Oregon Economic and Revenue Forecast

September 2016

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Foreword

This document contains the Oregon economic and revenue forecasts. The Oregon economic forecast is published to provide information to planners and policy makers in state agencies and private organizations for use in their decision making processes. The Oregon revenue forecast is published to open the revenue forecasting process to public review. It is the basis for much of the budgeting in state government.

The report is issued four times a year; in March, June, September, and December.

The economic model assumptions and results are reviewed by the Department of Administrative Services Economic Advisory Committee and by the Governor's Council of Economic Advisors. The Department of Administrative Services Economic Advisory Committee consists of 15 economists employed by state agencies, while the Governor's Council of Economic Advisors is a group of 12 economists from academia, finance, utilities, and industry.

Members of the Economic Advisory Committee and the Governor's Council of Economic Advisors provide a two-way flow of information. The Department of Administrative Services makes preliminary forecasts and receives feedback on the reasonableness of such forecasts and assumptions employed. After the discussion of the preliminary forecast, the Department of Administrative Services makes a final forecast using the suggestions and comments made by the two reviewing committees.

The results from the economic model are in turn used to provide a preliminary forecast for state tax revenues. The preliminary results are reviewed by the Council of Revenue Forecast Advisors. The Council of Revenue Forecast Advisors consists of 15 specialists with backgrounds in accounting, financial planning, and economics. Members bring specific specialties in tax issues and represent private practices, accounting firms, corporations, government (Oregon Department of Revenue and Legislative Revenue Office), and the Governor's Council of Economic Advisors. After discussion of the preliminary revenue forecast, the Department of Administrative Services makes the final revenue forecast using the suggestions and comments made by the reviewing committee.

Readers who have questions or wish to submit suggestions may contact the Office of Economic Analysis by telephone at 503-378-3405.

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Table of Contents

EXECUTIVE SUMMARY

September 2016

The economic expansion continues. However a few mounting concerns muddy the outlook with risks clearly tilted toward the downside. The good news is the nation continues to muddle through various headwinds with job growth strong enough to bring down headline unemployment and make some progress on underemployment. The strengthening labor market, better wage gains and strong household balance sheets continue to support the U.S. consumer, the only real economic bright spot in the past eighteen months.

Even so, there are a number of worrisome trends that have emerged in the data that should give forecasters pause. First, manufacturing and industrial production continues to be weak. Second, personal income growth nationwide is slowing. Third, due to slowing tax revenues, an increasing number of state revenue forecasters are missing their forecasts. Fourth, the dearth of new business investment is weighing on growth. All told, even with these concerning trends, the baseline outlook still calls for the expansion to continue. And while expansions do not die of old age – they die due to mistakes – the economy is clearly closer to the next recession than not.

While some U.S. data is slowing, Oregon's expansion continues to see full-throttle rates of growth. Oregon is outpacing the typical state by a considerable margin today for both job and income gains. This growth differential largely comes from the state's underlying fundamentals like its industrial structure and strong in-migration flows. Both of these trends have long-lasting impacts on the Oregon economy and help drive the state's more volatile swings over the business cycle.

Oregon's General Fund revenue outlook remains stable. Personal income tax collections continue to expand at a healthy pace, keeping revenues in line with what was expected when the budget was drafted. Oregon's General Fund revenues are currently expected to end the biennium within 0.1% of the Close of Session forecast.

Personal income tax collections continue to reflect Oregon's strong underlying labor market. Withholdings out of paychecks expanded at an 8% rate during fiscal year 2016. As such, state revenue growth in Oregon remains among the strongest in the U.S. State revenue growth would have been even more rapid in recent months if not for the payout of the personal income tax kicker generated during the 2013-15 biennium. The vast majority of kicker payments have now been made, and will no longer weigh on overall collections.

In contrast to the healthy growth seen in personal income tax collections, corporate tax collections have been falling sharply in recent months. Nationwide, corporate profits have taken a step back, largely due to rapid appreciation of the U.S. dollar and struggles among energy firms and other commodity producers. Even so, profits and corporate tax collections remain large relative to historical norms. Given the expectation that collections would return to earth, revenue declines were built into the forecast, leaving the outlook very close to the Close of Session forecast for now. Declines are expected to continue through the current fiscal year, further reducing annual revenues by around $50 million.

In addition to healthy General Fund revenue growth, Oregon Lottery sales and Estate taxes have been very strong as well. Recent collections have consistently come in above expectations.

Revenue growth in Oregon and other states will face considerable downward pressure over the 10-year extended forecast horizon. As the baby boom population cohort works less and spends less, traditional state tax instruments such as personal income taxes and general sales taxes will become less effective, and revenue growth will fail to match the pace seen in the past.

ECONOMIC OUTLOOK

Economic Summary

The economic expansion continues. However a few mounting concerns muddy the outlook with risks clearly tilted toward the downside. The good news is the nation continues to muddle through various headwinds with job growth strong enough to bring down headline unemployment and make some progress on underemployment. The strengthening labor market, better wage gains and strong household balance sheets continue to support the U.S. consumer, the only real economic bright spot in the past eighteen months.

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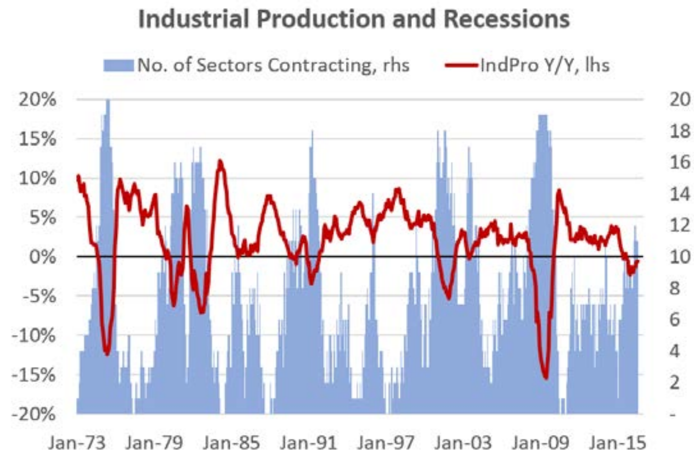
U.S. Economy

The U.S. economic expansion continues. However a few mounting concerns muddy the outlook with risks clearly tilted toward the downside. The good news is the nation continues to muddle through various headwinds with job growth strong enough to bring down headline unemployment and make some progress on underemployment. The strengthening labor market, better wage gains and strong household balance sheets continue to support the U.S. consumer, the only real economic bright spot in the past eighteen months. The baseline outlook still calls for the expansion to continue. And while expansions do not die of old age – they die due to mistakes – the economy is clearly closer to the next recession than not. While job growth and consumption remain healthy, which is vital to any expansion, three worrisome trends have emerged in the data that should give forecasters pause.

First, industrial production continues to be weak. The initial production declines followed the oil and gas bust of 2014 and the appreciation of the U.S. dollar. Clearly the severe, industry-specific shock hit U.S. mining firms and their suppliers, like metal makers. The worsening terms of trade weighed on exports and export-dependent sectors like aerospace. These losses were initially confined to just a handful of subsectors.

