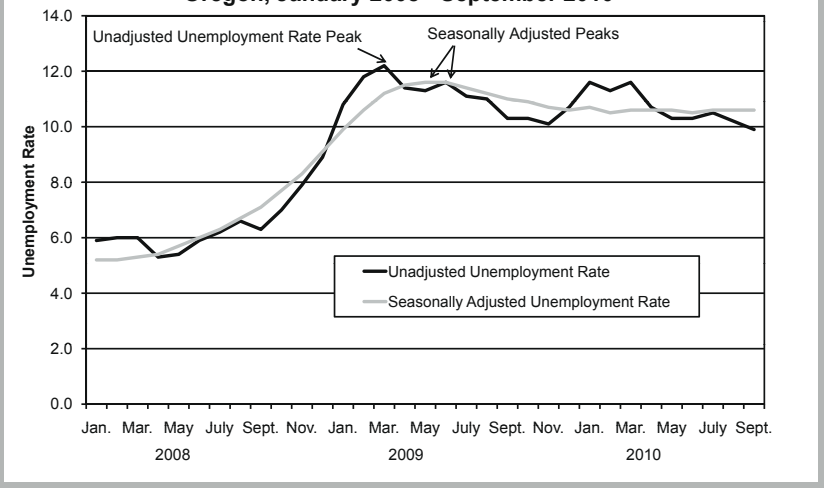
The seasonal fluctuations are seen in Oregon's unemployment rate, which increases each year in January and February due to the end of most seasonal retail jobs and various weather-limited jobs. The unemployment rate declines from March to May as the weather gets warmer and drier and employers hire for outdoor and tourism-related jobs. A slight increase occurs in June when students enter the labor force to look for summer jobs. After June, the unemployment rate declines through October, before increasing again slightly in November and December. This January-through-December cycle repeats itself to a similar degree each year.

Graph 1 shows the unemployment rate since January 2008. The unadjusted unemployment rate peaked in March 2009, but it's normal for Oregon to have a high unemployment rate every March. The unemployment rate then fell sharply in April 2009. By looking only at the unadjusted unemployment rate, we would not know if the drop was because the economy had improved since March, or simply because the unemployment rate always falls in April. By looking at the seasonally adjusted series, we can see that the economy actually got worse in April, and even worse in May and June! The seasonally adjusted unemployment rate series removes the seasonal pattern from the series and allows us to compare the economy across months.

As a general rule, a seasonally adjusted series should be used to compare month-to-month or quarter-to-quarter trends in data. However, non-seasonally adjusted data often better describes the real-life situation at that point in time. For instance, the 12.2 percent unemployment rate in March 2009 represented the share of actual people who couldn't find jobs. The seasonally adjusted rate of 11.2 percent represents how the 12.2 percent rate compared to other months, but the 11.2 percent rate does not represent an actual share of people.

The non-seasonally adjusted unemployment rate for a particular month can be compared to the same month

Graph 1



of the prior year to get an idea about economic trends. For instance, the 12.2 percent unemployment rate in March 2009 was more than twice as high as in March 2008. This year-to-year comparison comes in handy when a seasonally adjusted series is not available.

Technical Details (Not for the Faint of Heart!)

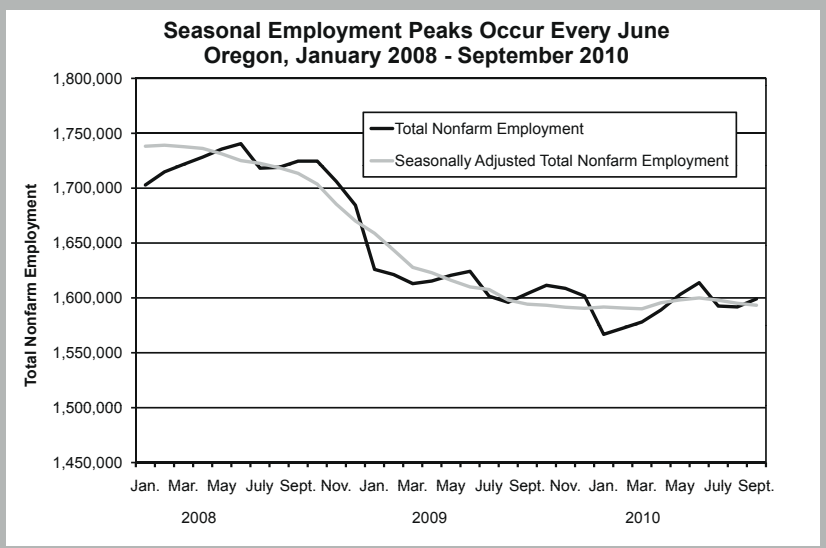
Time series data, or data that occurs in a sequence of regular time periods like the monthly employment estimates, can be seasonally adjusted by a number of techniques, from using basic math operations to very sophisticated statistical methods requiring specialized software. The techniques used to seasonally adjust data typically involve moving averages or time series models.

There are three important conditions needed for a seasonal adjustment process to be appropriate and successful:

1) The original series must have a seasonal component.
2) The seasonal component must not change much between years.
3) The seasonally adjusted series must not contain any remaining seasonality.

Seasonal adjustment software will run a number of tests to determine whether these conditions are met. There are several versions of seasonal adjustment software. Most use moving averages or time series econometric models to separate the time series into a trend-cycle component, a seasonal component, and an irregular component. The trend-cycle component is the underlying tendency of the series and it tracks changes in the series associated with the business cycle. The seasonal component accounts for seasonal fluctuations in the series. The irregular component is what remains after the trend-cycle and seasonal components are identified and includes usual events, such as economic or weather-related events, that are not seasonal or part of the trend. Once these components are estimated by the seasonal adjustment procedure, the seasonal component is removed from the original series, leaving just the trend-cycle and irregular components of the series.

Graph 2



The X-12-ARIMA program is probably the most widely used seasonal adjustment software. It was developed by the U.S. Census Bureau, and the Oregon Employment Department uses it to seasonally adjust county unemployment rates. It is also used by the Bureau of Labor Statistics to adjust the monthly nonfarm employment estimates. Although ARIMA (Auto-Regressive Integrated Moving Average) models are part of the process, the X-12-ARIMA program is primarily a moving average based approach.

The SEATS (Signal Extraction in ARIMA Time-Series) program developed at the Bank of Spain is a model-based seasonal adjustment program. The SEATS program is often used for seasonally adjusting unemployment rates of metropolitan areas. Another model-based program is the signal-plus-noise method, which is used to seasonally adjust statewide unemployment rates.

