Oregon Economy

Oregon continues to see healthy rates of growth when it comes to employment, income, and GDP. However the state is no longer significantly outpacing the nation like it was a few years ago. The economic slowdown to date has largely matched expectations. The outlook remains stable in the near-term and slightly stronger in the long-term.

Like the nation overall, Oregon is transitioning down to more sustainable rates of growth. Job gains are roughly in-line with what underlying demographics suggest the state needs to hold the unemployment rate steady. Eventually the cyclical drivers of growth will slow further and gains will be driven by productivity and the number of workers.

Historically Oregon’s industrial structure, productivity, and ability to attract and retain young, working-age households has driven faster growth than the nation overall. Today Oregon continues to outpace the typical state in terms of GDP and income, but not employment. This is one indication that the mix of those long-run drivers of growth may change in a mature expansion, or at least in this mature expansion. We do not know what the eleventh year of an expansion looks like, much less the twelfth or thirteenth year, because the U.S. economy has never been here before.

The labor market is tight for both cyclical and structural reasons. Cyclically there is no longer a reserve army of unemployed Oregonians waiting around for a job. It is harder to find workers in large part because most everyone who wants a job has a job. Structurally, demographics are slowing labor force gains as the inflows of new entrants is being offset to a larger degree by retiring Baby Boomers leaving the workforce. Recent data continues to point toward the slower growing labor supply being the key factor behind the slowdown in Oregon job growth. See our previous forecast\(^1\) for a more in-depth discussion on the slowdown and underlying factors.

Net in-migration is the key driver of labor force gains and the primary reason the Oregon forecast is stronger than the U.S. overall. People follow the jobs. As employment gains slow, so too do migration flows. Today it is challenging to get a handle on population growth as differences have emerged in recent years between varying data sources.

First, the number of surrendered driver licenses at the Oregon DMV – one of the best leading indicators for migration – have slowed just a bit over the past couple of years. However, population estimates from Portland State’s Population Research Center – the official arbiter of state population in non-decennial census years – show a more pronounced slowdown in migration. Finally the annual state estimates from the Census Bureau itself indicate an even sharper drop-off in migration to Oregon.

The gap between the 2019 population estimates and our office’s previous forecast translates into 6,000 – 9,000 fewer Oregonians in the labor force today. This is not

\(^1\) [https://digital.osl.state.or.us/islandora/object/osl%3A939177](https://digital.osl.state.or.us/islandora/object/osl%3A939177)
immaterial to both the current state of the labor market and also its implication for future growth if noticeably slower migration is here to stay.

The official 2020 Census population estimates will be available at the end of the year, with full details of the population coming in 2021. At that time our office’s demographic and population forecast will undergo the major refresh it does every ten years with new decennial census data. Not only will the 2020 Census anchor the population estimates, but it will provide updated birth and death rate information to integrate in the outlook.

For now, our office’s forecast incorporates the latest Portland State population estimate and carries the lower migration rates into the future. The result is a lower population forecast, but one that has yet to be fully worked through the entire economic and revenue outlook. In the coming quarters and in consultation with our advisors, the adjusted population outlook and its implications for future growth will be discussed in more depth. Major changes are unlikely until after the 2020 Census data is released.

Bottom Line: Oregon’s economy continues to grow and see healthy gains in GDP, income, and employment. Importantly initial claims for unemployment insurance, a good measure of layoffs, remains at or near historic lows. The slowdown in job growth appears to be primarily driven by slower increases in the labor force. That said, Oregon’s stronger long-run growth is largely built upon faster population gains due to migration. To the extent that migration flows continue to come in below forecast, the overall economic outlook will need to be revised accordingly. The good news is Oregon’s advantages in industrial structure and productivity gains continue to outpace the nation overall, driving stronger GDP and income gains locally.

**Productivity is Key to Long-Run Economic Growth in Oregon**

Over the long-run there are two primary sources of growth: labor and capital. Future economic growth is really about how many workers there are and how productive each worker is. Historically, Oregon’s comparative advance has been the ability to attract and retain working-age households. Doing so will remain vital to the state’s economic growth, as discussed in more detail in the May 2019 forecast. The other key driver is state productivity.

