Oregon Economy

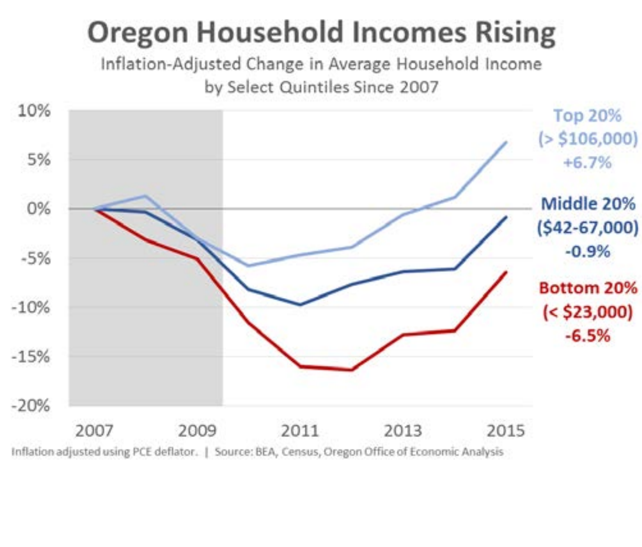
The economic slowdown has reached Oregon. Job growth in recent months has decelerated somewhat from the full-throttle rates seen in the past couple of years. Oregon continues to outpace the nation and the expansion endures. However, the state today is now past its peak in terms of growth rates. Like in other states, goods-producing industries are weakening. Oregon's manufacturers have cut jobs in recent months. Growth in retail trade has decelerated as well. Most other sectors are adding jobs at similar rates to the recent past, which is good news.

Our office's economic outlook has called for this slowdown to occur as the state economy approached and reached full employment. The 5,000 job gains per month in recent years were unsustainable over an extended period of time. Those represented peak growth rates. Such gains were needed and welcomed as the economy dug itself out of the Great Recession-induced hole. However, as unemployment has returned to normal and the share of Oregonians working part-time but want a full-time job also returns to mid-2000s rates, job growth was expected to slow in the near future. Further impacting the outlook was the strong U.S. dollar weighing on export-oriented industries like manufacturing.

The one remaining weak spot is the labor force participation rate, or the share of Oregonians with a job or looking for work. The stronger economy has pulled more individuals back into the labor market in search of the more-plentiful and better-paying jobs. However, even as participation has risen since late 2014, it remains lower today than can be explained solely by the aging Baby Boomers entering their retirement years.

As such, our office's previous forecasts called for continued economic growth, although beginning to slow in late 2016. Based on both the newly revised employment data and withholdings out of Oregonian paychecks in recent months, the slowdown is already here. The expansion is expected to continue and Oregon to see above average gains when compared with the rest of the nation, however not quite as strong as in the past couple of years.

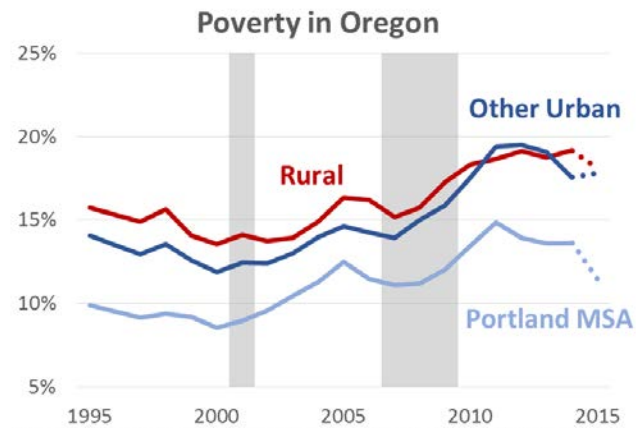
Broader Measures of Economic Well-Being



While Oregon's labor market growth is slowing somewhat, the state is at or near full employment. This means progress is beginning to be seen and felt in broader measures of economic well-being like median household income, the poverty rate and needs-based caseloads and the like.

In fact, recently released Census data show that 2015 brought the largest increase in median household income in more than a decade. And since 2012, the strongest increases in household income have actually been for those at the bottom of the income distribution. The main driver of these gains is the stronger economy where more Oregonians have jobs and wages are rising. This is particularly important because households in the middle and bottom part of the distribution only have wage income and the safety net. They generally lack the wider variety of income sources that higher income households have, like capital gains, dividends, rental income and the like that have performed better in recent decades.

Even so, incomes for the majority of households in Oregon today remain lower than prior to the Great Recession after adjusting for inflation. Similarly, poverty rates across the state remain higher today than back in the mid-2000s even as they are beginning to improve. Statewide, the poverty rate is effectively halfway back down to where it was prior to the Great Recession. The vast majority of this improvement is concentrated in the Portland metropolitan area which has experienced the strongest economic recovery. Importantly, poverty in the Portland region is improving proportionately for both whites and people of color. A large racial gap still exists, like elsewhere in the country, however the gap is not widening in recent years.



Other Urban: Benton, Deschutes, Jackson, Josephine, Lane, Linn, Marion, Polk | Data used: SAIPE 1995, 1997-2014. 1996 data missing, values shown represent average of 1995 and 1997. 2015 estimates based on published ACS data. Official 2015 SAIPE data to be released in December. | Source: Census, Oregon Office of Economic Analysis

Other regions of the state, while growing again, and in many cases experiencing strong job growth, have yet to see significant progress in local poverty rates. This is largely due to the timing of the local business cycle. Keep in mind that it was not until 2015 that the Portland region saw a significant poverty decline and Portland saw job growth before the rest of the state and has had the strongest recovery overall. Provided the expansion continues, improvement in poverty outside of the Willamette Valley are coming.

That said, factors beyond just the number of jobs are important to consider when looking at poverty trends over time. The type of jobs created matter, both in respect to job polarization and full-time vs part-time. Demographics also play a role. Retirees have lower levels of current income than do those in their prime-working and peak-earning years, and counties with larger shares of older residents also tend to have higher poverty rates. Such trends will impact how much and how quickly local poverty rates improve across the state in addition to broader economic trends.

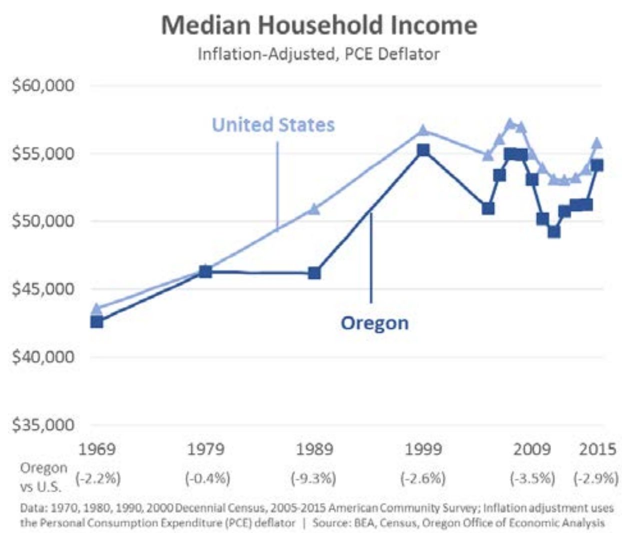
Economic Anxiety in Oregon

Economic anxiety, particularly among the white-working class, has been front and center this election cycle. At the least it is one of the two main topics, and for a good and valid reason. While most economic analyses and discussions focus on the short-term movements over the business cycle, it is important to not lose sight of the longer-run trends. For a large part of the population those longer-run trends have been stagnant incomes and fewer middle-wage job opportunities. In recent years our office has researched a number of these trends, topics and tangents in an effort to better understand the regional economy. What follows is a brief summary of our findings.