What is worrisome is not that Houston, TX employment has crawled to a halt or the job losses in the rural areas of the oil patch. The concern is that even as topline industrial production numbers have leveled off and may even be growing again in recent months – it is too soon to tell – the underlying weakness has spread. In recent months a little more than half of all subsectors are seeing production declines over the past year, an increase from the initial handful a year ago. What makes a recession is when everything goes down together. Right now, producers of goods are somewhere in the middle between concentrated losses in a few industries and widespread losses across the board.

The good news for manufacturers is that the U.S. dollar has stopped appreciating so far in 2016. However the dollar remains nearly 20 percent stronger vis-à-vis our major trading partners than two years ago. A stronger dollar makes domestic goods and services more expensive to foreign buyers. Fewer exports leads to slower economic growth, everything else equal. That said, most manufacturing data remains mixed at best. New orders for capital goods are lower today than last year. The ISM manufacturing purchasing managers' index is still registering positive readings, but just barely. Manufacturing employment and hours worked are holding up so far, but no jobs have been added since late 2014.



20 Sectors within Industrial Production at the 3 Digit NAICS level
Latest Data: July 2016 | Source: Federal Reserve, Oregon Office of Economic Analysis

The second major concern is the slowdown in personal income growth nationwide. Across nearly all components of income, the rate of growth is slower today than a year or two ago. Wages have slowed, as has nonfarm proprietors' income, which can be thought of as small business income. Transfer payments, both public and private, with or without unemployment insurance, are slowing too while dividends and interest income remains flat. The only income components that show sturdier trends are supplements to wages (i.e. worker benefits) and rental income, likely a result of the hot housing markets in most big metros nationwide. The good news is that only about half the time does a recession immediately follow a significant slowing in personal income growth. The other times reflect policy changes or the ebbs and flows over an expansion. A more likely scenario would be if the income slowdown persists it would slow consumer spending, weakening the main pillar of recent growth.

Latest Data: July 2016 | Source: BEA, Oregon Office of Economic Analysis

The third worrisome trend fits this potential scenario. An increasing number of state revenue forecasters – our office's counterparts around the country – have missed their forecasts. This is particularly the case for sales taxes, possibly a sign of weakening consumer spending, and/or just ongoing issues with sales tax effectiveness in general. However withholdings out of paychecks have been less than stellar as well. While it can be difficult to determine how much of the forecast error is due to worsening revenue trends and how much is due to forecaster mistakes, the increased chatter across states is worth monitoring.

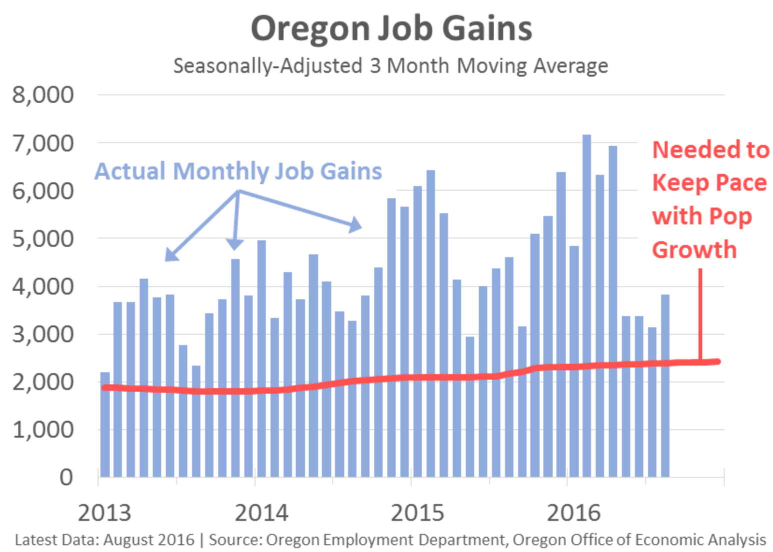
All told there is not a clear recession signal yet. However each trend is worrisome in its own right. The fact that business investment nationwide is essentially nonexistent today, manufacturing has stalled out and overall income growth is slowing point toward late business cycle behavior. The U.S. economy is closer to the next recession than not. However that does not mean it will fall into recession next quarter or probably not even next year. The Wall Street Journal consensus recession probability is still just 21 percent for the next year. Expansions do not die of old age, they die due to mistakes. Should these worrisome trends continue, the stage is set for policy mistakes such as the Federal Reserve raising rates into the weakening economy.

That said, the baseline outlook remains that of continued economic growth. And Moody Analytics' chief economist, Mark Zandi, continues to highlight the economy's multiple drivers of growth – namely the strong consumer, housing demand, and the fact the worst of the energy bust is already over. While muddling through is the most likely scenario, persistent and/or growing weakness is a concern.

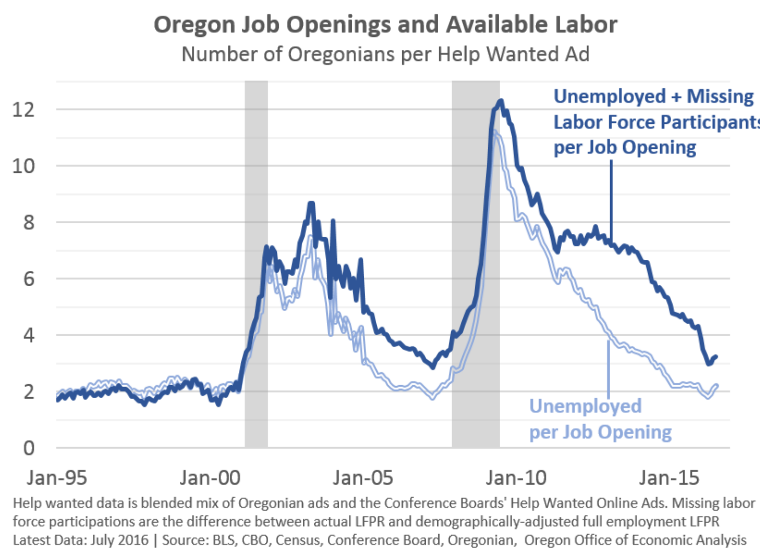
Oregon Economy

While some U.S. data is slowing or showing worrisome signs, Oregon's expansion continues to see full-throttle rates of growth. Oregon is outpacing the typical state by a considerable margin today for both job and income gains. This growth differential largely comes from the state's underlying fundamentals like its industrial structure and strong in-migration flows. Both of these trends have long-lasting impacts on the Oregon economy and help drive the state's more volatile swings over the business cycle.

That said, Oregon job gains have slowed somewhat in the most recent months. These gains, however, remain more than enough to keep pace with population growth. The result is a tightening labor market across the state.



Overall this marks a return to what can considered normal labor market dynamics. First, strong job growth diminishes economic slack and the pool of potential workers from which firms hire. Second, as labor becomes scare, businesses must compete more on price to attract and retain the best employees. Wages rise for workers. Third, more individuals begin to look for these now more-plentiful, and better-paying jobs. Currently, the Oregon economy is in this virtuous cycle in which all of these dynamics are taking place.