Seasonally Adjusted Employment Series

The Bureau of Labor Statistics (BLS) uses X-12-ARIMA to adjust the industry employment series from the monthly Current Employment Statistics survey. As part of the process, they have to make additional adjustments for the number of weeks in a month (4 or 5 weeks), the number of working days in a pay period, and holidays that do not occur at the same time each year.

Nonfarm employment typically reaches a seasonal peak every June (Graph 2). Without seasonally adjusted data, it would be hard know whether an increase in employment during the first six months of the year represents economic growth or just normal seasonal patterns. For instance, between January 2010 and June 2010, Oregon added 47,100 jobs, which appears like strong economic growth. However, the seasonally adjusted series reveals that most of those jobs were the result of normal seasonal hiring. About 8,300 jobs were actually added above the normal hiring through June.

Smoothed Seasonal Adjustment for Unemployment Rates

The smoothed seasonal adjustment process creates a more consistent estimation of the trend line in the unemployment rate series. The seasonal adjustment process can sometimes create a series that is volatile for non-economic reasons. Month-to-month changes in seasonally adjusted data can still be confusing because irregular fluctuations in data caused by the process can move counter to the true changes in the trend line. These fluctuations in the seasonally adjusted

series can contain frequent changes in direction that can be misinterpreted as turning points in the business cycle.

The smoothed seasonally adjusted procedure creates a series that is smoother in appearance, allowing for better information about the direction of the trend line. Although the entire process is called "smoothed seasonal adjustment" by the statisticians who create the series, the resulting series is still referred to as simply "seasonally adjusted."

Oregon's statewide unemployment rate is seasonally adjusted by a signal-plus-noise model designed by the Bureau of Labor Statistics (BLS) and is then smoothed by something called the Henderson Trend Filter. First, the signal-plus-noise model breaks the unemployment data over time into two parts, the true levels of unemployment and the survey error from the Current Population Survey (CPS). The "signal" part of the model separates the trend, seasonal, and irregular components, as discussed earlier. The "noise" part of the model removes the sample error patterns seen in the CPS data, creating the seasonally adjusted series.

Next, the Henderson Trend Filter is applied to the seasonally adjusted series. The procedure uses weighted moving averages to create a smoother trend line in the unemployment rate series by removing irregular fluctuations. The process reduces the non-economic volatility within the seasonally adjusted series. Each month's data in the historical series uses the moving average of the prior six months and the following six months to filter and smooth the month's unemployment rate. For unemployment rates within the current year, the moving average of the current month's rate and the prior six month rates is used to filter and smooth the unemployment rates.

Smoothed Data for Oregon

The smoothed seasonally adjusted unemployment rates are currently only available at the statewide level. The BLS plans to produce smooth seasonally adjusted unemployment rates for a few Oregon metropolitan statistical areas by early 2011. The first will be the Bend, Eugene-Springfield, Portland-Vancouver-Hillsboro, and Salem areas. The two remaining metro areas, Corvallis and Medford, will have smoothed seasonally adjusted unemployment rates available from the BLS sometime later.

The Oregon Employment Department will introduce smoothed seasonally adjusted data for Oregon counties and the metro areas without BLS series starting with the January 2011 data. As always, the non-adjusted unemployment rate series will continue to be produced and will not change because of the introduction of the new smoothed seasonally adjusted series. ■

Largest One-Month Employment Increase in Nearly Five Years

Oregon's seasonally adjusted unemployment rate was 10.5 percent in October, unchanged from the revised figure of 10.5 percent in September. The rate has been between 10.5 and 10.7 percent for the most recent 12 months. Oregon's unemployment rate was 10.9 percent in October 2009. In October, 196,237 Oregonians were unemployed. This was only the third month since January 2009 when fewer than 200,000 Oregonians were unemployed.

In October, Oregon's seasonally adjusted nonfarm payroll employment rose by 7,600, following a loss of 400 (as revised) in September. The October gain was the state's largest one-month increase since December 2005, when 8,700 jobs were added.

Private-sector employment has added jobs on a seasonally adjusted basis in four of the past five months. Since its recent low point of 1,290,300 in March, private payroll employment has gained 11,800 jobs, or 0.9 percent.

During recent months, several major industries have shown an upward trend in payroll employment. Since reaching a low point in December 2009, professional and business services has added 5,000 jobs on a seasonally adjusted basis. This is growth of 2.9 percent even though the industry lost 1,000 jobs in October.

Leisure and hospitality also recorded its low point in December 2009. It has grown by 3,700 jobs since then, equal to growth of 2.3 percent. Growth in this industry in recent months has been a seesaw pattern, as evidenced by the 1,100-job decline in October.

Two industries that reached their low point in the spring have rebounded strongly in recent months: since April, information added 2,300 jobs, or 6.9 percent. This industry includes publishing, motion pictures, broadcasting and telecommunications. Since June, other services has grown by 3,000 jobs, or 5.3 percent. This industry includes firms providing repair and maintenance, personal and laundry services, and membership associations and organizations.

Many of the other major industries have shown little overall growth or decline between October 2009 and October 2010, with the following showing a change of less than one percent in seasonally adjusted employment over that period: trade, transportation, and utilities; educational and health services; and government.

The two major industries not previously discussed are manufacturing and construction. Over the past 14 months, manufacturing has been relatively steady at slightly above 160,000 jobs on a seasonally adjusted basis. Employment was close to 163,000 in late 2009, but has since

dropped down to a low of 160,800 in October, its lowest level in more than 20 years.

Government added 20,100 jobs in October, when a typical gain for the month would be only 16,600. State education added 6,900 jobs, reaching a total of 31,500 for the first full-employment month of the new school year. State education is up 1,500 since October 2009 as record enrollment levels at most state universities have increased the demand for staff. Local government education also posted a large employment jump in October. Many local schools and community colleges reported unusually large employment increases for the month. Local education added 14,800 jobs in October. Despite the large over-the-month gain, budget cuts at many local school districts have left this industry 1,100 jobs below its October 2009 figure. ■

Times They are a Changin'

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A hundred years ago, there were no iPods, iPads, or iTouches. No PS3s or Wiis. No Smart Cars or hybrids. People spent hours or days traveling distances that take mere minutes today. William Taft was president, and the Titanic was in production.