The problem with job polarization, as discussed in our office's 2013 report, is not that the economy is creating a lot of jobs in high-wage occupations and industries. That is actually great for the economy. The issue is when a worker loses his or her middle-wage job and is only able to find a low-wage job to replace it, if he or she finds a job at all. This represents a clear downgrade in his or her financial situation and broader quality of life.

To a certain degree, the housing boom last decade was able to mask some of these issues for men without college degrees, but that proved temporary. And even as the high-tech sector has replaced the timber industry statewide, the composition of the workforce and the geographic location of the jobs are very different. Further complicating the issue are the stagnant or declining wages for the middle-wage jobs that remain. This is evident in the timber industry where average wages in the 1970s were 30-35% higher than in the average industry across the state. Today, wages within the timber industry are lower after adjusting for inflation and now pay the statewide average. This is equally true for manufacturing overall, at least outside of the high-tech sector. There is no manufacturing wage premium like there used to be.

All that said, the biggest problem with job polarization is that the vast majority of the "adjustment" has been for people to simply drop out of the labor force entirely. This is equally true for both Oregon men and Oregon women without college degrees. This last point is important. While much of the focus is generally on blue-collar, male-dominated jobs, these trends impact women as well. In fact, the decline in office and administrative support occupations in Oregon rivals the decline in production (manufacturing) jobs for men.



When one combines these labor market trends and the impacts of globalization and technological change, the end result are those stagnant incomes for households in the middle and bottom part of the income distribution. TO be sure, these issues are not Oregon-specific and not necessarily U.S.-specific as former World Bank chief economist Branko Milanovic showed with his so-called Elephant Graph.

Finally, there is a large geographic split when examining economic trends in recent decades. As our office's 2015 Rural Oregon report detailed, the urban-rural divide is stark. That said, not all hope is lost. The Timber Belt continues to see population gains unlike other regions across the country that experienced similar job losses. Such gains do bring hope. And even with the aging demographics, such concerns may be a bit overstated in some of our rural communities.

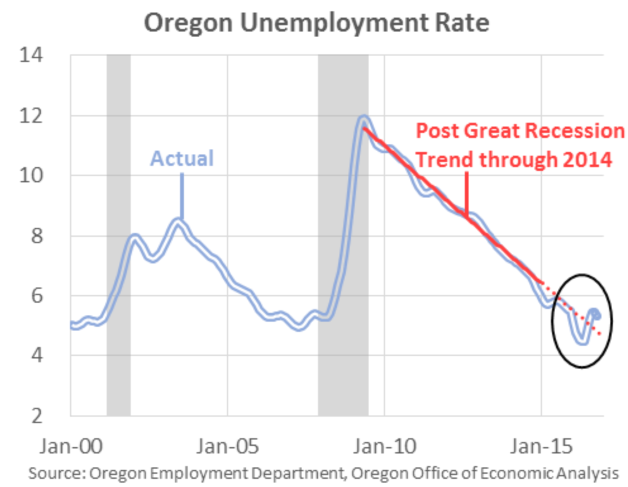
Researching the issues is the easy part. Policies that address them are hard. Unfortunately, so far there has been no silver bullet. The most common response is educational attainment, and with good reason. However, college degrees are not the be-all and end-all when it comes to creating a skilled workforce.

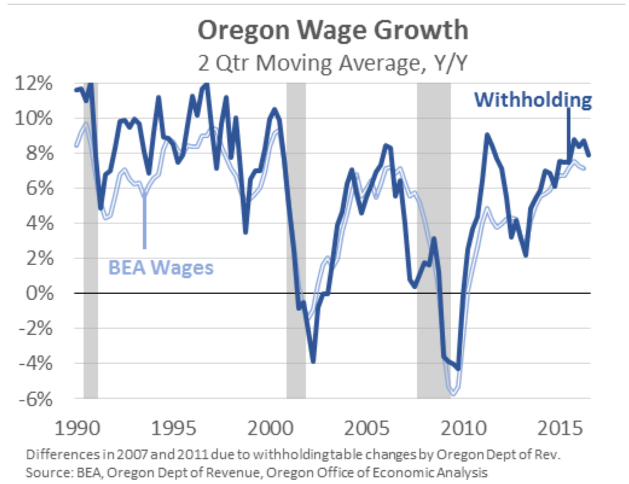
The outlook for middle-wage jobs overall depends on a number of factors. Some, like teachers and construction workers, are driven more by population and demographics. Others, like office support staff and truck drivers, are more business-support oriented. Wage growth itself, of any occupation, generally relies on full employment where firms must compete more on price to attract and retain the best workers.

For more, and for a complete list of links to the underlying research mentioned above, please see our office's website: https://oregoneconomicanalysis.com/2016/11/09/economic-anxiety-in-oregon/

Oregon's Labor Market

The Office of Economic Analysis examines four main sources for jobs data: the monthly payroll employment survey, the monthly household survey, monthly withholding tax receipts and the quarterly census of employment and wages. Right now all four measures of the labor market are improving. Jobs are being added, albeit at a slower rate. Wages are rising, both in aggregate and for each worker. The unemployment is around what can be considered full employment for Oregon.





As our office has been discussing, or more accurately, warning over the past year and a half, the pattern of unemployment rate changes does not likely reflect the overall pattern of growth in the Oregon economy. So far in 2016, the January through March unemployment rate declines are the largest declines on record for the state. These improvements were reversed with the large increases in the unemployment rate in June and July. In fact, when looking across Oregon's history during economic expansions, those are the two single largest increases in the unemployment rate for any month in which jobs were added. Only during the early 1980s recession and the Great Recession did the unemployment increase by a similar amount over two months. Needless to say, the Oregon economy did not experience supercharged growth to start to year for it to come to a screeching halt this summer.

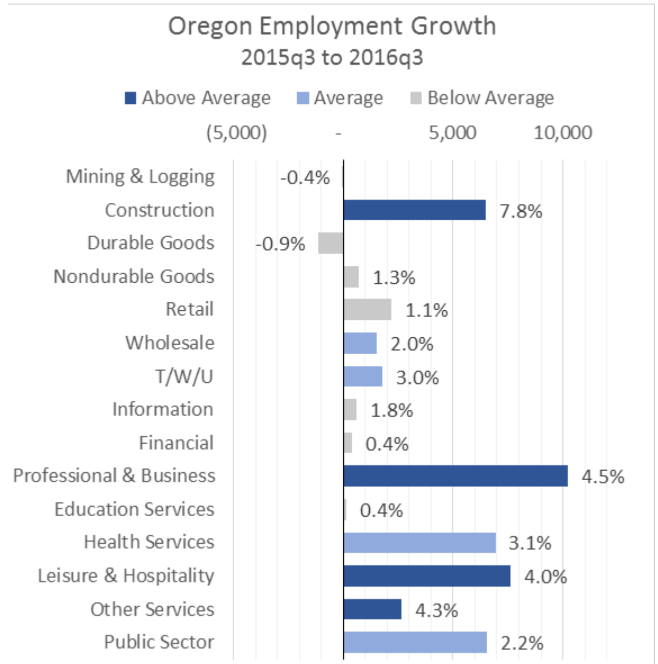
Expectations are that once the annual benchmark revisions take place in March, the revised 2016 unemployment rate pattern will be smoothed, relative to the unrevised data. This same pattern in the unrevised data was seen in last year as well, only for the revisions to smooth the overall pattern.