Last summer, the Bureau of Labor Statistics published some experimental state productivity statistics. No surprise, but Oregon ranks well. From 2007 to 2017, Oregon’s labor productivity increased the second fastest among all state. At the same time, the state’s unit labor costs increased the third slowest. As such the regional economy was able to produce a whole lot more goods and services with no price pressures forming. The flipside of this analysis is Oregon’s inflation-adjusted hourly compensation increased right in-line with most states, ranking 25th best.

In the big picture there are different types of capital that can raise worker productivity and propel long-run economic growth.

Financial capital is essential for firms to grow and expand. Overall Oregon does just OK on financial capital. Oregon is not a financial center nor does the state have a deep bench of venture capital or the like. The state largely relies upon investments and loans made by out-of-state financial institutions. Encouragingly, the latest Oregon Capital Scan report shows the state is seeing some improvements.

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2 [https://digital.osl.state.or.us/islandora/object/osl%3A754124](https://digital.osl.state.or.us/islandora/object/osl%3A754124)
Natural capital is largely about putting natural resources to use. Workers start with raw products and turn them into intermediate or finished goods. Between the diverse landscape of agricultural products plus the fisheries and forests, Oregon has an abundance of natural capital. The questions are how best should the state use them and to what degree should the state use them.

Physical capital historically is about plants and equipment and allowing workers to make more widgets per hour worked. However, it is increasingly about office space and software and worker productivity in the knowledge economy. There remains very little good data at the state or local level on physical capital. Items collected through assessor offices can shed some light in terms of how much physical space there is and approximate valuations for tax purposes.

The final forms of capital are human and social; while similar, there are important differences. Social capital is more about community networks and involvement. These are key for economic mobility as well. Human capital, on the other hand, is largely about the skills of the workforce.

Educational attainment and college degrees are not the be-all and end-all for measuring a productive workforce. Soft skills are just as important as technical skills in this regard. Plus on-the-job training and apprenticeship programs provide experience and technical skills but delivered through a different format than in a college classroom. That said, in an economy that continues to transition further away from goods-producing industries and into the knowledge economy, things like educational attainment and college degrees become more important.

Overall, Oregon’s workforce has solid educational attainment and compares similarly to the nation as a whole. Oregonians are somewhat more likely to have complete high school, attended college, and obtain a college degree. Increases in educational attainment match national trends, however these gains are not evenly spread across the state. Some metro areas are seeing substantial gains while others hardly any. See the Regional Comparisons section of this forecast (pg 19) for more on educational attainment across the state.

Looking forward, all of the different types of capital can help drive future economic growth. If a regional economy lacks in one type of capital, it is not a deathblow to growth. Rather it signals the area must rely on the other types or avenues for growth. But one type of capital is not inherently better than the others.

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 rate is currently at its historical low, with records going back to 1976. While good news, it is an open question whether the labor market truly is at full employment, or even beyond. Other measures of labor market slack, like the share of prime working-age Oregonians with a job indicates the economy is strong, but there is some room for further improvement.
Importantly, wages in Oregon remain strong, although different measures of wages have diverged a bit in recent years. The good news is that after three plus years of revisions, the wages as reported by the BEA and from the payroll records (QCEW) are once again telling the same story.

That said, withholding out of Oregonian paychecks continue to outstrip these other measures of economic wages. This gap is larger than it has been historically. It is also seen across nearly all industries and not confined to a particular sector or two. Our office and the Department of Revenue continue to research the topic. One item impacting these trends is the increase in withholding out of retirement accounts (pensions and IRA distributions). Given the increase in retirements and stock market returns, such withholdings are an increasing share of all withholding in the state, but are not directly tied to the labor market. Even so, wage growth for Oregon workers remains strong. Oregon’s average wage, while lower than the nation’s, is at its highest relative point since the mills closed in the 1980s.