In terms of the outlook, a tight labor market has a few different implications. For businesses it does become more difficult to find workers to fill positions. Firms must broaden their search and be willing to hire individuals who may not have perfect credentials or experience. In 2015, Oregon businesses reported that a lack of applicants was the primary issue on just 36% of their difficult-to-fill positions[1]. On-the-job training

[1] The lack of applicants in general is the largest individual response for why positions are difficult to fill. However they still remain a minority. Combined the lack of qualified candidates, lack of work experience, lack of soft skills and lack of training

becomes considerably more important in a tight market than during the depths of the Great Recession when unemployed Oregonians outnumbered job openings by more than 10 to 1. Businesses could be picky when the candidate pool was deep. This is no longer the case in 2016 where there are just 2 unemployed Oregonians per job opening. Even if you add back in the "missing" labor force participants – those who would likely look for work in a stronger economy – the ratio is 3 to 1. There is no question that the labor market is getting tight. In order to hire workers, businesses will either take bigger chances on less-than-perfect candidates or hire away workers from competitors with better compensation packages and/or work environments.

For workers a tight labor market brings great news as demand for their services (labor) increases relative to the supply. Businesses must compete more to attract and retain the best employees. One major issue with stagnant wages in the 2000s was the fact that the U.S. and Oregon economy never fully healed from the 2001 recession. The housing boom was too short and too lackluster for the economy to reach full employment in many places. Thus workers were not very scarce and had less bargaining power in general.

Today, as the economy approaches full employment, wages are rising. Oregon's wage gains are outpacing the typical state as well. Oregon's average wage today, while lower than the nation's, is at its highest relative point since the mills closed in the 1980s. These gains are primarily due to broad-based increases seen across the state in different industries and in different geographic regions. In a tight labor market, expectations are for continued strong wage gains. One recent example is the effective minimum wage on the Oregon coast today. Firms were initially worried about the increase in business costs from the state's new minimum wage law. However the tight labor market on the coast means firms are starting wages at $11 per hour already, a threshold not mandated by the new law until the summer of 2019. The market has responded. Of course one concern regarding the minimum wage is how the market and businesses respond in a downturn, not just an expansion and tight labor market like currently seen.

Oregon has added an average of nearly 5,000 jobs per month since the beginning of 2014. Such gains are not sustainable over the long-run, they represent peak economic growth rates. These gains also eat up economic slack and regain lost ground from the recession. As the economy approaches, and reaches full employment, growth is expected to slow to a sustainable rate. Unfortunately measuring full employment or economic slack is not a simple calculation but rather an estimate based on assumptions. That said, Oregon is close. The unemployment rate is low, those working part-time for economic reasons is back to pre-Great Recession rates, wages are rising and the state's labor force participation rate is increasing as well. The regional economy can expect to slow in the not too distant future. However, even as there are no real weaknesses in the Oregon data and our office's advisors remain bullish, the economy does not typically transition from expansion to sustainable rates. The economy usually slams down into recession and the cycle starts anew.

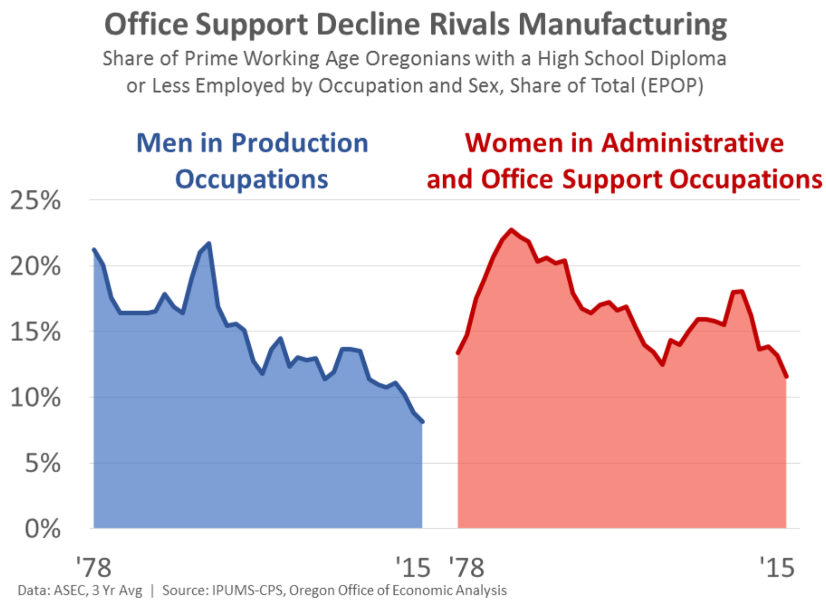
Educational Attainment, Labor Force Participation and Middle-Wage Jobs

While labor force participation rates have fallen nationwide over the past two decades, including here in Oregon, these declines are not evenly distributed. Men and women with college degrees have seen the best outcomes in terms of wages and employment. On the other hand, individuals with less formal schooling have seen worse outcomes and the largest participation declines. A big reason for this is the loss of middle-wage jobs which tend to pay $30-50,000 per year and not require a college degree.

account for a similar 37% of why positions are difficult to fill. https://www.qualityinfo.org/-/increasing-difficulty-filling-job-vacancies-in-oregon

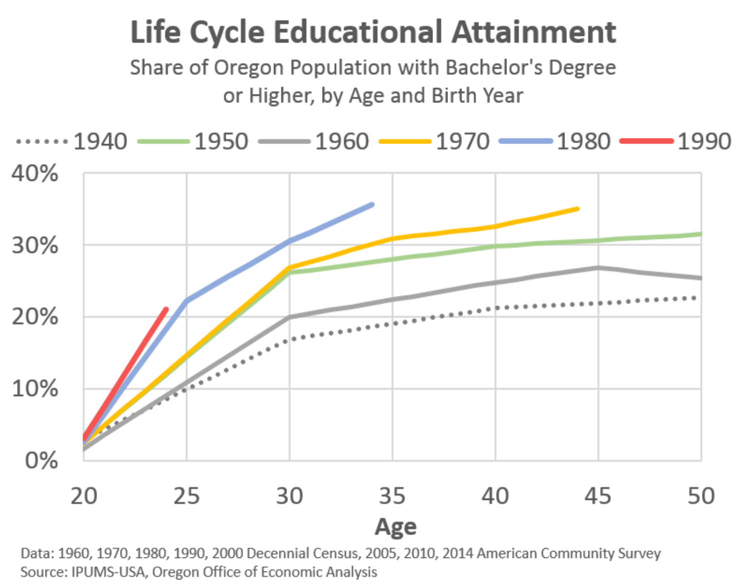
When discussing these trends much of the focus is on the loss of traditional blue collar jobs that are generally held by men without college degrees – construction, production (manufacturing), transportation and maintenance and repair workers. The story of how globalization and technological change have hollowed out some of these jobs is well known. Not only are there fewer such job opportunities today, but their relative wages have eroded and there is no longer much of a manufacturing wage premium, for example. This is a big reason why the vast majority of the "adjustment" to the loss of middle-wage jobs is a corresponding increase in nonparticipation rates. Some are able to find work in high- or low-wage jobs, but more than 70 percent eventually drop out of the labor force entirely.

However middle-wage job losses and their impact on women without college degrees is not commonly discussed, if at all. Unfortunately, the overall trends are very similar. In the 1970s, about 1 in 5 prime working age Oregon men with high school diploma or less worked in a production job. In the 1980s, about 1 in 5 prime working age Oregon women with a high school diploma or less worked in an office and administrative support job. Today, employment rates in these occupations is roughly half of what it was a generation ago. The reasons for the declines are similar as well: technological change and workplace practices.