Times have changed, and along with the times, jobs have changed. Even over the past couple of decades, life and work in America and around the world evolved. Some say we are living in an exponential era as the world around us quickly changes. Some frown and say it is all getting too complex, while others voice excitement. The world of work moves in perpetual motion. Many jobs that exist today weren't around even 10 years ago, and the same holds true for the next 10 years.

Looking forward, economists are often asked to predict future economic trends; what jobs will be in demand? Funny thing is, we don't know exactly what new jobs are just over the horizon, even in the not-so-distant future, because they simply don't exist yet. What we can talk about with certainty are the jobs that are commonplace today but didn't exist in the recent past. There are the more obvious jobs – those related to the Internet for example. Then there are the less obvious, such as green technician and asset liquidation specialist. What follows is a glimpse into some of those newer jobs to help us see just how the times they are a changin'.

The Internet spawned a whole new string of careers.

The Internet spawned a whole new string of careers, from social media strategists, who help companies interact with customers through social media, to user experience analysts, who make websites easier to use and more pleasant for customers. There are professional bloggers researching and writing blog posts as well as professional hackers paid to break into computer systems. Someone has to make sure our computers and electronic information are secure and safe!

Downloaded any apps lately? Someone invented them, others design new ones. What are apps without phones to use them on? Of course we need cell phone kiosk sales people to work in the cell phone kiosks in the mall. Think about it – those kiosks really haven't been around very long.

Do you have a pet? A doggy daycare may be coming to a street corner near you. And it needs workers to care for and play with dogs all day, a dream job for dog lovers. Today, in addition to interior designers, interior redesigners help brighten up homes by working with what people already have on hand. And then there is Homeland Security. A decade ago, there weren't homeland security jobs available.

First we had white and blue collar. Now, green collar jobs abound. In fact, there are numerous websites designed to help job seekers find green jobs. Green funeral directors help families discover more environmentally friendly options when it comes to funeral services. Green marketers promote green products and chief sustainability officers oversee green activities at their organizations. We can't forget energy. Wind turbine technicians didn't exist just a few years ago in Oregon. In fact, the one training program offered in Oregon accepted its first students in 2007.

How about becoming a distance learning coordinator. Someone has to coordinate all those online courses. You've heard of life guards, how about life coaches? They differ from counselors. From dictionary.com, a life coach is a person whose job is to improve the quality of his or her client's life, by offering advice on professional and personal matters, such as career, health, personal relationships, etc.

And if we go back a little further than a decade or two, there are baristas, satellite TV installers, video game developers, web site developers, ATM repairers, IT jobs, and on and on. It is exciting to think what might exist 20, 30, or 50 years from now.

Next time you ask your children what they want to be when they grow up, think about the thousands of jobs out there today for them to build their dreams on, and the thousands yet to be "invented" in the world of work.■

Share of Small Firms Steady During Recession

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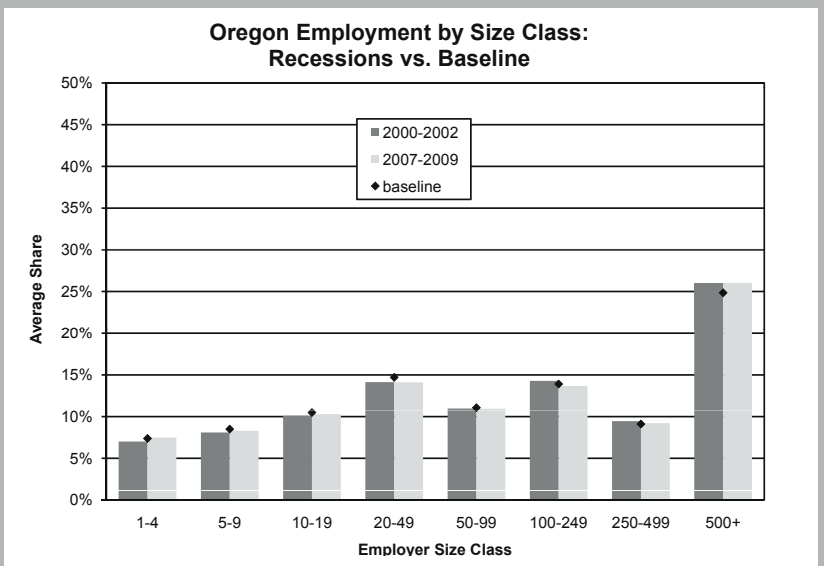
The share of employment and firms by size class hasn't changed much during the two most recent recessions, in either Oregon or the U.S.

The National Bureau of Economic Research (NBER) recently announced that the "Great Recession" is over, marking its end in June 2009. Although it is no consolation for struggling business owners and job seekers, the definition of the most recent recession and past recessions is useful in analyzing the economic impacts of the downturn. Comparing the most recent recession to the previous one in 2001 shows how businesses have fared in tough economic climates.

In Oregon, firms are defined as "a single business organization that may consist of one or more operating establishments." The size of a firm is the number of individuals employed by that business. Size class data can include the number of firms, employment, and payroll, and is taken from the Quarterly Census of Employment & Wages (QCEW) program. QCEW relies upon employment and wage information collected from quarterly tax reports filed under Oregon's unemployment insurance program. The data used in this article are taken from employment reported in March of each year and exclude a size class of zero, meaning no employment was recorded in that month.

Graph 1



Graph 2

Timing of Recent Recessions: Oregon vs. U.S.

To determine whether recent recessions have had an impact on the size of firms, it is important to have a baseline understanding of the overall distribution of firms among classes during recessionary as well as non-recessionary periods. According to NBER, the two most recent recessions are defined as beginning in March 2001(first quarter) and extending through November 2001 (fourth quarter); and beginning in December 2007(fourth quarter) and extending through June 2009 (second quarter).

Oregon firm size reports are released on an annual basis after the first quarter, so the best approximation of these recessions are first quarter 2000 to first quarter 2002 and first quarter 2007 to first quarter 2009, respectively. Based on NBER recession definitions, as well as the availability of similar national data, the first quarter of 1993 through the first quarter of 1999 and the first quarter of 2003 through the first quarter of 2006 may serve as a useful baseline for comparison to data from the most recent periods of recession.