More importantly, wages in Oregon are increasing at near double-digit rates, which is better than during the mid-2000s expansion but still a notch below the 1990s gains. Average wages per worker are currently increasing 3-4 percent per year, which is faster than inflation of 1-2 percent per year. However, recent withholding collections have slowed from an 8 percent pace to around 5 percent, in-line with the slowing job gains this year.

While national wage trends have just begun to accelerate in the past twelve months, Oregon's have been strong for a couple years now. Even Oregon's average hourly earnings have accelerated in the past year. Previously this measure, which only began in 2007 and thus is still new, had been growing near 0 percent in inflation-adjusted terms. Given all other Oregon-specific wage data was strong, average hourly earnings was an outlier. This is no longer the case.

Overall, getting a handle of the health of Oregon's labor market is being somewhat complicated by technical issues within the underlying payroll jobs data. For this reason the employment data in our office's forecast is adjusted for two important technical purposes: seasonality at the detailed industry level and the upcoming benchmark revisions[1].

In the third quarter, total nonfarm employment increased 2.6 percent over the past year with the private sector growing at 2.7 percent and the public sector at 2.2 percent. These rates of growth are a step down from the full-throttle rates seen in recent years, however remain faster than needed to keep pace with population gains so far.



The nearby graph illustrates the number of job gains by major industry by the length of the bar. The percentage increase these changes represent is noted as well. The bars are color coded by growth rate relative to total employment growth. Industries with dark blue colored bars are growing at rates much faster than total employment, light blue bars represent industries which are growing approximately in line with the average, while grey bar industries are growing at rates significantly less than the average.

As has been the case in the recovery to date, jobs in the large service sector have led growth in terms of outright job gains and with above-average growth rates. These include jobs in professional and business services, health services, and leisure and hospitality industries. These three industries have gained 24,800 jobs in the past year and account for 53 percent of all job gains across the state. The good news is that this share has generally been shrinking in recent years as other industries continue to add jobs as well, which was not the case earlier in the expansion. Today, however, with manufacturing losses in recent months, these large service sector jobs represent a higher share of net job growth statewide than has been the case in the past year or so.

In terms of illustrating how each industry has fared over the Great Recession and so far in recovery, the second graph shows both the depths of recessionary losses[2] and where each industry stands today relative to pre-recession peak levels.

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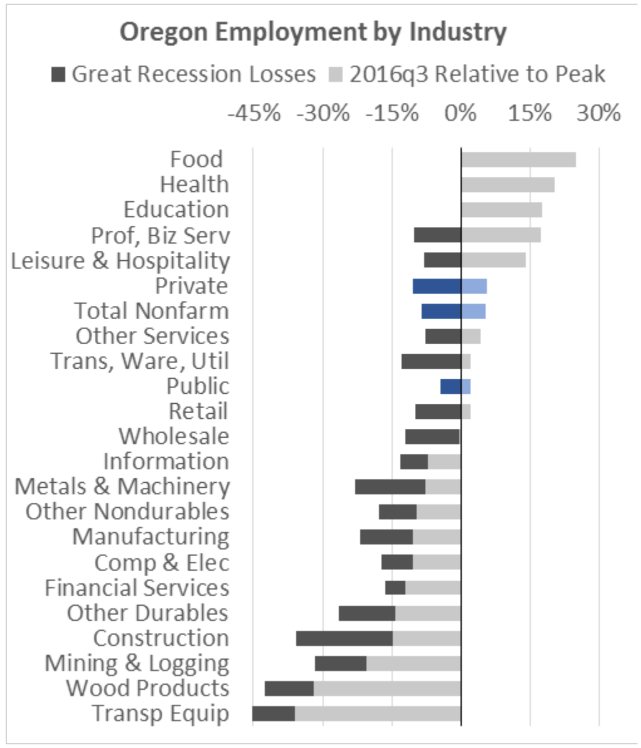
[1] Each year the U.S. Bureau of Labor Statistics revise the employment data – a process known as benchmarking. The current establishment survey (CES), also known as the monthly payroll survey, is benchmarked against the quarterly census of employment and wages (QCEW), a series that contains all employees covered by unemployment insurance. The monthly CES is based on a sample of firms, whereas the QCEW contains approximately 96 percent of all employees, or nearly a complete count of employment in Oregon. The greatest benefit of the CES is the timeliness – monthly employment estimates are available with only a one month lag – and these estimates are reasonably accurate. However the further removed from the latest benchmark, the larger the errors. The QCEW is less timely as the data is released approximately 3-4 months following the end of the quarter. The greatest benefit of the QCEW is that is a near 100 percent count of statewide employment. For these reasons, the CES is usually used to discuss recent monthly employment trends, however once a year the data is revised to match the historical QCEW employment trends. The last month of official benchmark data is September 2015. The QCEW is currently available through June 2016, thus the preliminary benchmark used here covers the October 2015 – June 2016 period.

[2] Each industry's pre-recession peak was allowed to vary as, for example, construction and housing-related industries began losing jobs earlier than other industries or the recession's official start date per NBER.

Currently, nine major industries are at all-time highs. Private sector food manufacturing, education, and health never really suffered recessionary losses – although their growth did slow during the recession. Professional and business services and leisure and hospitality have each regained all of their losses and are leading growth today. In recent months retail emploment, other services, transportation, warehousing and utilities, in addition to the public sector have surpassed their pre-recession levels and are at all-time highs. The eight private sector industries at all-time highs account for 59 percent of all statewide jobs. The public sector accounts for an additional 17 percent of all jobs.



With the Great Recession being characterized by a housing bubble, it is no surprise to see wood products, construction, mining and logging and financial services (losses are mostly real estate agents) among the hardest hit industries. These housing and related sectors are now recovery, although they still have much ground to make up. Transportation equipment manufacturing suffered the worst job cuts and is likely a structural decline due to the RV industry's collapse[3]. With that being said, the subsectors tied to aerospace are doing well and the ship and boat building subsector is growing again. Metals and machinery manufacturing, along with mining and logging, have shown the largest improvements since the depths of the recession.

Coming off such a deep recession, goods-producing industries exhibited stronger growth than in past cycles. While all manufacturing subsectors have seen some growth, they are unlikely to fully regain all of their lost jobs. And as the manufacturing cycle wanes today, the state has lost jobs in recent months. These losses are concentrated in durable goods industries like wood products, computer and electronic products, metals and machinery and the like. All told, Oregon manufacturers typically outperform those in other states, in large part due to the local industry make-up. Oregon does not rely upon old auto makers or textile mills. The state's manufacturing industry is comprised of newer technologies like aerospace and semiconductors. Similarly Oregon's food processing industry continues to boom.