Office support workers today are considerably more productive than a generation ago through the use of computers, software, travel websites and the like. Businesses have also changed hiring and staffing patterns, which combined with changes in technology and increased productivity have effectively eliminated entire occupations like switchboard operators, file clerks and typists. All told these changes have resulted in about 50,000 fewer such jobs in Oregon just from 2000 to 2015, across both sexes and all education levels.

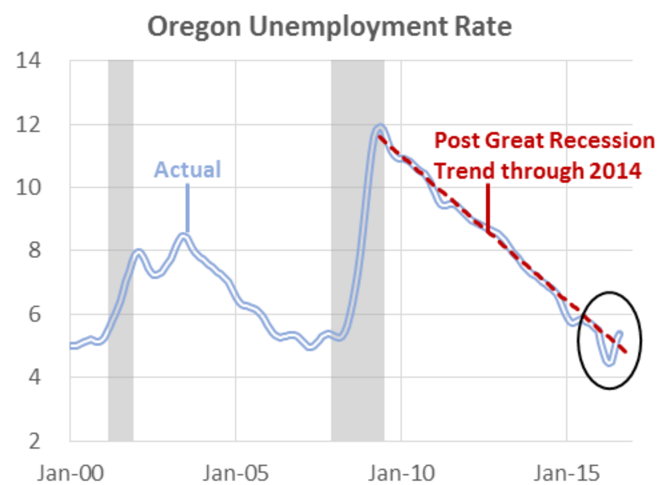
In the near-term, middle-wage jobs are on the upswing. The economy is adding more construction and teaching jobs in recent years and manufacturing has regained about half of its Great Recession losses. This brings some relief to the job market, however middle-wage jobs are unlikely to fully regain their share of the economy overall, even as they grow in absolute terms.



Job polarization is more structural than cyclical, or more permanent than temporary. Economists and policymakers continue to call for higher levels of educational attainment in response, and rightfully so. Younger generations are taking note. The Millennials are on track to be the best-educated generation on record, at least when measured by college degrees. However education goes beyond degrees to include training programs, certificates, apprenticeships and the like. While easier said than done, more focus should be put on these types of education to help workers improve their skills, particularly those that businesses value, which will likewise improve labor market outcomes (employment and wages).

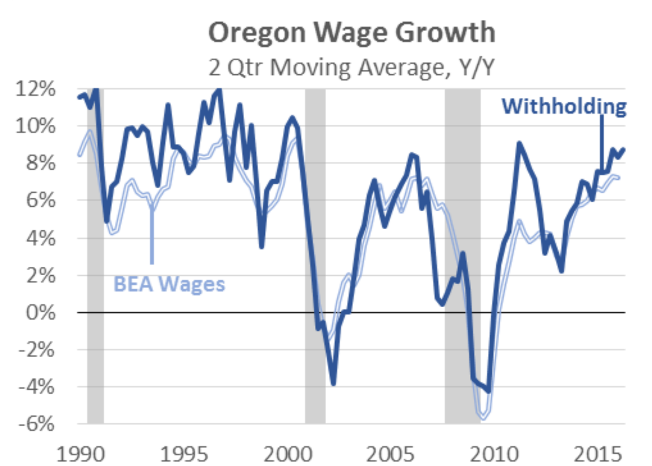
Oregon's Labor Market

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 showing strong improvements with jobs being added, wages increasing and the unemployment rate declining over the past year.



Source: Oregon Employment Department, Oregon Office of Economic Analysis

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.



Differences in 2007 and 2011 due to withholding table changes by Oregon Dept of Rev.
Source: BEA, Oregon Dept of Revenue, Oregon Office of Economic Analysis

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.

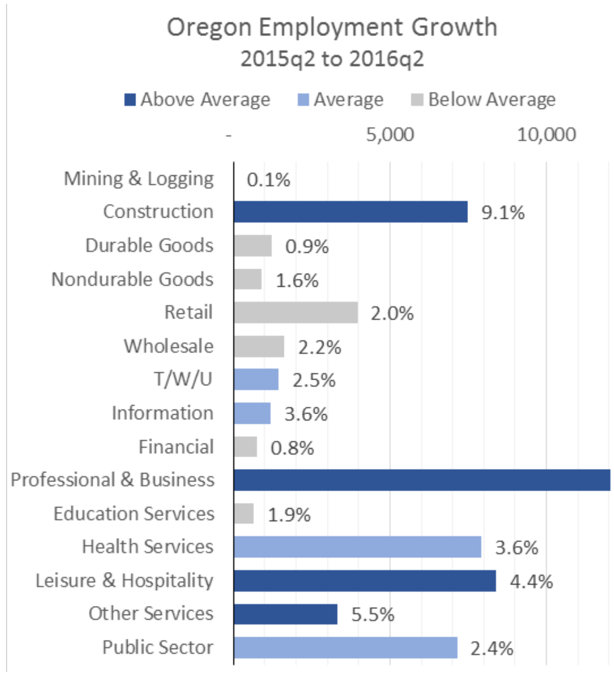
While national wage trends have just begun to accelerate in the past nine to twelve months, Oregon's have been strong for a couple years now. Even Oregon's average hourly earnings have accelerated in the past year. Previously this measure, which only began in 2007 and thus is still new, had been growing 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.

The most recent job growth rankings, published by Arizona State University's W.P. Carey School of Business[2], places Oregon 3rd in the nation for job growth in July. Over the past year the state has added 56,600 jobs, or an increase of 3.2 percent. Using the Oregon Employment Department's preliminary benchmarked employment data, it shows slightly weaker figures. Oregon added 55,700 jobs over the year for a 3.1 percent growth rate, which would still rank 4th fastest, trailing our Western neighbors Washington, Utah and Idaho. For comparison and to show Oregon's acceleration over the past couple of years, in 2013 Oregon ranked 11th fastest with growth of just 2.1 percent.

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[3].

In the second quarter, total nonfarm employment increased 3.3 percent over the past year with the private sector growing at 3.5 percent and the public sector at 2.4 percent. These rates of growth are essentially on par with the height of the housing boom and among the best Oregon has experienced in the past generation.

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,



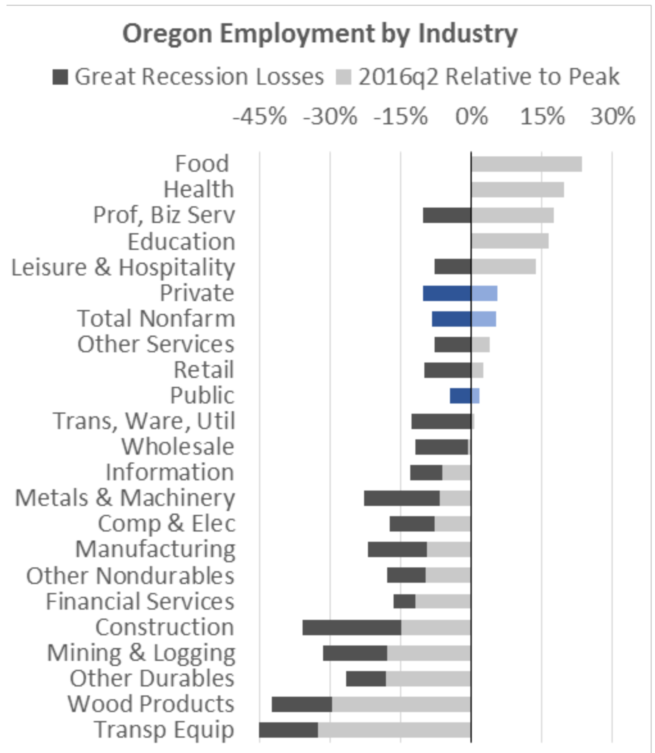
[2] http://research.wpcarey.asu.edu/seidman/current-state-rankings/

[3] 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 March 2016, thus the preliminary benchmark used here covers the October 2015 – March 2016 period.