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. Specifically, our office uses the benchmarked, or revised employment data through 2018q3 and imputes the 2018q4 through 2019q4 employment data based upon the available preliminary Oregon estimates, national data, and our office’s economic forecast model. As such, for this quarterly forecast, the first pure forecast period is 2020q1. The next official benchmark for Oregon employment will be released in early March and will be fully incorporated into the next quarterly forecast.

In the fourth quarter, total nonfarm employment increased 1.3 percent over the past year. Growth was led by the private

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5 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 2018. The QCEW is currently available through September 2019, thus the preliminary benchmark used here covers the October 2018 – September 2019 period.
sector at 1.3 percent, while the public sector increased 0.9 percent. These rates of growth are a clear step down from the full-throttle rates seen a few years ago, however still remain fast enough 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.

So far in recovery, the large service sector industries have generally led job growth in terms of the number of jobs added 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 nearly 12,000 jobs in the past year and account for 47 percent of all job gains across the state. Now, given these industries account for 38 percent of all Oregon jobs, today they are increasing at a similar rate as the rest of the economy. Growth in the past year is being led to a larger degree by wholesale, construction, and transportation, warehousing, and utilities.

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 and where each industry stands today relative to pre-recession peak levels.

Currently, thirteen 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. Over the past couple of years retail employment, other services, transportation, warehousing and utilities, and construction, in addition to the public sector have surpassed their pre-recession levels and are at all-time highs. Additionally, wholesale trade and metals and machinery manufacturing have fully regained their recessionary losses. Most recently non-durable manufacturing excluding food is all the way back back; this growth is led by beverages (breweries), chemicals, and plastics and rubber. In total, the twelve private sector industries at all-time highs account for 71 percent of all statewide jobs. The public sector accounts for an additional 16 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 recovering, although they still have much ground to make up. Transportation equipment manufacturing suffered the worst job cuts and is likely a structural decline.

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6 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.
due to the RV industry’s collapse. With that being said, the subsectors tied to aerospace are doing better 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. The near-term outlook for goods-producing industry is modest at best. While trade tensions appear to be subsiding, the strong U.S. dollar and relatively weak global economy point toward a flat outlook for manufacturing. That said, 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 even with layoffs and a closure recently.

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.

**Leading Indicators**

Over the past year the two Oregon-specific composite leading indicators are providing different signals. Our office’s Oregon Index of Leading Indicators (OILI) continues to signal ongoing growth in the coming months. The University of Oregon Index of Economic Indicators has largely moved sideways.

Upon closer examination, the number of individual indicators improving, slowing or contracting is pretty similar across the two series. The topline divergence is a result of the relative weights each index places upon each individual indicator. Given this and the fact these indexes are used as a green light-red light measure of future economic growth, neither of the two series are signaling recession or any real concerns for the time being.

As has been the case for more than a year, the manufacturing-related indicators weigh on both series. These include manufacturing hours worked, the purchasing managers’ index for manufacturing, and the strong U.S. dollar, all of which point toward continued manufacturing weakness. Other goods-producing

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indicators like industrial production and capital good orders are relatively weak but not currently signaling contraction.

Outside of these goods-related indicators, the rest remain solid to good. In general, economic forecasters see a somewhat heightened risk of recession in 2020, but these concerns are fading relative to six months ago. For now, baseline forecasts remain intact.

University of Oregon professor Jeremy Piger has created a real time probability of recession\(^9\) model, and finds there is a 2.1 percent chance the U.S. has entered into a recession. However, another recession will come, of that we can be sure. IHS Markit puts the probability of recession in the next year at 25 percent, while the Wall Street Journal Economic Forecasting Survey puts it at 24 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 good track record in their relatively 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 and stabilized. A few years ago, 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 – a bit more than 2,000 per month or about 2 percent – through mid-2021, but the state is past its peak growth rates for this expansion. Crucially, such gains remain strong enough to hold unemployment down and account for ongoing population growth. The economy should remain strong.