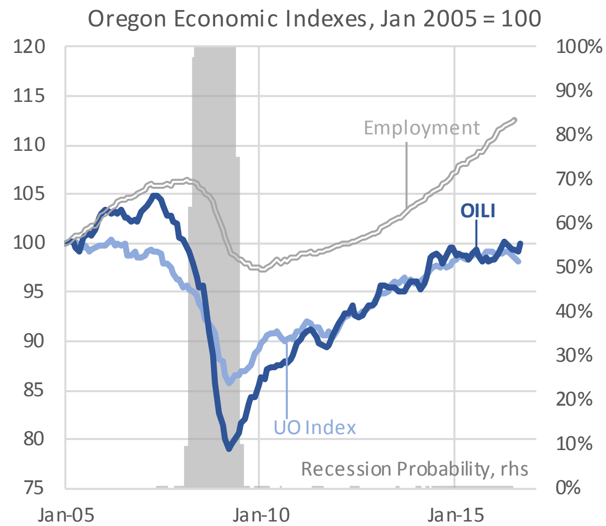
All told, each of Oregon's major industries has experienced some growth in recovery, albeit uneven. As the economy continues to recover there will be net winners and net losers when it comes to jobs, income and sales. Business cycles have a way of restructuring the economy.

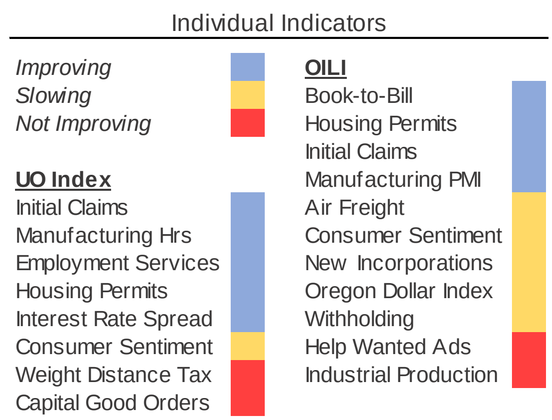
For additional information on the most recent quarter's employment forecast errors, please refer to Table A.1 in Appendix A.

[3] http://oregoneconomicanalysis.com/2012/07/10/rv-workers-and-reemployment/

Leading Indicators

As has been the case throughout the past two years, both of the Oregon-specific composite leading indicators are gyrating up and down with no real sustained movement in either direction. Underlying these moves are a mixed bag of individual indicators in both our office's Oregon Index of Leading Indicators (OILI) and the University of Oregon's Index of Economic Indicators. The breakdown has largely been between manufacturing, or goods-producing indicators and all other types.





On the bright side, there is some reason for optimism as industrial production appears to be firming following a prolonged decline and period of weakness. The dollar has depreciated a little, making Oregon-produced goods and services more price competitive in a global market, but remains considerably stronger than a year or two ago.

Furthermore, initial claims for unemployment insurance remain historically low, a clear indication that layoffs are low across the economy. While withholdings out of Oregon paychecks have slowed some, they continues to see solid gains. And some of the manufacturing data, like hours worked per week, the purchasing managers index and the semiconductor equipment book-to-bill ratio are all holding on.

That said, more indicators are showing weak or at least slowing trends in recent months than earlier in the recovery. Currently 4 of OILI's 11 indicators have increased over the past six months while 4 out the UO Index's 8 indicators have. These so-called diffusion indexes – measuring what share of the indicators are expanding or contracting – have slowed recently and remain considerably lower than earlier in the recovery. These indicator patterns do point toward more late-business cycle behavior.

On the downside, consumer sentiment, the number of help wanted ads and new Oregon incorporations have all slowed in recent months. Additionally, new orders for capital goods remains down.

Right now the U.S. economy is not in recession. University of Oregon professor Jeremy Piger has created a real time probability of recession[4] model, and finds there is just a 1.64 percent chance the U.S. has entered into a recession. However, another recession will come, of that we can be sure. IHS Global Insight puts the probability of recession over the next year at 20 percent, and the Wall Street Journal consensus is at a similar 19 percent.

Hopefully Oregon's leading indicators will give a signal in advance of the next recession, which neither is doing today. While past experience is no guarantee of future performance, Oregon's leading indicator series do have a

[4] http://pages.uoregon.edu/jpiger/us_recession_probs.htm/

good track record in their brief history. Both series flattened out in 2006 and began their decline in advance of the Great Recession. Similarly both Oregon series reached their nadir in March 2009, a few months before the technical end of the recession (June 2009 per NBER) and about 9 months in advance of job growth returning to Oregon.

Short-term Outlook

While Oregon's economic expansion continues, growth has slowed. In recent years, the state has enjoyed robust, full-throttle rates of job gains in the 3-3.5 percent range, or nearly 5,000 jobs per month. No longer is this the case. Oregon is expected to continue to see healthy job gains – more than 3,000 per month or 2.4 percent next year – but the state is now past its peak growth rates for this expansion. Importantly, such gains remain strong enough to hold unemployment down and account for ongoing population growth.

After these near-term job gains, longer-run demographic trends weigh on growth to a larger degree. While consistent with the general character of recent forecasts, this marks a slight downward revision to the employment outlook in the near-term. This revision is due to the labor market slowdown occurring a quarter, or two, ahead of previous expectations. Wages and incomes remain similar, although revised downward as well.

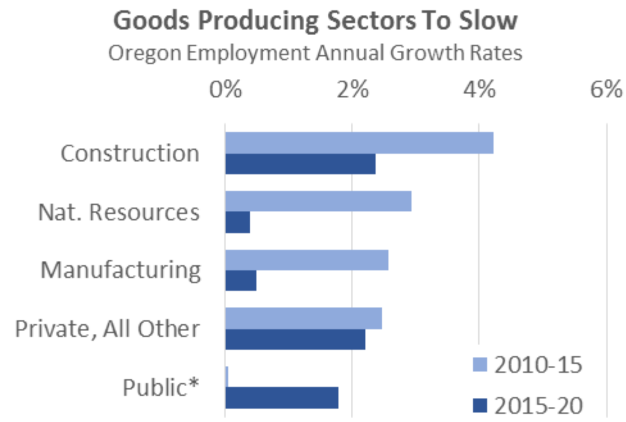
The state's new minimum wage law, passed during the 2016 legislative session, will also impact the Oregon economy over the forecast horizon. Using estimates provided by the Oregon Legislative Revenue Office, along with the academic literature, our office's outlook includes a slowdown in job growth due to the higher minimum wage moving forward. While the impact is small when compared to the size of the Oregon economy, it does result in approximately 40,000 fewer jobs in 2025 than would have been the case absent the legislation. Our office is not predicting outright job losses due to the higher minimum wage, however we are expecting future growth to be slower as a result. In the near term, the higher minimum wage boosts overall state income as low-wage workers receive raises. Over the medium term, employers are expected to adjust to the higher wages and increase worker productivity, possibly via capital for labor substitutions. Our office has incorporated these overall effects into the outlook for wages and in the industries which employ the largest numbers of low-wage workers. These include the obvious like leisure and hospitality, and retail trade, but also health care and food processing manufacturing, among others.

Should this overall economic outlook come to pass, it will match the equivalent of previous expansions in Oregon. Given demographic trends today, particularly the aging Baby Boomer cohort, job growth of 3 percent is considered full throttle. In decades past, growth of 4 or 5 percent was common during expansions in Oregon, however that time period also coincided with the Baby Boomers entering their prime working years. Today the opposite is occurring. Even so, demographic trends are not all bad, as the even larger cohort of Millennials are currently entering their prime working years. The net effect is overall lower rates of labor force and economic growth, due to demographics.

Private sector growth, measured by the number of jobs created, will be dominated by the large, service sector industries like professional and business services, leisure and hospitality and health.

Nevertheless, goods-producing industries, while smaller, had previously been growing at above-average rates. Expectations in recent forecasts have been that these goods-producing industries would slow. Growth over the next few years would be considerably less than that seen in the past few years. Only construction is expected to add jobs at the same pace as the rest of the private sector, as the housing rebound continues.