Comparison of Employment by Size Class

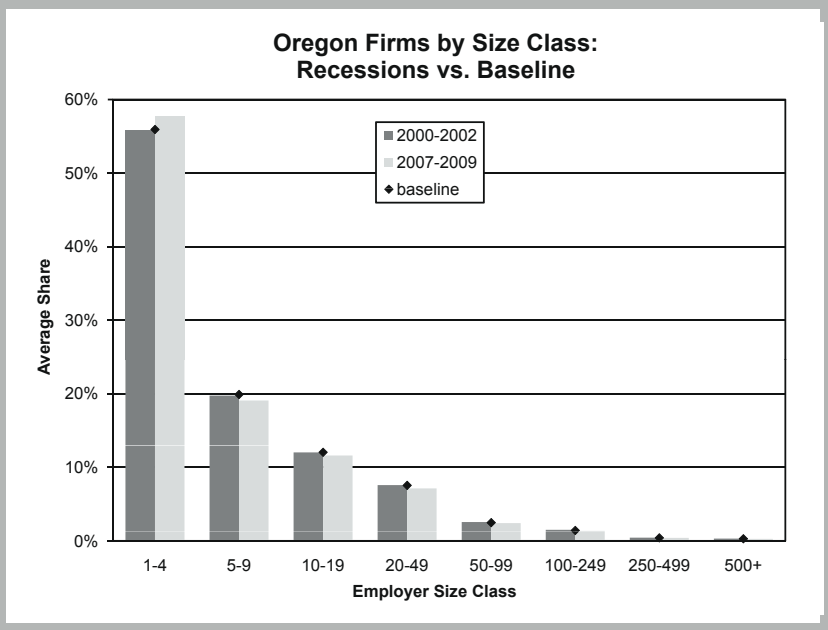
Employment by size class is a good indicator of underlying business dynamics, and reveals how employment levels are impacted by the business cycle.

The biggest difference between the U.S. and Oregon is the share of employment in the largest size class. The U.S. has nearly double Oregon's share of employment in firms employing 500 or more workers during the specified time periods.

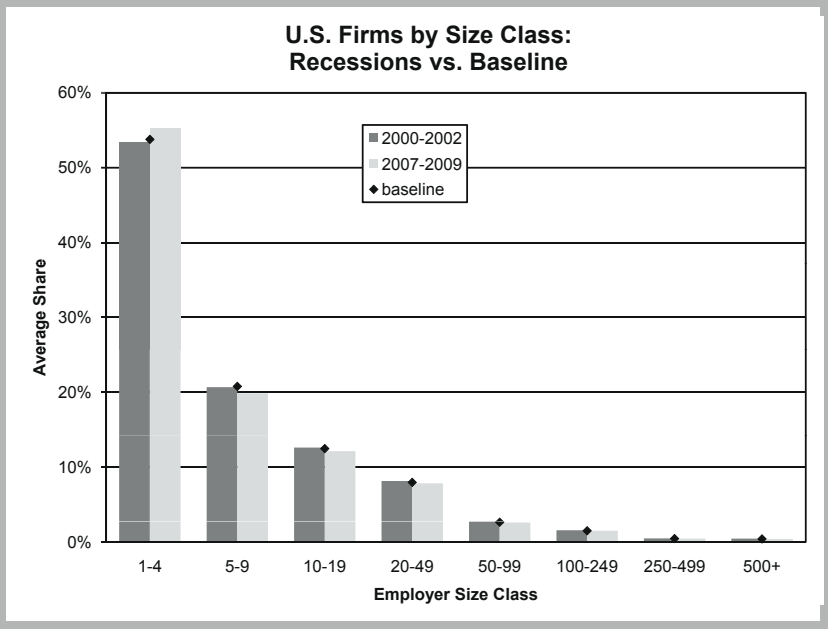
As illustrated in Graph 1, the proportion of employment within each size class in Oregon remained consistent through both recessionary and non-recessionary periods. In comparison to the baseline period, most size classes had a slightly lower average share. The largest size class, however, had a share during each recession that was slightly higher than the baseline period.

Graph 2 depicts a similar pattern of distribution over time at the national level, as employment among size classes has seen little change between the baseline and the two most recent recessions.

Graph 3



Graph 4



Comparison of Number of Firms by Size Class

The number of private firms in each size category over time, and particularly during economic downturns, can help to gauge how recessionary impacts may differ depending on the size of the firm. Graph 3 shows that about 56 percent of firms in Oregon employed between one and four workers in the baseline period. During the 2009 recession in Oregon, the share of firms in the smallest size class was 1.9 percentage points higher than during the 2001 recession, and 1.8 percentage points higher than during the baseline period.

The U.S. had a very similar distribution for the smallest size class, with a share that was 1.8 and 1.4 percentage points above the 2001 recession and baseline period, respectively.

Conclusions

The data show that the distribution of firms among size classes, both in terms of employment and number of firms, remained fairly consistent over time at the statewide and national levels. Similar trends emerged within Oregon and the U.S. The largest and smallest size classes seem to have been most impacted by the recessions. The share of employment in the largest firm size class during the recessions was slightly higher than in the baseline period, perhaps due to layoffs in smaller size classes.

The share of the number of firms during the most recent recession was slightly higher than the 2001 recession and the baseline period for the smallest size class, as many firms of every size likely cut staff and moved into lower classes. Small to medium-sized

Continued from page 9

businesses are often hardest-hit during economic downturns, but the historic severity of the 2007 to 2009 downturn seems to have impacted all size classes.

Although there were some small impacts on the largest and smallest size classes, overall, the data for the 2000 to 2002 and 2007 to 2009 recessions were not significantly different than the non-recession baseline period, revealing that the recent economic downturns had little effect on the overall distribution of size classes here in Oregon and nationwide.

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OregonEmployment.blogspot.com

Brought to you by staffers Brooke Jackson and Gail Krumenaeur, the blog provides information about employment at the national, state, and local levels. Check us out and feel free to post your comments!

American Community Survey – December 2010

Each year, the U.S. Census Bureau releases detailed demographic data collected through the American Community Survey (ACS) to provide information about the nation's population in between each decennial Census. The recently-released 2009 ACS data offer a detailed view of Oregonians at work and home.

Oregonians at Work

54 percent
The share of Oregonians between ages 25 and 64, generally prime workforce participation ages.

56 percent
Oregonians who are covered by employer-provided health insurance.

3 in 5
Women between the ages of 16 and 50 who are in the state's labor force within 12 months of giving birth.

86 percent vs. 94 percent
Rate of employment for Oregon's high school graduates ages 25 to 64 in the labor force, and their counterparts with a bachelor's or advanced degree.

To and From the Workplace

1 in 2
Oregon workers with a travel time to work of less than 20 minutes.

6 percent
The share of Oregonians telecommuting – working for their company from their own home.

175,436
The number of Oregon workers walking, biking, or using public transportation to get to their job.