### Economic Forecast Summary

<table>
<thead>
<tr>
<th>Economic Indicator</th>
<th>Quarterly</th>
<th>Annual</th>
</tr>
</thead>
<tbody>
<tr>
<td>Personal Income, Nominal</td>
<td>U.S. 3.7</td>
<td>4.0</td>
</tr>
<tr>
<td>Wages and Salaries, Nominal</td>
<td>Oregon 5.3</td>
<td>4.4</td>
</tr>
<tr>
<td>Population</td>
<td>U.S. 0.7</td>
<td>0.7</td>
</tr>
<tr>
<td>Housing Starts</td>
<td>U.S. 1.34</td>
<td>1.34</td>
</tr>
<tr>
<td>Unemployment Rate</td>
<td>U.S. 3.5</td>
<td>3.5</td>
</tr>
<tr>
<td>Total Nonfarm Employment</td>
<td>Oregon 3.9</td>
<td>3.9</td>
</tr>
<tr>
<td>Private Sector Employment</td>
<td>U.S. 1.7</td>
<td>1.7</td>
</tr>
<tr>
<td></td>
<td>Oregon 2.0</td>
<td>1.9</td>
</tr>
</tbody>
</table>

After these near-term job gains, supply side constraints and longer-run demographic trends weigh on growth to a larger degree. These supply side constraints include a tighter labor market, infrastructure, energy costs, capacity utilization and the like. The large wave of retiring Baby Boomers will weigh on job growth rates for the

\(^9\) [http://pages.uoregon.edu/jpiger/us_recession_probs.htm/](http://pages.uoregon.edu/jpiger/us_recession_probs.htm/)
coming decade. There will be enough jobs overall, as the generational churn is hidden underneath the labor market’s surface.

The general characteristics of the current forecast remain the same as in recent quarters although employment is revised up and personal income is revised down slightly in keeping with revisions and tracking this year. One key factor impacting income growth is a lower inflation forecast. Real, or inflation-adjusted incomes are higher in the outlook, however nominal income is what matters for Oregonians and tax collections.

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. All other industries are expected to add jobs, albeit at somewhat slower rates than the economy overall.

In particular, goods-producing industries are expected to slow considerably relative to their strong gains in recent years. Natural Resources (mining and logging), along with wood products manufacturing are expected to hold steady in the years ahead.

Construction employment will continue to grow, but the pace of those gains will come back down to earth following exceptionally strong gains since 2013. Construction’s slowdown is in part that growth must cool off, but also that jobs appear to have outpaced increases in new home construction. One side effect of this pattern is that productivity within the construction industry is declining. More workers producing fewer units of new housing or remodel activity means industrywide productivity is lower today than a decade or two ago. This is evident in the national data as well and is something researchers continue to dig into. No consensus has been reached as of yet.

Manufacturing employment overall is not expected to see any growth in the coming years. This topline result masks some differences in individual subsectors. In particular growth among the state’s food and beverage manufacturers, predominantly breweries and wineries, offsets weakness elsewhere. That said, any further global weakening or strengthening of the dollar will weigh further on the outlook. Oregon as a whole is not expected to fully regain all of its Great Recession related manufacturing job losses. That said, both the Portland and Medford metro regions have fully regained their losses. Nationwide about 1 out of 5 metros have done so as well.

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 in line with population growth and the increased demand for public services, albeit just a hair faster than population growth alone. One public sector risk to the
outlook is PERS. The extent to which government hiring by local and state entities is impacted in the coming years as contributions increase is unknown.

Along with an improving labor market, strong personal income gains are here, although tax law changes have pushed around growth rates in the recent past (see the expiring Bush tax cuts and the fiscal cliff) and may do so again moving forward. Recent revisions have also lowered Oregon’s personal income below previous forecast estimates. Personal income is now forecasted to grow 4.6 percent in 2020, while picking up to 4.9 percent in both 2021 and 2020, then slow a hair to 4.8 percent in 2023. These growth rates slightly stronger than last quarter but given the revisions and lower inflation outlook, total nominal personal income in Oregon has been lowered 0.1-0.2 percentage points.