Manufacturing in particular was expected to see very minimal gains in the coming years. By all accounts this slowdown is here today in Oregon. Employment is down in recent months and flat over the past year. Expectations are for some additional lost jobs in the coming quarters, however a return to growth as the manufacturing cycle strengthens and works through its issues. Even so, the weak global economy and strong Oregon dollar will weigh on growth. What manufacturing gains are expected are among the state's food processers, and beverage manufacturers, predominantly breweries.



*Public corrected for Census workers in 2010
Source: Oregon Employment Dept, Oregon Office of Economic Analysis

Public sector employment at the local, county and state level for both education and non-education workers is growing in Oregon, as state and local revenues continue to improve along with the economy. Over the forecast horizon, government employment is expected to grow roughly stay in line with population growth and the increased demand for public services, albeit a little faster than population growth alone. One risk to the outlook is the recent Oregon Supreme Court decision which reversed earlier Public Employees Retirement System (PERS) changes enacted by the Legislature. The extent to which the court decision will impact hiring by local and state public entities is unknown, but it is a risk to the outlook.

Economic Forecast Summary

		Quarterly					Annual				
		2016:3	2016:4	2017:1	2017:2	2017:3	2015	2016	2017	2018	2019
Personal Income, Nominal	U.S.	4.2	4.2	4.5	4.6	4.5	4.4	3.4	4.4	4.9	5.0
% change	Oregon	5.2	5.1	4.8	5.3	5.6	6.5	4.9	5.2	5.8	5.7
Wages and Salaries, Nominal	U.S.	4.9	4.8	5.1	5.1	5.0	5.1	3.8	5.0	5.0	4.9
% change	Oregon	6.7	6.8	6.1	6.5	6.7	7.1	6.6	6.5	6.3	5.7
Population	U.S.	0.9	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
% change	Oregon	1.8	1.4	1.3	1.5	1.7	1.3	1.5	1.5	1.4	1.3
Housing Starts	U.S.	1.18	1.15	1.16	1.18	1.21	1.11	1.16	1.20	1.30	1.39
U.S. millions, Oregon thousands	Oregon	19.3	19.7	20.5	21.1	21.7	16.0	19.1	21.4	22.9	23.1
Unemployment Rate	U.S.	4.9	4.9	4.9	4.8	4.8	5.3	4.9	4.8	4.6	4.6
	Oregon	5.4	5.5	5.4	5.3	5.3	5.8	5.1	5.3	5.3	5.4
Total Nonfarm Employment	U.S.	1.7	1.3	1.1	1.0	0.8	2.1	1.7	1.2	0.9	1.0
% change	Oregon	1.6	2.8	2.6	2.4	2.3	3.3	2.8	2.4	2.2	1.5
Private Sector Employment	U.S.	1.7	1.6	1.5	1.2	1.0	2.4	1.9	1.4	0.9	1.0
% change	Oregon	1.5	2.6	2.7	2.6	2.5	3.6	2.9	2.4	2.3	1.5

Along with an improving labor market, stronger personal income gains are here. 2013 personal income is estimated to have increased by just 1.7 percent. This largely reflects the pulling forward of investment-type income into 2012 in anticipation of increased federal tax rates in 2013. Since then, personal income has rebounded strongly with robust gains seen in both 2014 (6.7%) and 2015 (6.6%). Continued strong gains are expected moving forward, as the labor market sees strong gains. Income growth is forecasted to be 4.9 percent in 2016 and 5.2 percent in 2017.

As the economy continues to improve, household formation is increasing too, which will help drive up demand for new houses. Household formation was suppressed earlier in the recovery, however the improving economy and increase in migration have returned in full force. Even as more young Oregonians are living at home, as the Millennials continue to age beyond their early 20s, demand for housing will increase as well.

Housing starts in the second quarter totaled 19,300 at an annual pace. This marks the highest level of housing starts so far this cycle and the largest since the summer of 2007. However, a level of about 21,000 is the long-run average for the state prior to the housing bubble, and the forecast calls for strong growth in the coming few years with starts reaching just over 19,000 in 2016 and 21,400 in 2017. Over the extended horizon, starts are expected to average a little more than 23,000 per year to meet demand for a larger population and also, partially, to catch-up for the underbuilding that has occurred in recent years. As of today, new home construction is cumulatively about one year behind the stable growth levels of prior decades even after accounting for the overbuilding during the boom.

A more complete summary of the Oregon economic outlook and forecast changes relative to the previous outlook are available as Table A.2 and A.3 in Appendix A.

Forecast Risks

The economic and revenue outlook is never certain. Our office will continue to monitor and recognize the potential impacts of risk factors on the Oregon economy. Although far from comprehensive, we have identified several major risks now facing the Oregon economy in the list below:

- U.S. Economy. While Oregon is more volatile than the nation overall, the state has never missed a U.S. recession or a U.S. expansion. In fact, Oregon's business cycle is perfectly aligned with the nation's, at least when measuring peak and trough dates for total nonfarm employment. If anything, Oregon actually leads the U.S. by a month or two. The fact that there are some worrisome trends at the U.S. level and the slowdown has hit Oregon means there should be some concerns about the outlook. Should the U.S. fall into recession, Oregon will too. That said, should the U.S. economy accelerate following the lifting of headwinds, Oregon's economy should receive a similar boost as well.
- Housing affordability. Even as the housing market recovers, new supply entering the market has not kept up with demand (both from new households and investor activity.) This applies to both the rental and ownership sides of the market. As such, prices have risen considerably and housing (in)affordability is becoming a larger risk to the outlook. Expectations are that new construction will pick up in the next year or three, to match the increase in demand, which will alleviate price pressures. However to the extent that supply does not match demand, home prices and rents increasing significantly faster than income or wages for the typical household is a major concern. While not included in the baseline outlook, significantly worse housing affordability may dampen future growth given Oregon relies on net in-migration significantly.
- Global Spillovers Both Up and Down. The international list of risks seems to change by the day: sovereign debt problems in Europe, equity and property bubbles in places like South America and Asia, political unrest in the Middle East and Ukraine, and commodity price spikes and inflationary pressures in emerging markets. In particular, with China now a top destination for Oregon exports, the state of the Chinese economy – and its real estate market – has spillover effects to the Oregon economy. The recent economic slowdown across much of Asia is a growing threat to the Pacific Northwest's growth prospects.

- Federal fiscal policy. Federal fiscal policy remains a risk. The good news for Oregon is that outside of outright land ownership, the federal government has a relatively small physical presence in the state. This means that direct spending reductions are less likely to hurt Oregon. Of course, it also limits the local benefit from any potential increases in federal spending. In terms of federal grants as a share of state revenue, Oregon ranks 29th highest. For federal procurement as a share of the economy, Oregon ranks 48th highest. Oregon ranks below average in terms of military-dependent industries as well. The one area that Oregon ranks above average is in terms of direct federal employment, ranking 19th highest among all states. Oregon also is exposed to an above-average share of federal transfer payments to households. Transportation funding is also a major local concern. Overall, the direct impact may be less than in other states but the impact will be felt nevertheless, particularly as our closest neighbors have large federal and military workforces.
- Drought. While abating, the drought impacting much of the West Coast and Southwestern U.S. is a risk to the outlook. Its impact on the California economy reached into the billions of dollars in 2014 and is expected to increase in cost and size in 2015. Earlier this year the drought had certainly reached Oregon as well and most eastern and/or southern counties were classified accordingly. The impact is most felt within the agriculture industry. Losses are expected to be concentrated more in the grains, feed and other crops in addition to cattle. Fruits, nuts and dairies to be less impacted. The severity and duration of the drought is unknown, however it remains a risk to Oregon's rural economies in particular.
- Commodity price inflation. Always worrisome is the possibility of higher oil (and gasoline) prices. While consumer spending has held up pretty consistently in this recovery, anytime there is a surge in gas prices, it eats away at consumers' disposable income, leaving less income to spend on all other, non-energy related goods and services.
- Federal timber policy. Even with a temporary reinstatement of payments, it has been and it is clear that federal policymakers will not reinstate the program the same as before, however negotiations are ongoing for more sustainable timber harvests and related revenue. In the meantime, reductions in public employment and services are being felt in the impacted counties. For more information from a historical perspective, see two recent blog posts, here and here[5].
- Initiatives, referendums, and referrals. Generally, the ballot box and legislative changes bring a number of unknowns that could have sweeping impacts on the Oregon economy and revenue picture.