Off the Clock

46 percent
The share of those living in Oregon who were born in the state. Nationally, 59 percent of people live in the state where they were born.

$48,457
The median household income in Oregon, compared to $50,221 for the U.S.

9 percent
Oregon's vacancy rate in housing units statewide. The national rate is 13 percent.

38.0 years
The median age of all Oregonians, compared to 36.8 years nationwide.

89 percent
The portion of Oregon's population 25 and over with a high school diploma or college degree, compared to 85 percent for the U.S. ■

The Morning Commute for Oregon Workers

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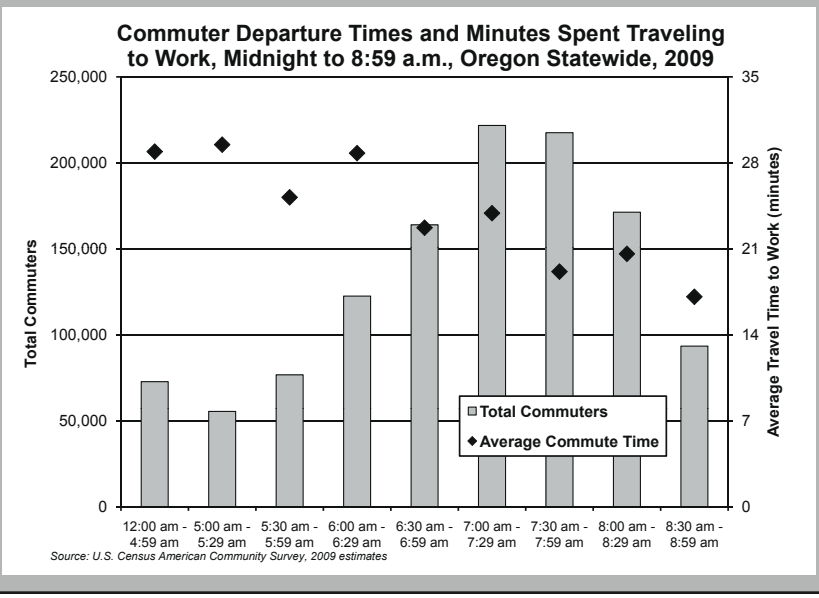
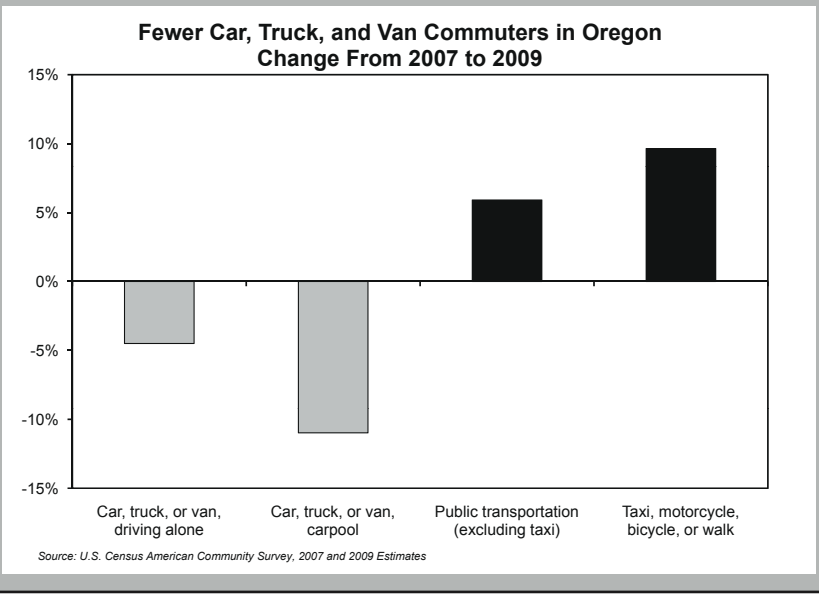
Oregon workers spent a combined total of 35.2 million minutes traveling to their jobs in 2009. That's down from 36.8 million minutes spent on the one-way trip to work in 2007. As employment levels dropped off from their peak in 2007, the Census Bureau's American Community Survey numbers show a corresponding drop (-65,000) in the total number of workers commuting in Oregon between 2007 and 2009. The reduction in work travelers and aggregate time commuting generally hasn't translated to a drop in travel time per commuter; the average minutes each Oregonian spent en route to work remained stable from 2007 to 2009. The only notable change in the post-recession commuter experience has been the mode of transportation used to get to work.

Graph 1



Graph 2



Earlier Departure, Longer Commute

In 2009, three-fourths of Oregon workers departed from home between midnight and 8:59 a.m. Within this commuter group, the largest share (18.5%) began their journey to work between 7:00 a.m. and 7:29 a.m. (Graph 1). The second most popular departure time for workers was between 7:30 a.m. and 7:59 a.m. (18.2%). Although they constitute over one third of morning work travelers, these two commuter groups did not experience the longest daily travel time. Oregonians departing for work between 7:30 a.m. and 7:59 a.m. actually experienced the second shortest average commute time, 19.1 minutes. Workers leaving later – between 8:30 a.m. and 8:59 a.m. – had the shortest travel time to work (17.1 minutes), while the early risers who began their commute between 5:00 a.m. and 5:29 a.m. traveled for the longest time on average (28.9 minutes).

Both the departure time and minutes spent traveling to work could be due to the distance traveled, the mode of transportation used, or the traffic congestion at the location within the state for the commuter group. Unfortunately, the Census survey does not provide insight for the reasons behind departure times or minutes spent traveling.

Fewer Workers, Same Commuting Time

Despite the drop from 2007 to 2009 in the number of commuters, departure times and minutes spent traveling during the morning commute remained consistent. The share of morning commuters leaving home between 7:00 a.m. and 7:59 a.m. (37.7%) were the most prevalent statewide in 2007, as they were in 2009 (36.7%). Individually, all morning commuter groups departing between midnight and 8:59 a.m. saw a change of less than 1 percentage point in their share of total daily commuters.

Since the overall decline in morning commuters totaled just 5 percent

between 2007 and 2009, and the share of workers commuting in each time category stayed generally steady, it's not surprising that Oregon workers saw little difference in the minutes they spent traveling on the morning commute. The only significant change in minutes spent commuting occurred in the early and late morning time periods. Oregonians who began their journey to work between midnight and 4:59 a.m. saw a decline of 1.6 minutes on average; travelers leaving home between 5:00 a.m. and 5:29 a.m. saw an average increase of 1.3 minutes, and those departing between 8:00 a.m. and 8:29 a.m. faced 1.1 additional minutes traveling.