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 29,400 jobs in the past year and account for 50 percent of all job gains across the state. The good news is that this share is smaller than a few years ago as other industries continue to add jobs as well, which was not the case earlier in the expansion.

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



Currently, eight 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 both retail emploment, other services and the public sector have surpassed their pre-recession levels and are at all-time highs. The seven private sector industries at all-time highs account for 55 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[5]. 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, and with a strong manufacturing cycle today, the goods-producing industries have and will exhibit stronger growth than in past cycles. Although, even with relatively strong manufacturing gains in recent years, the industry is unlikely to fully regain all of its lost jobs. Oregon manufacturers typically outperform those in other states, in large part due to the local industry make-up. Oregon does not rely upon old

[4] 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.
[5] http://oregoneconomicanalysis.com/2012/07/10/rv-workers-and-reemployment/

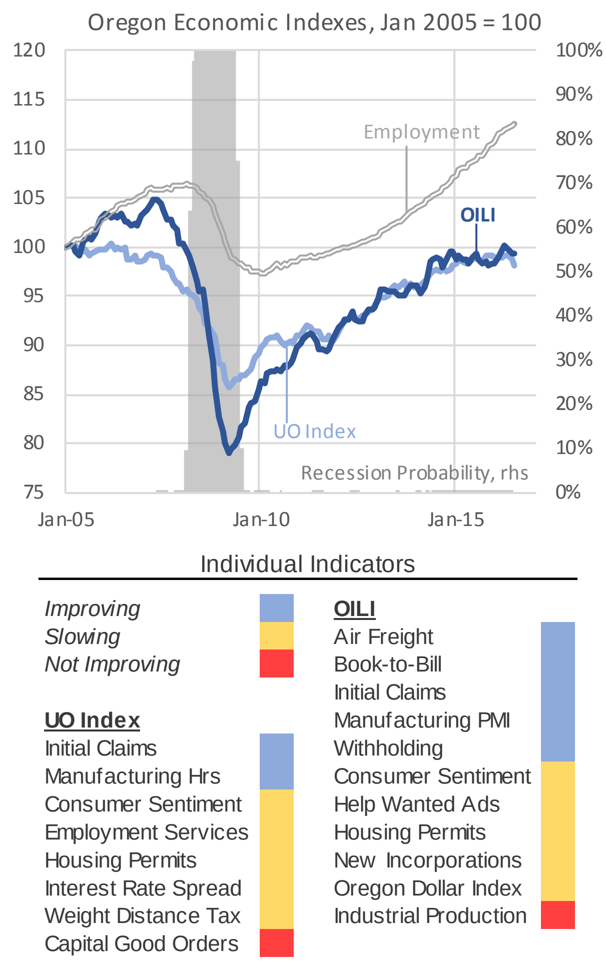
auto makers or textile mills. The state's manufacturing industry is comprised of newer technologies like aerospace and semiconductors. Similarly Oregon's food processing industry continues to boom.

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.

Leading Indicators

Both of the Oregon-specific composite leading indicators have gyrated up in early 2016 and back down in recent months. This following a period where each was more of a mixed bag as our office's Oregon Index of Leading Indicators (OILI) and the University of Oregon's Index of Economic Indicators were essentially flat, or unchanged, from about mid-2014 to late-2015. The unchanged topline hid a stark divergence 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. Withholdings out of Oregon paychecks continues to see robust 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 6 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 lower.

Right now the U.S. economy is not in recession. University of Oregon professor Jeremy Piger has created a real time probability of recession[6] model, and finds there is just a 0.4 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 21 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 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

Robust job growth continues in Oregon. Since the beginning of 2013, Oregon job growth has picked up from around 1.5 to 2.0 percent to more than 3.0 percent today. The outlook calls for slightly slower growth through the end of 2017 – around 2.7 or 2.8 percent. However these 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. Previously our office expected job growth of around 3 percent annual through the end of 2017, while the current outlook expects growth slightly less strong. 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.

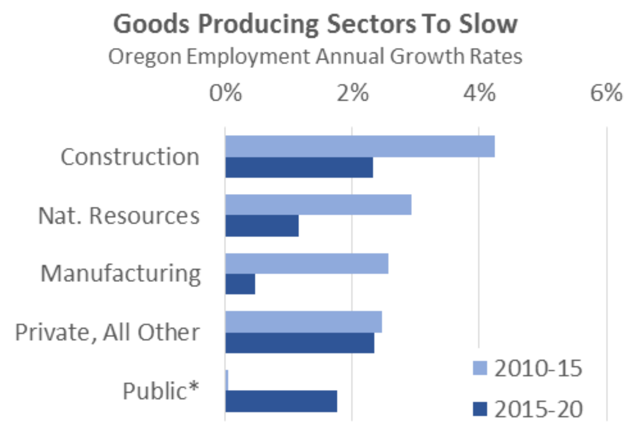
Should this overall economic outlook come to pass, it will match the equivalent of previous expansions in Oregon. Given demographic trends today, particularly the aging Baby Boomer cohort, job growth of 3 percent is considered full throttle. In decades past, growth of 4 or 5 percent was common during 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.

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

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, have been growing at above-average rates. However, this is expected to change moving forward. All three major goods-producing industries are expected to grow slower in the coming years than they have seen in the recent past. 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 is expected to experience very minimal gains in the coming years. Not only is Intel, the state's largest private employer, downsizing, much, if not all of the cyclical rebound in manufacturing has run its course. 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. The baseline outlook does not call for outright manufacturing job losses overall, however that does remain a distinct possibility and risk to the outlook.



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				
		2016:2	2016:3	2016:4	2017:1	2017:2	2015	2016	2017	2018	2019
Personal Income, Nominal	U.S.	2.9	4.8	4.7	4.9	4.8	4.4	3.3	4.7	5.0	5.0
% change	Oregon	4.6	6.4	5.6	5.9	6.0	6.0	5.3	6.0	6.3	5.8
Wages and Salaries, Nominal	U.S.	2.4	5.1	5.2	5.5	5.2	5.1	3.5	5.1	5.0	4.7
% change	Oregon	3.9	7.8	6.4	6.9	7.0	6.9	6.6	6.9	6.6	5.5
Population	U.S.	0.8	0.9	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
% change	Oregon	1.3	2.2	1.1	1.1	1.2	1.3	1.4	1.4	1.4	1.3
Housing Starts	U.S.	1.16	1.18	1.22	1.27	1.36	1.11	1.18	1.37	1.49	1.55
U.S. millions, Oregon thousands	Oregon	18.3	18.6	19.5	20.5	21.1	16.0	18.9	21.4	23.0	23.1
Unemployment Rate	U.S.	4.9	4.9	4.8	4.7	4.7	5.3	4.9	4.7	4.8	4.9
	Oregon	4.6	5.0	5.0	5.0	5.1	5.7	4.9	5.1	5.3	5.4
Total Nonfarm Employment	U.S.	1.3	1.7	1.4	1.5	1.0	2.1	1.7	1.2	0.8	0.8
% change	Oregon	2.6	2.7	2.8	2.9	2.8	3.3	3.2	2.7	2.1	1.2
Private Sector Employment	U.S.	1.4	1.8	1.7	1.7	1.1	2.4	2.0	1.4	0.8	0.8
% change	Oregon	2.6	2.7	2.8	3.0	3.0	3.6	3.4	2.9	2.3	1.2