Alternative Scenarios

The baseline forecast is our outlook of the most likely path for the Oregon economy. As with any forecast, however, many other scenarios are possible. In conjunction with the Legislative Revenue Office, this forecast provides three alternative scenarios, which are modeled on growth patterns over previous business cycles.

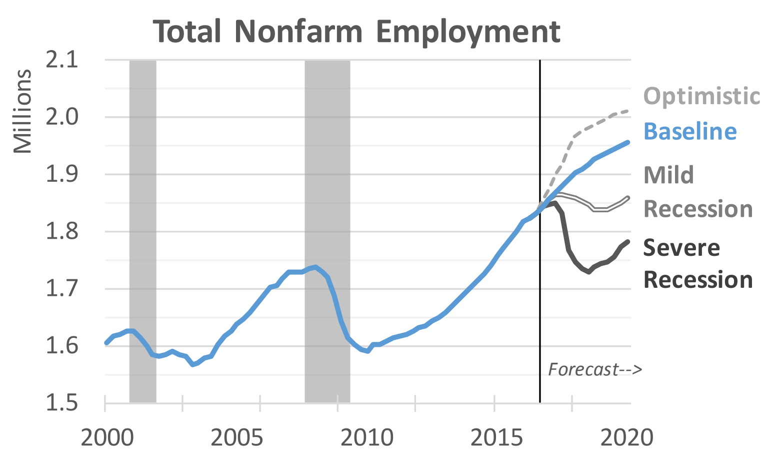
<u>Optimistic Scenario</u>: The recovery gathers steam and pulls the economy into a stronger cyclical expansion. The lackluster economic growth seen in the early stages of recovery, the manufacturing weakness in 2015 and 2016 and the recent slowing in U.S. personal income all recede into the rearview mirror of history and the U.S.

[5] http://oregoneconomicanalysis.wordpress.com/2012/01/23/historical-look-at-oregons-wood-product-industry
http://oregoneconomicanalysis.wordpress.com/2013/05/28/timber-counties/

economy builds momentum through the end of the year and into 2017. The economy is soon firing on all cylinders. Economic growth is above potential in late 2016 and 2017, resulting in stronger job and income gains. This stronger growth leads to more consumer spending and more business investment.

In Oregon, job gains are broad based with strong growth in all private sector industries. The unemployment rate remains lower than under the baseline scenario as individuals are able to find employment more readily and income growth accelerates. The labor force participation gap closes. The increase in employment and income support a self-sustaining economic expansion in which new income fuels increased consumer spending (and debt reduction) which begets further increases in employment. Such an expansion increases housing demand as newly employed households (and increasing income for existing households) find their own homes after doubling-up with family and friends during the recession. This results in new construction returns to normal levels about a year earlier than the baseline.

Alternative Scenarios **Dec 2016**



	2016	2017	2018	2019
Employment				
Baseline	2.8%	2.4%	2.2%	2.0%
Optimistic	3.0%	4.2%	3.6%	2.7%
Mild Recession	2.8%	1.8%	-0.7%	-1.0%
Severe Recession	2.8%	-0.3%	-4.7%	-3.5%
Personal Income				
Baseline	4.9%	5.2%	5.8%	5.8%
Optimistic	5.5%	8.5%	7.2%	6.7%
Mild Recession	4.9%	4.5%	2.8%	2.9%
Severe Recession	4.9%	2.7%	-2.1%	-0.3%

Mild Recession Scenario: The economic acceleration of the past two years proves temporary and soon Oregon is returning to very slow employment and GDP growth in late 2016 and early 2017. The housing market stalls (again), removing one driver of growth. The Fed's tightening in December 2015 and again in December 2016 causes emerging market turmoil and capital flight. The U.S. dollar strengthens further, fully choking off the manufacturing cycle. These factors are enough weight on the lackluster recovery that by early -2017 the economy slides back into recession. Job losses ensue and while not severe – about 26,000 jobs in Oregon when it is all said and done – it takes a toll on business income, housing starts and personal income. The unemployment rate returns to 7.8 percent. The net effect of the mild recession is an extended period of prolonged economic weakness, not unlike Japan's so-called Lost Decade(s). Although inflation is expected to remain positive, a key difference.

Severe Recession Scenario: The economy is not able to reach escape velocity from the lackluster recovery to date. The weakening industrial production and personal income in the U.S. worsens. The Fed's premature tightening in 2015 and again in 2016 and the increasing turmoil in domestic and international markets sends the economy into free-fall. While the catalyst may be different, the economic effect is similar to late 2008 and early 2009, although not quite as severe when the dust settles. This is little comfort when the unemployment spikes back to 10 percent and more than 115,000 Oregonians lose their jobs in 2017-18. Besides the domestic economic headwinds and Federal Reserve tightening, the likely culprit in this scenario is a meltdown of the financial markets sparked by the European sovereign debt crisis or other geopolitical shock. Economic growth in the U.S., while fairly steady, is not nearly strong enough to withstand an external financial shock of this magnitude. Further economic effects of a recession this size are personal income losses of around 4 percent, about three-quarters the size of the Great Recession losses in Oregon. Housing starts plummet to near historical low levels of construction and home prices decline further. On the bright side, when construction does rebound, it will result in a surge of new home building that will rise above the state's long term average level of building due to pent-up demand for housing and that the state will have under built housing during this time period.

Extended Outlook

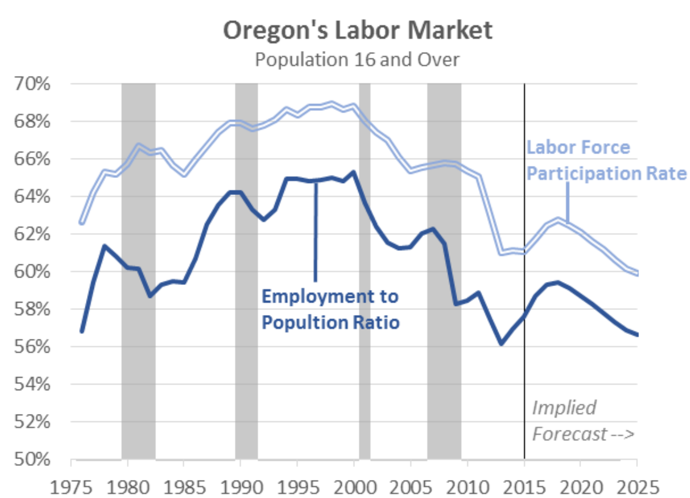
IHS Economics projects Oregon's economy to fare well relative to the rest of the country in the coming years. The state's Real Gross State Product is projected to be the fifth fastest among all states across the country in terms of growth with gains averaging 2.8 percent through 2021. Total employment is expected to be the eighth strongest among all states at an annualized 1.6 percent, while manufacturing employment will be the seventh fastest in the country at 1.1 percent. Total personal income growth is expected to be 5.0 percent per year, the eighth fastest among all states, according to IHS Economics.