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 into their late-20s through their mid-30s, demand for housing will increase as well. In fact, given the underlying demographics, household formation should slightly outpace overall population growth in the coming years.

Housing starts in 2019 totaled just under 21,000, which is about the level of Oregon’s long-run average, at least prior to the housing bubble. The outlook calls for a few more gains as housing production increases to meet demand. Starts will increase to 22,400 in 2020, 23,300 in 2021 and 23,600 in 2022. Over the extended horizon, starts are expected to average around 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.

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 more worrisome trends or risks at the U.S. level means there should be concerns about the Oregon outlook. Should the U.S. fall into recession, Oregon will too. That said, should the U.S. economy accelerate, Oregon’s economy should receive a similar boost as well.
• Housing affordability. Even as the housing market recovers, new supply 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 a bit in the next year or three, to match the increase in demand, which will alleviate some 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 as fewer people can afford to move here, lowering net in-migration and the size of the labor force.

• Global Spillovers Both Up and Down. The international list of risks seems to change by the day: a pandemic in China, a hard Brexit, sovereign debt problems in Europe, equity and property bubbles in places like Canada, South America and Asia, political unrest in Hong Kong, the Middle East and Venezuela, nuclear arsenal concerns with North Korea, 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, or public debt burden – has spillover effects to the Oregon economy. Any economic slowing, or deteriorating relations in or with Asia is a potential threat to the Pacific Northwest.

• Federal fiscal policy. The uncertainty regarding federal fiscal policy remains a risk. Some policies are likely to impact Oregon more than the typical state, while others maybe not as much. 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, as was recently passed by Congress. 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 neighboring states have large federal and military workforces.

• Climate and Natural Disasters. Weather forecasting is even more difficult than economic forecasting a year or two into the future. While the severity, duration and timing of catastrophic events like earthquakes, wildfires and droughts are difficult to predict, we do know they impact regional economies. Fires damage forests and tourism. Droughts in particular impact our agricultural sector and rural economies to a larger degree. Whenever Cascadia, the big earthquake, hits, we know our regional economy and its infrastructure will be crippled and in need of immediate repairs. Some economic modeling suggests that Cascadia’s impact on Oregon will be similar to Hurricane Katrina’s on New Orleans. Longer-term issues like the potential impact of climate change on domestic migration patterns are likewise hard to predict and outside our office’s forecast horizon. There is a reasonable expectation that migration flows will continue to be strong as the rest of the country becomes less habitable over time.
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. This impact is certainly more muted today\(^\text{10}\), but a risk nonetheless.

Federal timber policy and transfers impact regional economies and local governments. Reductions in public employment and services are being felt in the impacted counties in recent years and decades. For more information from a historical perspective, see two recent blog posts, here and here\(^\text{11}\).

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.

<table>
<thead>
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<th>Alternative Scenarios</th>
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<tr>
<td></td>
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<td>Employment</td>
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<td>Baseline</td>
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<td>1.4%</td>
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<td>Personal Income</td>
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<td>Baseline</td>
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<tr>
<td>Severe Recession</td>
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</tbody>
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**Optimistic Scenario:**

The expansion is able to gather steam as the trade tensions and manufacturing weakness fade and recede into the rearview mirror of history. The U.S. economy builds momentum throughout 2020. The economy is once again firing on all cylinders, resulting in faster productivity growth which raises the speed limit of overall gains. Wages and incomes increase likewise increase at a faster rate. All of this results in stronger 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 and even turns positive as more Oregonians enter the labor market. 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

\(^{10}\) [https://oregoneconomicanalysis.com/2018/11/08/oregons-energy-intensity-and-household-spending/]


[http://oregoneconomicanalysis.wordpress.com/2013/05/28/timber-counties/](http://oregoneconomicanalysis.wordpress.com/2013/05/28/timber-counties/)
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.