Same Old Ride?

For those driving to work, there also seems to be little change in the vehicle used to get there. Oregon law requires that all brand new passenger vehicles and motorcycles receive an initial four-year registration when issuing license plates. Between 2007 and 2009, Oregon Department of Transportation numbers show a 44.3 percent decline in issuance among these new vehicles. Overall passenger car plate issuance declined by 26.1 percent, and plates issued for all motorcycles dropped by 23.0 percent.

Some commuters are mixing up their morning route. The modes of transportation workers used shifted noticeably between 2007 and 2009. Carpooling by car, truck, or van declined by 11.0 percent, and driving alone dropped off by 4.5 percent (Graph 2). At the same time, alternative forms of transportation were on the rise. The share of Oregonians who commuted to work by taxi, motorcycle, bike, or on foot increased by 9.6 percent. The share of commuters who used public transportation also rose (5.9%).

Why No Noticeable Shift?

The reasons why the morning commute was essentially unchanged despite the drop in commuters remains elusive. The trend might be explained in part by the distribution of worker departure times. The bulk of commuter declines occurred in the 6:00 a.m. to 7:59 a.m. departure times. Since these are already the heaviest traffic periods, the decline has less impact. Other potential reasons could include the shift times associated with industries where jobs were lost, or workers who may have accepted positions that required greater travel times. In addition, workers who shifted from using a personal vehicle to public transportation could potentially experience an increase in their travel time. ■

Oregon at Work: World War II

This is the eighth in a series of excerpts from the book Oregon at Work: 1859-2009, co-authored by Employment Department communications manager Tom Fuller and former state employment economist Art Ayre.

The year 1941 marked a distinct change for work in Oregon. The United States was thrust into World War II, and the transition from peace to war had a profound effect on the workplace. That year many Oregon workers enlisted in the military to serve in World War II…

The war created a severe need for shipyard workers as many young men left their stateside jobs for positions in the military. Advertisements everywhere proclaimed "We Need You" in the shipyards.

Kaiser Shipyards – which operated in the Portland-Vancouver yards – recruited workers from across the country. They needed skilled workers. During the war nearly two hundred thousand people moved to Oregon seeking stable work in beautiful surroundings…

During the war years, the number of jobs related to the war effort – including shipyard jobs – increased significantly, as did the length of the average workweek for individual workers doing those jobs. The U.S. government saw both the opportunity and the need to recruit women to meet the demand for workers. With rising prices and the rationing of food and other necessities, many women also needed the money to help their families – it wasn't just patriotism that drove them to the shipyards.

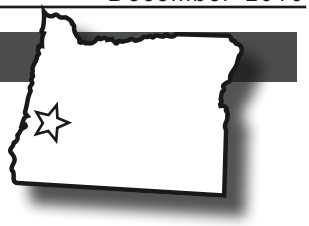
Women of all ages – from their late teens to their fifties – worked in the shipyards. At one point in 1944, there were forty thousand women on the job at Portland-Vancouver, nearly one-third of the area's shipyard workers. Many worked as welders, while others worked as electricians, painters, crane operators, or machinists. Typical wages were $1.20 per hour for both women and men, a good wage at the time.

Work was done on all shifts, around the clock. Much of the work involved welding, grinding, and polishing. It was noisy, dirty work. At the end of a shift, the workers often had rust all over their clothes and in their hair. Getting on the bus afterward could be embarrassing. And yet they found some of the work, such as welding, very satisfying, and even artistically beautiful. They also found a sense of pride in having helped produce the ships…

Women worked seven days a week for twenty or thirty weeks at a time. Working at the shipyards and still being responsible for the traditional duties of a wife and mother was a difficult task for many. Kaiser Shipyards added a food service that made it more convenient to buy and bring home ready-made dinners. Kaiser also built two twenty-four-hour child-care facilities toward the end of the war.

Read more stories about the history of work in Oregon in Oregon at Work: 1859-2009, available for purchase online and at local bookstores. Find out more: www.OregonAtWork.org. ■

LOCAL HIGHLIGHTS:



Douglas County Employment Growth Stuck in Neutral

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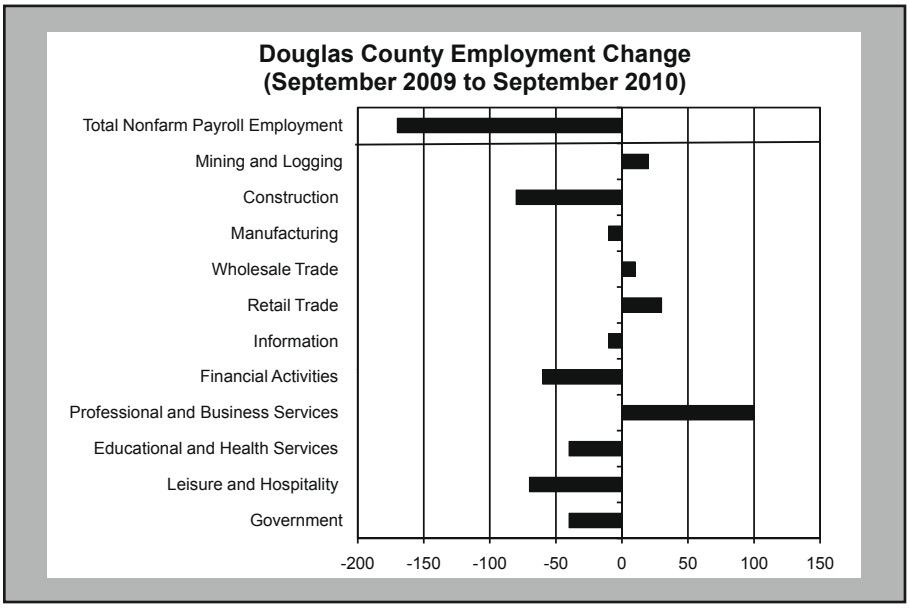
After hopeful signs of recovery from the nation's "Great Recession" this spring, Douglas County's employment growth stalled. While most industries grew earlier this year, some have faltered recently, causing employment and unemployment to approach levels seen toward the end of the last recession.



Douglas County's seasonally adjusted payroll employment hit its most recent low point in October 2009 at 34,300. After slowly trending upwards last winter and into the spring, it has varied between 34,900 in July of 2010 and 34,380 in September of 2010, losing most of the post-recession gains.