OEA is somewhat more bullish as our office expects the peak growth rates in the economy to persist longer than does IHS. While our office's outlook calls for deceleration in the coming years, our forecast remains stronger for Oregon does IHS. Overall Oregon will also maintain a growth advantage relative to other states. However, this advantage will be somewhat smaller than the state has enjoyed in past decades.

OEA has identified three main avenues of economic growth that are important to continue to monitor over the extended horizon: the state's dynamic labor supply, the state's industrial structure and the current number of start-ups, or new businesses.

Oregon has typically benefited from an influx of households from other states, including an ample supply of skilled workers. Households continue to move to Oregon even when local jobs are scarce, as long as the unemployment rate is equally bad elsewhere (particularly in California). Relative prices of housing also contribute to migration flows in and out of the state. For Oregon's recent history – data available from 1976 – the labor force in the state has both grown faster than the nation overall and the labor force participation rate has been higher. However while recent months have brought considerable improvements there remain potentially worrisome signs, particularly when the next recession comes.

First, on the bright side, all of the recessionary-induced declines in the labor force itself have been reversed in the past few years. Oregon's labor force has never been larger. However, the participation rate remains lower than expected, when adjusting for the size of the population and the aging demographics. Oregon's participation rate is rebounding today, which is great news, however the participation gap is still cause for concern. While much of the past decade's patterns can be attributed to the severe nature of the Great Recession, and even the lackluster housing boom

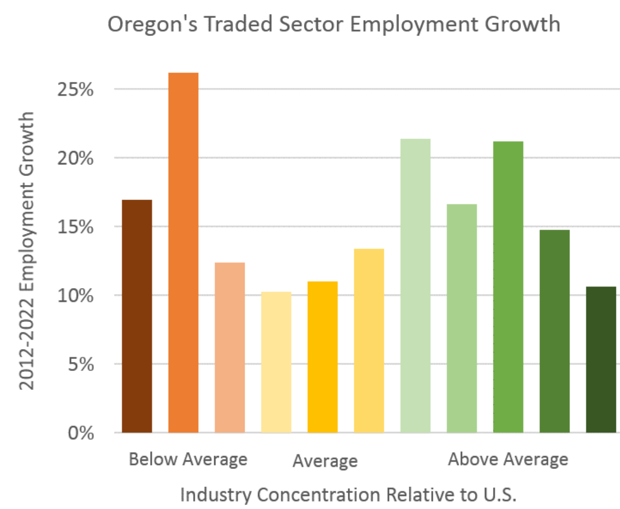


Source: BLS, Oregon Office of Economic Analysis itself, some of the damage is likely to be permanent. The longer the expansion continues, the more likely the permanent damage will be small.

All told, our office's baseline outlook calls for some continued improvement in the near-term for both the labor force participation rate and the employment to population ratio. These gains are due to the shorter run cyclical rebound in the economy, before longer-run demographic trends will weigh on these measures. Focusing just on the prime working age cohorts reveals stronger improvements.

Oregon's industrial structure is very similar to the U.S. overall, even moreso than nearly all other states. Oregon's manufacturing industry is larger and weighted toward semiconductors and wood products, relative to the nation which is much more concentrated in transportation equipment (autos and aerospace). However, these industries which have been Oregon's strength in both the recent past and historically, are now expected to grow the slowest moving forward. Productivity and output from the state's technology producers is expected to continue growing quickly, however employment is not likely to follow suit. Similarly, the timber industry remains under pressure from both market based conditions and federal regulations. Barring major changes to either, the slow to downward trajectory of the industry in Oregon is likely to continue.

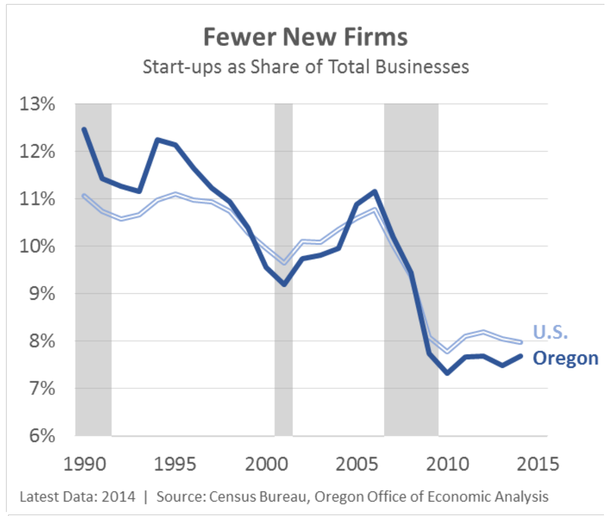
With that being said, certainly not all hope is lost. Many industries in which Oregon has a larger concentration that then typical state are expected to perform well over the coming decade. These industries include management of companies, food and beverage manufacturing, published software along with gains in crop production and nurseries. The state's real challenges and opportunities will come in industries in which Oregon does not have a relatively large concentration (the orange bars in the graph). These industries, like consulting, computer system design, financial investment, and scientific R&D, are expected to grow quickly in the decade ahead. To the extent that Oregon is behind the curve, then the state may not fully realize these gains if they rely more on clusters and concentrations of similar firms that may already exist elsewhere in the country.



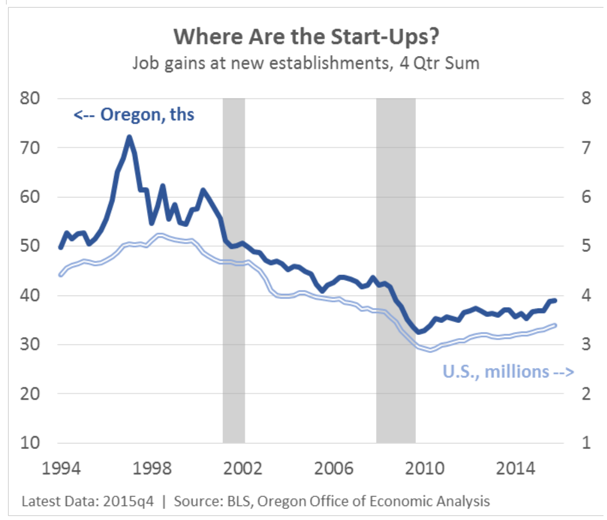
Industry concentration = 2012 employment location quotient at 4 digit NAICS level
Each column represents approximately 1/11 of Oregon traded sector employment
Source: BLS, Oregon Employment Department, Oregon Office of Economic Analysis calculations

Another area of potential concern that may impact longer term economic growth is that of new business formation. Over the past year or two, the number of new business license applications with the Oregon Secretary of State have begun to grow again and even accelerate. However data available from the U.S. Census Bureau and Bureau of Labor Statistics clearly indicate that entrepreneurship and business formation remain at subdued levels and rates.