Mild Recession Scenario:

The slowdown in domestic economic growth continues, global GDP weakens further in part due to trade tensions and fears of a coronavirus pandemic. Financial markets get spooked and the yield curve inversion deepens. The economy suffers from a broad loss in confidence and growing aversion to risk. Real estate prices correct and the housing market stall worsens, removing one potential driver of growth. Strained trade relations result in falling exports, business confidence tumbles and so does capital spending. The U.S. dollar strengthens further, choking off the manufacturing cycle entirely. These factors are enough weight on the recovery that by late-2020 the economy slides back into recession. Job losses ensue and while not severe – about 56,000 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 nearly 7 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:

After expanding for 11 years at relatively lackluster growth rates, the U.S. economy falls back into recession. Industrial production declines and the slower personal income growth in the U.S. worsens. Strained trade relations develop into an all-out trade war. The Fed, already lacking in traditional monetary policy ammunition, is not able to stave off such an impact. 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 9 percent and more than 150,000 Oregonians lose their jobs by early-2021.

Besides the domestic economic headwinds and Federal Reserve tightening, the likely culprit in this scenario is either a meltdown of the financial markets sparked by some geopolitical shock, or quickly rising inflation. Economic growth in the U.S., while fairly steady as of late, is not nearly strong enough to withstand an external financial shock of this magnitude, nor a Federal Reserve quickly raising rates to fight inflation. Further economic effects of a recession this size are personal income losses of around 5 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 Markit 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 seventeenth fastest among all states across the country in terms of growth with gains averaging 1.8 percent from 2019 through 2024. Total employment is expected to be the tenth strongest among all states at an annualized 0.7 percent, while manufacturing employment will be the second fastest in the country at 0.2 percent. Total personal income growth is expected to be 4.5 percent per year, the seventeenth fastest among all states, according to IHS.
Our office is equally, if not more bullish in terms of Oregon’s relative growth prospects. Much of Oregon’s advantage comes from population growth, specifically the ability to attract and retain young, working-age households. Even with our office’s downward revision to the population outlook, we still expect Oregon see 0.9 percent annual gains through 2024. IHS forecasts Oregon’s population to increase 0.8 percent. While a smaller difference than seen in recent forecasts, the impact of these differences compounds over the forecast horizon. Roughly speaking, the population forecast differences amount to 15,000 to 20,000 working-age Oregonians in a handful of years. This is not an immaterial difference. As such, our overall economic outlooks have diverged just a bit.

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 economy is equally bad elsewhere, particularly in California. Relative housing prices 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. Even as this expansion follows similar patterns, 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 recent years. Oregon’s labor force has never been larger. However, the participation rate may be a little lower than expected, when adjusting for the size of the population and the aging demographics. Such modeling is sensitive to assumptions but it is encouraging that much of the participation gap has closed as the expansion has endure.

A complicating factor is that Oregon is now at the point where demographics and the economy effectively offset one another. Job gains are just enough to account for the increase in Baby Boomers retiring. As such, the fact that Oregon’s labor force participation rate and employment to population ratio have flattened out and even fallen somewhat in recent months is not necessarily a cause for concern. What would be more concerning is if the declines accelerated or that demographically-adjusted participation rates no longer increased as the expansion continues.

Oregon’s industrial structure is very similar to the U.S. overall, even moreso than nearly all other states. That said, 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 growth to downward trajectory of the industry in Oregon is likely to continue.

With that being said, certainly not all hope is lost. Those top industries in Oregon comprise approximately 7 percent of all statewide employment. And many industries in which Oregon has a larger concentration that then typical state are expected to perform quite well over the coming decade. These industries include management of companies, food and beverage manufacturing, published software along with some health care related firms.

The state’s real challenges and opportunities will come in industries in which Oregon does not have a relatively large concentration. 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 around the country.

Another area of potential concern that may impact longer term economic growth is that of new business formation. Over the past few years, 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 fewer start-ups indicate 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.
Importantly, 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 when compared to other Left Coast locations; and an increasingly diverse industrial base.

Finally, one long-run concern for some policymakers and think tanks has been Oregon’s relatively low income and wage numbers in recent decades. Back in the heyday of the timber industry, Oregon’s per capita personal income and median household income were in-line with the nation overall. At this time, Oregon’s average wage was lower in part due to the industrial composition, but these lower wages were made up at the statewide level by demographics and household composition.