Correspondingly, Douglas County's seasonally adjusted unemployment rate rose from 12.8 percent in February to 15.4 percent in September, which nears the county's peak unemployment rate in September 2009 (15.6%).

September 2010 total payroll employment is down 170 over the previous year. Some of the industries with the largest losses are construction (-80), from a lack of residential construction; financial activities (-60); private education and health services (-40); and leisure and hospitality (-70), largely due to losses at restaurants.

Although manufacturing has lost only 10 jobs over the year and wood products rose by 60, the industry gave up some of the gains made earlier this year due to declining lumber prices. Wood products dropped 50 from its recent peak of 3,040 in July.

Government is down 40 over the last year, largely due to losses in local government, excluding education. Tribal local government added 30 over the year. Temporary Census workers boosted employment in federal government this spring, but those jobs have ended, leaving it at year-ago levels.

Retail trade and professional and business services are the two recent bright spots in Douglas County. Retail trade is up by 50 over the year, helped by a new Costco store that published reports say employs 150. Professional and business services had a gain of 100 largely due to temporary firms.

For more information on specific regions, visit www.QualityInfo.org, then choose an area on the map in the upper right-hand corner. ■

Manufacturing Workweek Solid in Portland

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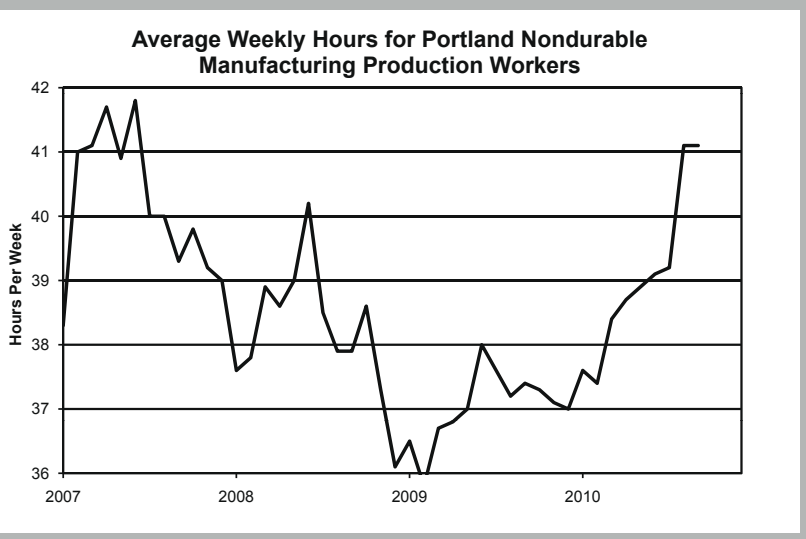
In September the manufacturing workweek appeared to be at robust levels. Data from the Current Employment Statistics survey show strength in the Portland metro area and at the statewide level.

In the Portland MSA, nondurable goods manufacturing looks particularly solid, at 41.1 hours per week for both August and September. The last time weekly hours were so high was back in June 2007, when the average workweek in the industry was 41.8 hours. Nondurable goods jobs in the Portland MSA are comprised of 9,300 jobs in food manufacturing, 3,600 in paper manufacturing, and 14,200 in other nondurable goods such as printing and plastics.

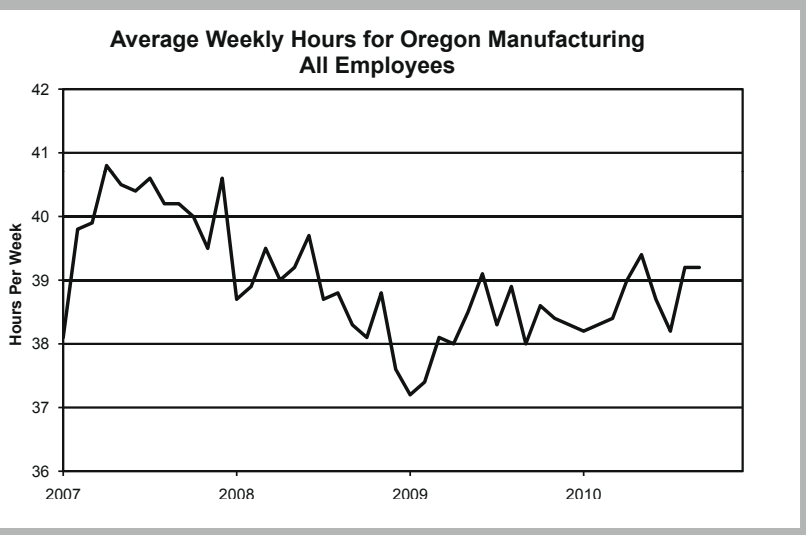
Within the Oregon counties of the Portland MSA, food manufacturing grew strongly recently. As tracked by workers covered by Unemployment Insurance (UI), this industry employed 8,062 in June 2009 and rose to 8,503 in June 2010, the latest month available. UI-covered wages for the Portland industry are also up: from $75.3 million in the second quarter of 2009 to $80.3 million in the second quarter of 2010.

For manufacturing at the statewide level there are two measures of the workweek, both of which show gains over the year. The all-employee average weekly hours rose from 38.0 in September 2009 to 39.2 in September 2010. Meanwhile, the production worker average weekly hours rose from 37.8 to 39.2 over the same period. This puts the manufacturing workweek well above the figures seen during the bottom of the economic cycle, but still below the boom times of 2007, during which the all-employee manufacturing workweek was 40.2 hours in September 2007. ■