Along with an improving labor market, stronger personal income gains will come. 2013 personal income is estimated to have increased by just 1.6 percent. This largely reflects the pulling forward of investment-type income into 2012 in anticipation of increased federal tax rates in 2013. Personal income rebounded strongly in 2014, with gains of 5.7 percent, followed by 6.0 percent growth in 2015. Continued strong gains are expected moving forward, along with a full throttle economic expansion. Income growth is forecasted to be 5.3 percent in 2016 and 6.0 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 18,300 at an annual pace. While this marks a slight slowdown from the first quarter, these levels of construction are the highest since 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 nearly 19,000 in 2016 and nearly 22,000 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. While there are no real worrisome signs in the Oregon data as of today, the fact that there are some worrisome trends at the U.S. level means Oregon should be concerned. 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.
- Strength and durability of the housing market recovery. The housing market is recovering in fits and starts in recent years, at least in terms of new construction and the economic boost it provides. This uneven pattern of growth has direct implications for regional economies within in the state – namely the medium sized metros and more rural areas. As the recovery continues, some of the same underlying dynamics of growth will reappear. Chief among them is low inventory, which is not keeping up with demand. As such, home prices are rising. There remains much more room for improvement before the market (sales of both existing homes and new construction activity) reflects anything approaching normal levels. While foreclosures and long-term delinquency rates remain somewhat elevated, when

compared with pre-recession levels, the market has certainly passed the peak of foreclosures and is working through the backlog of distressed properties. Oregon, with the rest of the nation, will see sizable improvements of construction activity in 2016 and 2017.

- 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 somewhat this year, 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 payments. Even with the temporary reinstatement, 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[7].
- 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.

Optimistic Scenario: 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. 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.

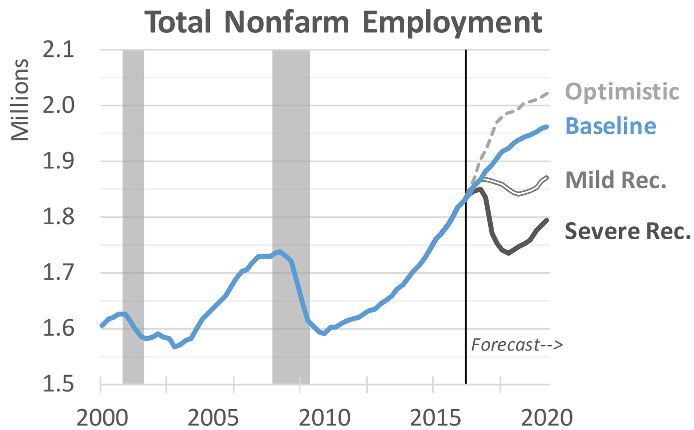
In Oregon, job gains are broad based with strong growth in all private sector industries. The unemployment rate remains lower than under the baseline scenario as individuals are able to find employment more readily and income growth accelerates. The labor force participation gap closes. The increase 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 by late 2016 or about a year earlier than the baseline.

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. The housing market stalls (again), removing one driver of growth. The Fed's tightening in December 2015 and September or 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 late-2016 the economy slides back into recession. Job losses ensue in 2017, 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 7.5 percent. The net effect of the mild recession is an extended period of prolonged economic

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

weakness, not unlike Japan's so-called Lost Decade(s). Although inflation is expected to remain positive, a key difference.

Alternative Scenarios **Sep 2016**



	2016	2017	2018	2019
Employment				
Baseline	3.2%	2.7%	2.1%	1.8%
Optimistic	3.6%	4.9%	2.8%	2.0%
Mild Recession	3.2%	1.5%	-0.9%	-1.0%
Severe Recession	3.1%	-1.8%	-3.3%	-1.7%
Personal Income				
Baseline	5.3%	6.0%	6.3%	6.1%
Optimistic	6.7%	9.1%	7.2%	6.6%
Mild Recession	5.3%	4.7%	3.4%	3.6%
Severe Recession	5.3%	1.2%	0.2%	2.6%

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 (twice!) 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 fourth fastest among all states across the country in terms of growth with gains averaging 3.0 percent through 2021. Total employment is expected to be the eighth strongest among all states at an annualized 1.5 percent, while manufacturing employment will be the fourth fastest in the country at 1.2 percent. Total personal income growth is expected to be 5.1 percent per year, the eighth fastest among all states, according to IHS Economics.

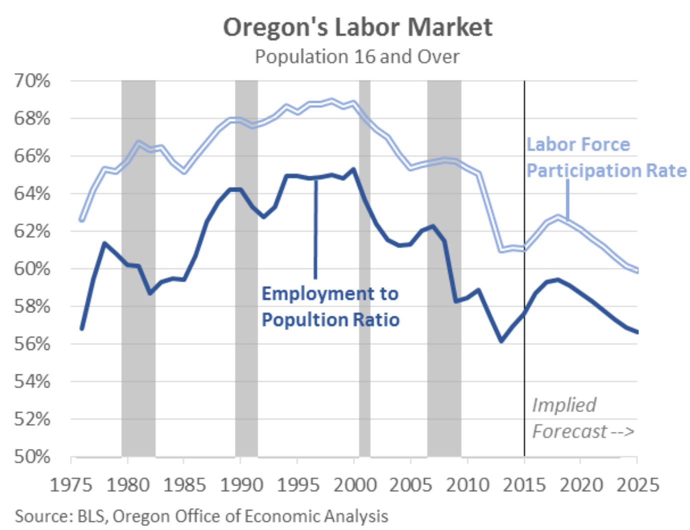
OEA is somewhat more bullish as our office expects the peak growth rates in the economy to persist longer than does IHS. Oregon will also maintain a growth advantage relative to other states. However, this advantage will be somewhat smaller than the state has enjoyed in past decades.

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 itself, some of the damage is likely to be permanent. The longer the expansion continues, the more likely the permanent damage will be small.