Even since the timber industry restructured following the severe early 1980s recessions, Oregon’s relative incomes have been lower. The regional economy experienced a major shock and it took quite a long time to recover. However, finally, in this current economic expansion, Oregon is regaining the ground lost decades ago.

Oregon’s median household income is currently at an all-time high, even after adjusting for inflation. More importantly, it now stands 2.4 percent higher than the U.S. overall. This marks the first time in more than 50 years that Oregonian incomes are higher than the nation. Similarly, average wages in Oregon are at their highest relative point since the mills closed in the early 1980s. And the state’s per capita personal income is back to where it was prior to the dotcom crash in 2001.

In terms of the outlook, expectations are for Oregon’s relative positions to hold steady in the coming years. 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 by 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.

One major factor influencing per capita personal income trends is the relative incomes at the very top of the distribution. Make no mistake, Oregon’s highest-income households have done well financially. However incomes at the top of the national distribution have increased even further. This gap among the richest households is large enough, and the incomes high enough to weigh on Oregon’s overall per capita income figures. One further item to note is that different data sets peg Oregon’s relative per capita income differently. The most commonly used BEA income shows Oregon’s per capita income at 93% the U.S. average in recent years. The most recent IRS data (2017) shows Oregon’s adjusted gross income per exemption
at 97% the U.S. average. The most recent Census data (2018) show Oregon’s per capita income at 100% the U.S. average. The differences between the series are a topic our office continues to research.

**Regional Comparisons**

Economic growth is driven by the number of workers in a regional economy and how productive each worker is. As discussed earlier in the forecast, human capital is one type that raises worker productivity. Overall Oregon’s educational attainment is solid to good. The share of working-age Oregonians with a college degree is increasing along with the country, even slightly faster. These gains are due to both migrants having higher levels of educational attainment, but also due to rising attainment among those born in Oregon as well. That said, there is considerable variation in educational attainment across the state.

On the upper end, the share of the working-age population with a college degree in the Corvallis MSA is among the highest in the nation. The Portland MSA has seen tremendous gains in the past decade and now ranks 18th highest among the 100 largest metros in the country. Similarly, the Bend MSA has undergone strong growth and local educational attainment now is higher than three-fourths of all U.S. metros. In rural Oregon, some places in the Gorge, along the North Coast, and in eastern Oregon have among of the highest levels of educational attainment in all of rural America.

However, one of the clear trends that has emerged in recent years is that educational attainment is not rising everywhere. Across much of the Rogue and Willamette Valleys the share of working-age residents with a college degree has essentially held steady for the past two decades.

Now, these regional economies do have above average shares of the workforce with Associate’s degrees or with some college coursework. Research clearly shows that every year of schooling helps when it comes to employment opportunities and wages. As such, some of these potential concerns may be overblown when focusing just on four year degrees.

That said, while stagnant educational attainment might not be an outright barrier to growth, it is certainly an issue to watch. This goes for much of rural Oregon as well, which has solid to great attainment compared to the rest of rural America, but is likewise not seeing the gains that Bend, Corvallis and Portland are.

Why is this an issue to watch and not an outright barrier to growth? First, all regions of the state are seeing good economic growth this cycle and in recent years. Jobs and incomes are rising while poverty is falling. The lower or
stagnant levels of educational attainment do not appear to be holding back growth so far. Furthermore, there are other types of capital. When a regional economy lacks one type, it is more reliant upon the others to drive productivity and long-run growth.

The concern is that by removing one avenue of future growth, or one source of productivity, it may at some point put a lid on future economic gains overall. Plus some of the growth in recent years is cyclical and represents digging out from the aftermath of the Great Recession. Pushing the productive capacity of the economy forward requires innovation, productivity enhancements, and a growing labor force. The pieces of the puzzle do not have to be the same size nor account for the same share, but they must fit together to drive future economic growth.