The share of all businesses that are start-ups, either in Oregon or across the nation, is effectively at an all-time low, with data starting in the late 1970s. Associated start-up employment follows a similar pattern. The concern is that new businesses are generally considered the source of innovation and new ideas, products and services that help propel economic growth. To the extent that lower start-up rates indicates that R&D more broadly is not being undertaken, slower growth is to be expected moving forward. However, if the larger firms that have won out in today's marketplace are investing in R&D and making those innovations themselves, then the worries about the number of start-ups today is overstated. It can be hard to say which is the correct view. However seeing these longer run, downward trends in new business formation warrants, at the very least, concern about future growth prospects.

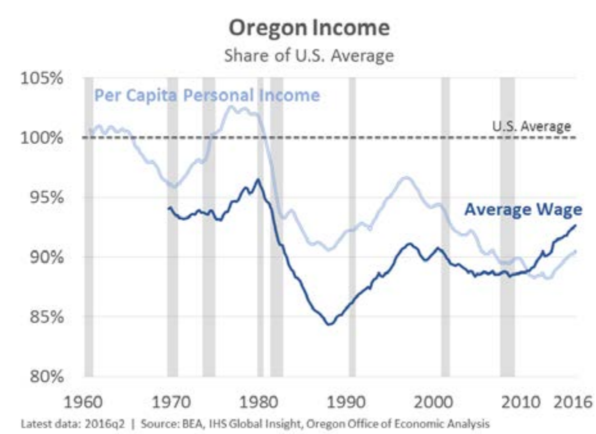


Finally, Oregon also enjoys the long-term advantages of low electricity costs; a central location between the large markets of California, Vancouver and Asia; clean water; low business rents and living costs; and an increasingly diverse industrial base.



One primary long-run concern for policymakers, think tanks and Oregon's economy is that very little progress on raising per capita income is projected out to 2025. In and of itself, a higher per capita income level would better fund public services for citizens. The benefit side of the state's relatively low income figures is that local firms do not have to pay higher wages, thus helping support the firms' balance sheets as well. It is not purely a lose-lose proposition. The Oregon Employment Department has published[6] a detailed look at Oregon's per capita personal income.

While the state's per capita income remains low, the state's average wage does not. Today, Oregon's average wage relative to the nation, is at its highest point since the mills closed in the 1980s. While some industries are seeing stronger growth, these gains are broad-based across regions and industries in Oregon.

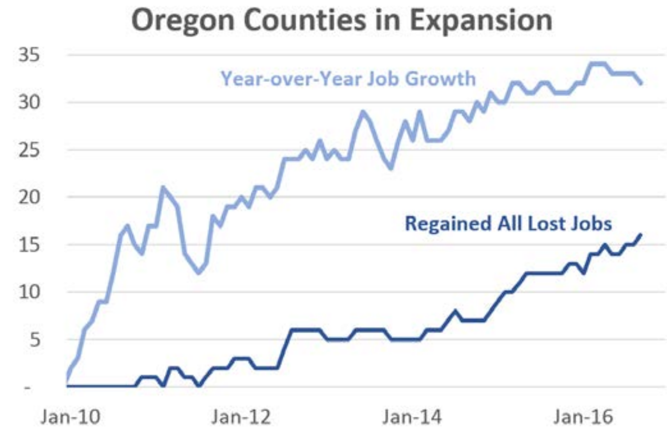


In terms of the outlook, expectations are that wages will remain at this high watermark but not increase, relative to the nation, much further. The primary reason for this is that Oregon's average wages have already accelerated in recent years, even as U.S. wages are just now picking up. Our office expects Oregon's average wage to continue to increase 3-4 percent per year. However as the U.S. accelerates closer to Oregon's annual rate, Oregon's growth advantage in recent years will lessen. As for the per capita personal income outlook, expectations are that some progress will continue to be made. Oregon's economy is outperforming the typically state. That said, over the forecast horizon, Oregon's per capita personal income is not expected to catch the national average.

[6] http://olmis.emp.state.or.us/olmisj/PubReader?itemid=00007366

Oregon Regional Trends

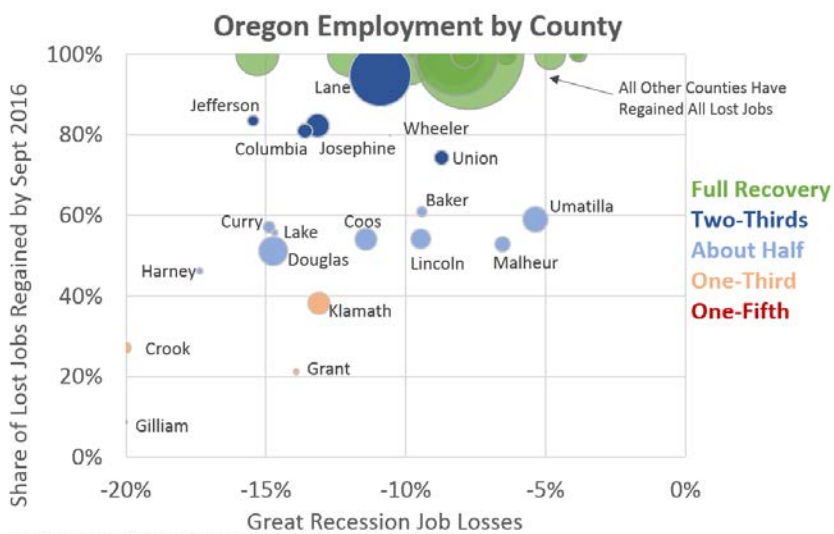
In recent years, job growth has returned to all regions of the state. Every single county has seen some gains from the depths of the Great Recession. That said, the growth has not been evenly distributed of course.



Total of 35 geographies in the available data. 34 individual counties plus Salem MSA (Marion + Polk).
Data: SA 3MMA | Source: OED, Oregon Office of Economic Analysis

Today, 17 of Oregon's 36 counties have fully regained their recessionary lost jobs and are at all-time highs for employment. These counties represent 80 percent of all jobs in Oregon. As such, they necessarily include the state's larger, urban areas plus much of the North Coast and Columbia Gorge regions. If you include Lane County (Eugene), which is now 95 percent recovered, the total job share jumps to 87 percent of all jobs statewide. This group of counties are in expansion mode and the more important questions to ask are about the quality of the jobs gained and whether growth is keeping pace with population and the like.

However, not all counties have recovered. Many of these rural counties have experienced relatively flat or somewhat downward trends since the 1990s. While cold comfort and of little solace, much of rural America at large has seen similar or worse trends in recent decades.



Source: Oregon Employment Department, Oregon Office of Economic Analysis

On the brighter side, some counties like Harney and Malheur have seen solid job growth in the past 18 months but their longer term trends have been less robust. Grant is somewhat similar but the county's trends have been longer (peak employment was 1992) and has yet to see any real upturn in employment thus far in recent years.

Other counties, like those in southern Oregon and along the coast, did experience some strong gains during the housing bubble even with relatively flat trends since the 1990s. While jobs today remain lower than during the peak of the housing boom, they are effectively back to levels seen in the early 2000s. It can be hard to tell how many of those gains were temporary or due to the bubble phenomenon. The patterns do differ from other rural areas that have seen longer term, or structural changes. Further research aims to answer these questions.

All told, much of the rural Oregon discussion and data are backward looking. While these statistics help describe the current lay of the land, they do not necessarily tell us what tomorrow may bring. To be sure, many of the more forward-looking indicators are also less bright in much of rural Oregon than in urban Oregon, but not all hope is lost. If anything, some of the pessimism about rural Oregon may be a bit overdone.