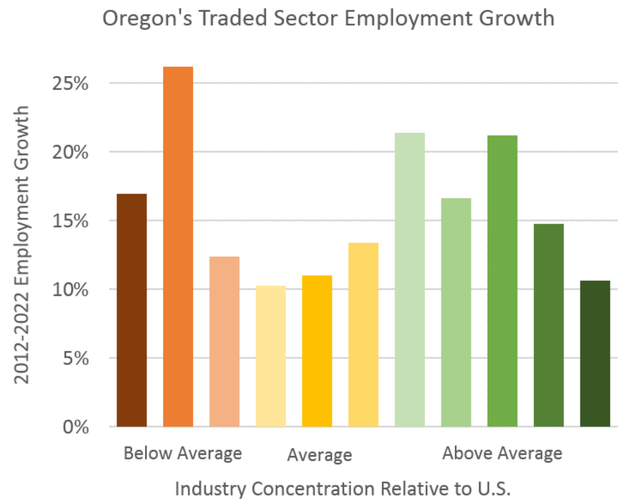
All told, our office's baseline outlook calls for some continued improvement in the near-term for both the labor force participation rate and the employment to population ratio. These gains are due to the shorter run cyclical rebound in the economy, before longer-run demographic trends will weigh on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



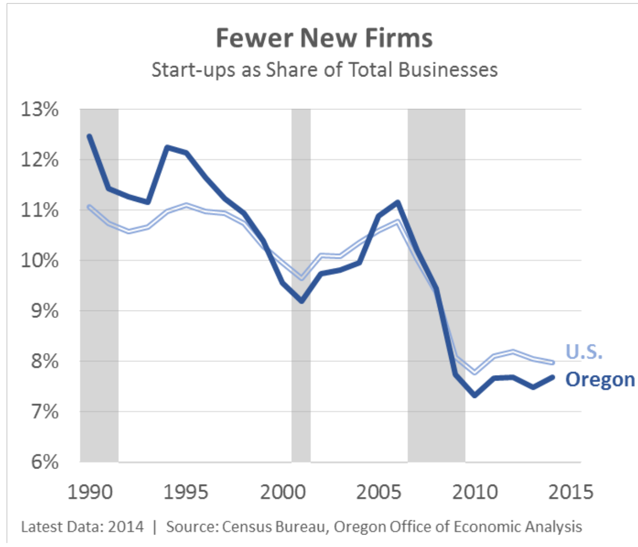
Oregon's industrial structure is very similar to the U.S. overall, even moreso than nearly all other states. Oregon's manufacturing industry is larger and weighted toward semiconductors and wood products, relative to the nation which is much more concentrated in transportation equipment (autos and aerospace). 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.

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.



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

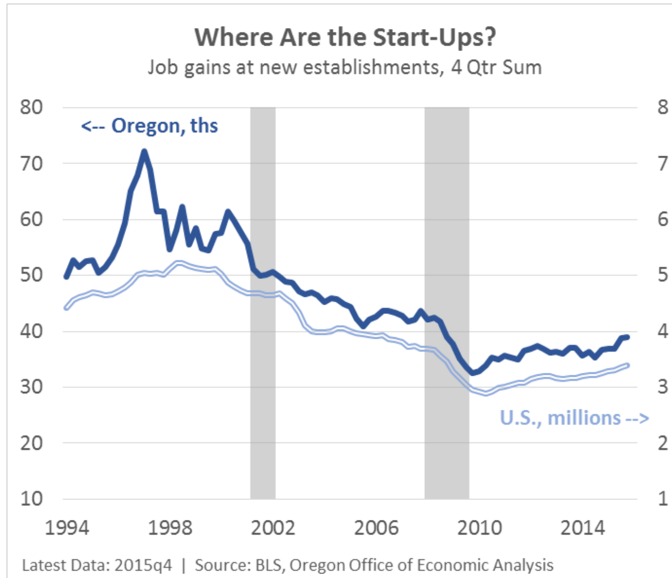


The share of all businesses that are start-ups, either in Oregon or across the nation, is effectively at an all-time low, with data starting in the late 1970s. Associated start-up employment follows a similar pattern. The concern is that new businesses are generally considered the source of innovation 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.

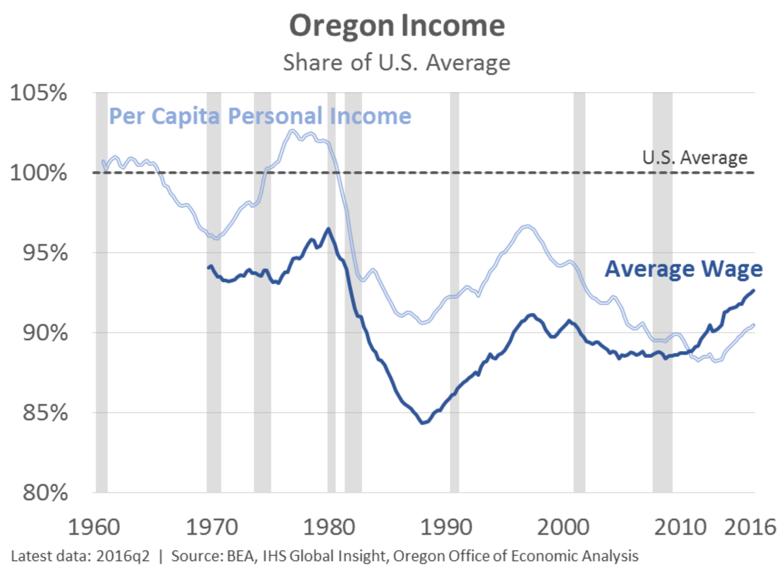
Finally, Oregon also enjoys the long-term advantages of low electricity costs; a central location between the large markets of California, Vancouver and Asia; clean water; low business rents and living costs; and an increasingly diverse industrial base.

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[8] 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.



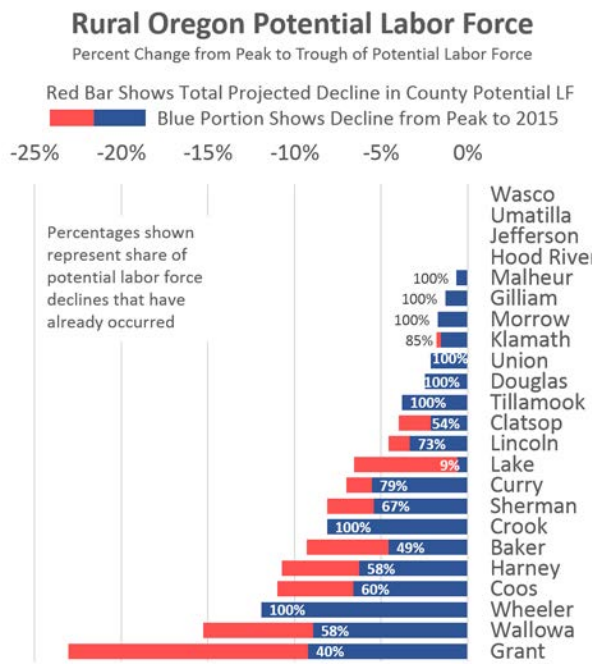
In terms of the outlook, expectations are that wages will remain at this high watermark but not increase, relative to the nation, much further. The primary reason for this is that Oregon's average wages have already accelerated in recent years, even as U.S. wages are just now picking up. Our office expects 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.



8 http://olmis.emp.state.or.us/olmisj/PubReader?itemid=00007366

Oregon Regional Trends – Rural Oregon's Potential Labor Force

Much of the rural Oregon discussion and data are backward looking. They indicate how many jobs were lost in the 1980s or how old the typical resident is. 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 fact, if anything, some of the pessimism about rural Oregon may be a bit overdone due to demographics. Yes, demographics.