Graph 1



Graph 2



Oregon Current Labor Force and Industry Employment

Oregon Current Labor Force and Industry Employment

	October 2010	September 2010	October 2009	Change From September 2010	Change From October 2009
Labor Force Status					
Civilian labor force	1,985,932	1,978,235	1,946,120	7,697	39,812
Unemployed	196,237	194,565	200,945	1,672	-4,708
Unemployment rate	9.9	9.8	10.3	0.1	-0.4
Unemployment rate, seasonally adjusted	10.5	10.5	10.9	0.0	-0.4
Employed	1,789,695	1,783,670	1,745,175	6,025	44,520
Nonfarm Payroll Employment					
Total nonfarm payroll employment	1,620,500	1,600,400	1,611,500	20,100	9,000
Total private	1,316,200	1,316,200	1,308,200	0	8,000
Mining and logging	7,800	7,800	7,300	0	500
Construction	69,600	69,800	73,200	-200	-3,600
Manufacturing	163,400	164,300	165,700	-900	-2,300
Durable goods	112,400	113,700	114,700	-1,300	-2,300
Nondurable goods	51,000	50,600	51,000	400	0
Trade, transportation, and utilities	314,900	313,200	312,800	1,700	2,100
Wholesale trade	75,700	76,300	74,700	-600	1,000
Retail trade	186,000	183,400	184,400	2,600	1,600
Transportation, warehousing, and utilities	53,200	53,500	53,700	-300	-500
Information	35,400	35,200	32,500	200	2,900
Financial activities	93,200	93,300	95,600	-100	-2,400
Professional and business services	180,500	181,100	176,100	-600	4,400
Professional and technical services	71,000	70,400	68,300	600	2,700
Management of companies and enterprises	29,300	29,400	29,800	-100	-500
Administrative and waste services	80,200	81,300	78,000	-1,100	2,200
Educational and health services	227,100	221,500	226,400	5,600	700
Educational services	31,500	27,300	31,600	4,200	-100
Health care and social assistance	195,600	194,200	194,800	1,400	800
Leisure and hospitality	165,000	170,800	162,100	-5,800	2,900
Other services	59,300	59,200	56,500	100	2,800
Government	304,300	284,200	303,300	20,100	1,000
Federal government	29,900	30,800	30,300	-900	-400
State government	81,400	74,900	79,300	6,500	2,100
State education	31,500	24,600	30,000	6,900	1,500
Local government	193,000	178,500	193,700	14,500	-700
Local education	104,700	89,900	105,800	14,800	-1,100
Labor-management disputes	0	0	0	0	0

The most recent month is preliminary, the prior month is revised. Prepared in cooperation with the U.S. Department of Labor, Bureau of Labor Statistics.

Labor Force Status: Civilian labor force includes employed and unemployed individuals 16 years and older by place of residence. Employed includes nonfarm payroll employment, self-employed, unpaid family workers, domestics, agriculture and labor disputants. Unemployment rate is calculated by dividing unemployed by civilian labor force.

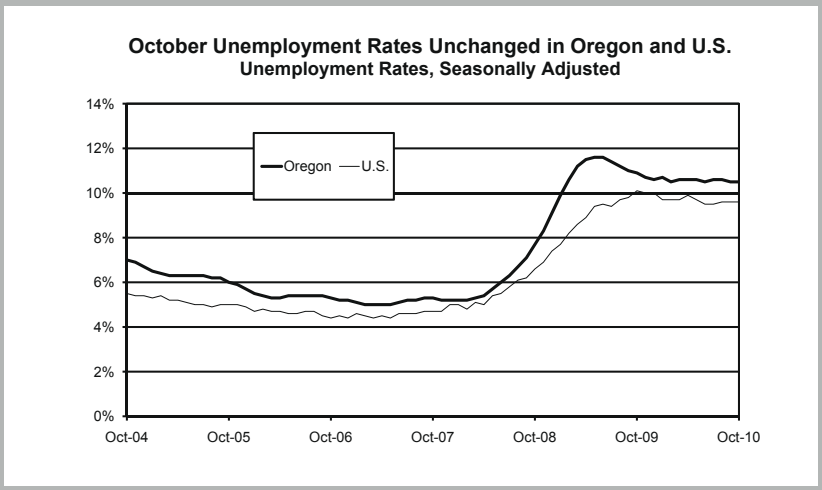
Nonfarm Payroll Employment: Data are by place of work and cover full- and part-time employees who worked or received pay for the pay period that includes the 12th of the month. The data exclude the self-employed, volunteers, unpaid family workers, and domestics.

Cautionary Note to Users: Starting in December 2009, revised estimation procedures mandated by the U.S. Bureau of Labor Statistics may result in unusually large or volatile month-to-month employment changes. These survey-based estimates are revised annually, based on more complete information from quarterly employer tax records.

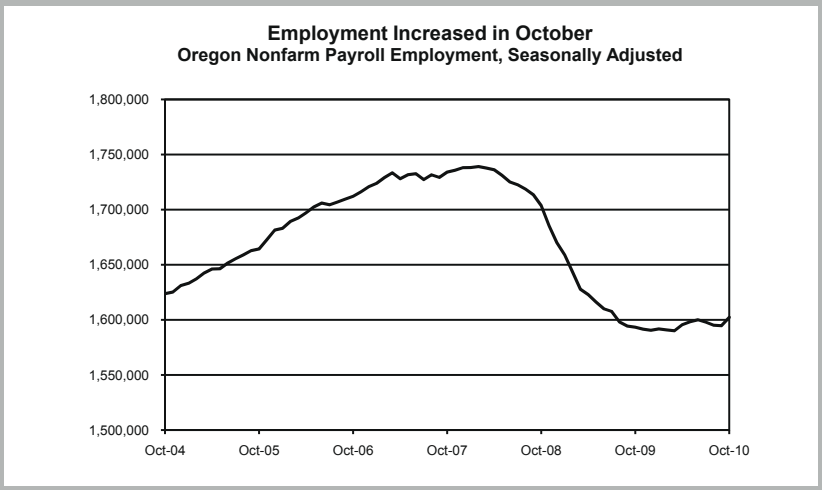
GREEN JOBS?

Interested in finding out more about Oregon's green jobs? Check out *www.QualityInfo.org/Green* for the latest information related to green jobs from the Oregon Employment Department.

Unemployment Rates



Total Nonfarm Payroll Employment



Indicators

Unemployment Rate
(Seasonally adjusted)

	Oregon	U.S.
Oct. 2010	10.5	9.6
Sept. 2010	10.5	9.6
Oct. 2009	10.9	10.1

Seasonally Adjusted Employment
(Total Nonfarm Payroll Jobs)

	Oregon	U.S.
Oct. 2010	1,602,300	130,462,000
Sept. 2010	1,594,700	130,311,000
Oct. 2009	1,593,300	129,633,000
Change From Oct. 2009	9,000	829,000
% Change	0.6%	0.6%

Consumer Price Index (CPI)
(All urban consumers, 1982-84=100)

Port.-Salem, OR-WA	Index	Yearly Change
Jan.-June 2010	217.508	1.6%
Annual Average 2009	215.647	0.1%
United States		
Oct. 2010	218.711	1.2%
Annual Average 2009	214.537	-0.4%

OREGON LABOR TRENDS

Oregon Labor Trends is published by the Workforce & Economic Research Division of the Oregon Employment Department. *Oregon Labor Trends* can be found under "Publications" on OED's labor market information Web site, www.QualityInfo.org.

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