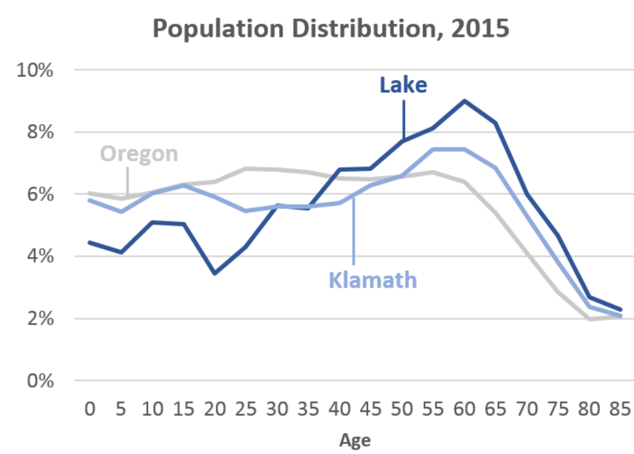


Source: Census, Portland State Population Research Center, Oregon Office of Economic Analysis

Baby Boomer retirements are and will continue to weigh on net economic growth rates. However in much of rural Oregon this slowdown has already taken place. It is in the rear-view mirror. Moving forward, the potential labor force – a measure that takes into account demographics and labor force participation by age – will pick up and in some regions it already has.

What matters from an economic perspective is when an individual ages from their prime-working and peak-earning years into retirement. Unless another individual takes their place, this represents a decline in the economic potential of the economy, everything else equal. And in much of rural Oregon there has been a decline in the potential labor force given demographic and population trends.

However, rural Oregon is nearly all the way through this demographic drag, while it is just now hitting the metropolitan areas of the state. For example, Southeast Oregon is 80 percent of the way through their drag. That said individual counties do differ, even neighboring ones. Both Klamath and Lake counties skew older than the state, but Lake considerably more. The largest population groups in these counties are all between 50 and 69 years old. As such there has not been much of a decline in the potential labor force, however in the coming decade or two there will be. Given the younger age groups are considerably larger in Klamath, the declines in the potential labor force will be less severe and shorter in duration.



Source: Portland State - Population Research Center, Oregon Office of Economic Analysis

The outlook for rural Oregon contains many challenges. However the aging demographics are likely overstated from this point forward. The potential labor force is set to grow again in the near future based on the demographic and population forecasts. That said, it is certainly possible that the actual number of jobs and the actual size of the labor force will remain smaller in the future than in the past. The demographic headwind has been real in rural Oregon over the past 10-20 years, however is set to lessen.

For more: https://oregoneconomicanalysis.com/2016/07/21/rural-oregons-potential-labor-force/

State Comparisons

Headline unemployment is back down to pre-Great Recession rates across much of the country. However, given the ongoing labor force participation issues and higher share of those working part-time but want full-time work, economic slack remains. The economy is not quite at full employment. However as the economy continues to expand, such slack is diminishing.

In fact, applying Dartmouth professor Andrew Levin's Total Employment Gap methodology to all states shows that for the first time since the Great Recession the number of individual states at full employment now outnumber those with large employment gaps. The typical state's gap is just 1 percent in the second quarter, down from a high of more than 5 percent in late 2010. While job growth has not been stellar across much of the country, it has been persistent and cumulative progress is clearly being made.

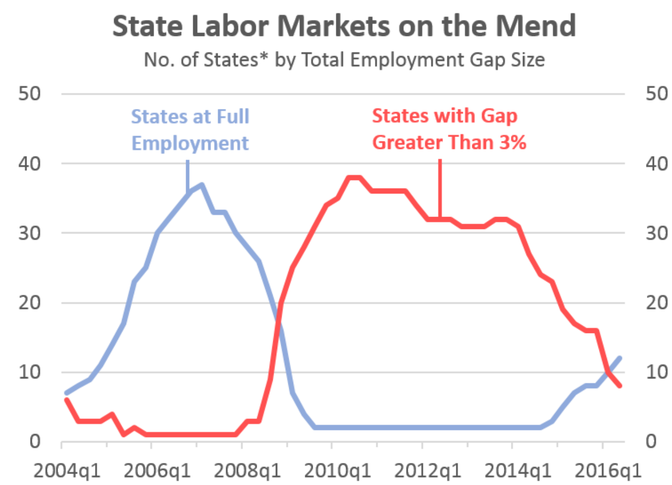
While increasing, the number of states at full employment stands at just 12 today compared with more than 30 states during 2006 and 2007. Individual performances vary but a few patterns stand out.

Rust Belt states today are generally at or near their lowest employment gaps. The region is performing better today than during the housing boom when the national expansion largley passed the region by.

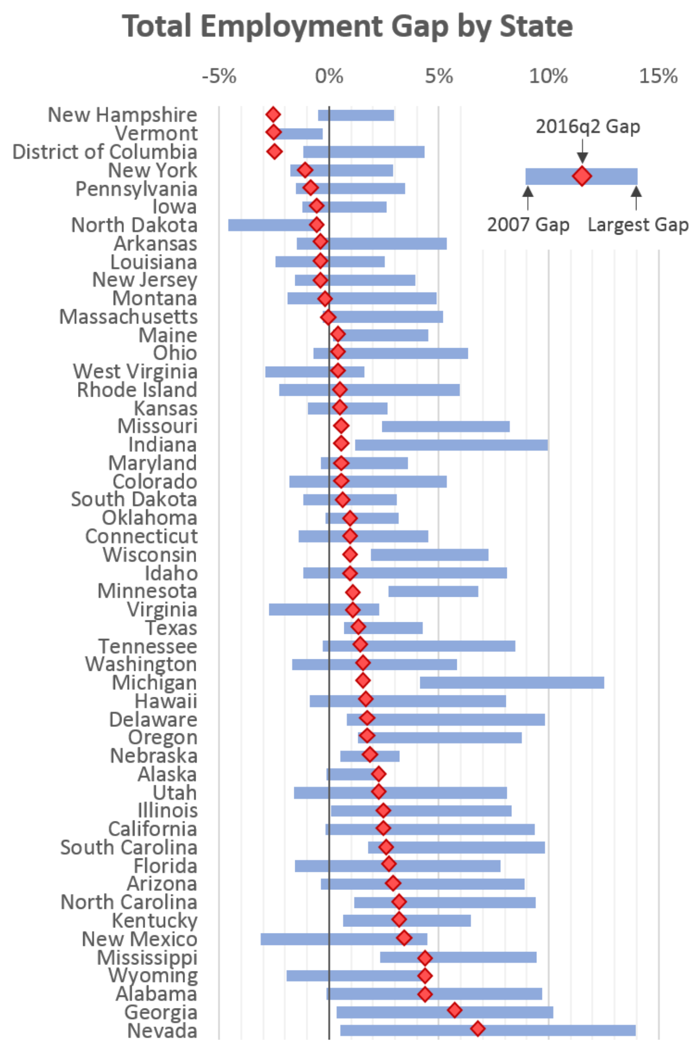
Housing bust states have seen considerable improvements in recent years. However given the severity of the recession, employment gaps remain above the typical state.

The oil patch has seen their progress halted due to the energy bust. Some oil states are seeing increasing employment gaps over the past year.

While further progress is required, particularly on the underutilization measures, the economy is approaching full employment, both nationally and across states.



*Includes Washington DC | Source: BLS, CBO, IMF, Dartmouth, Oregon Office of Economic Analysis



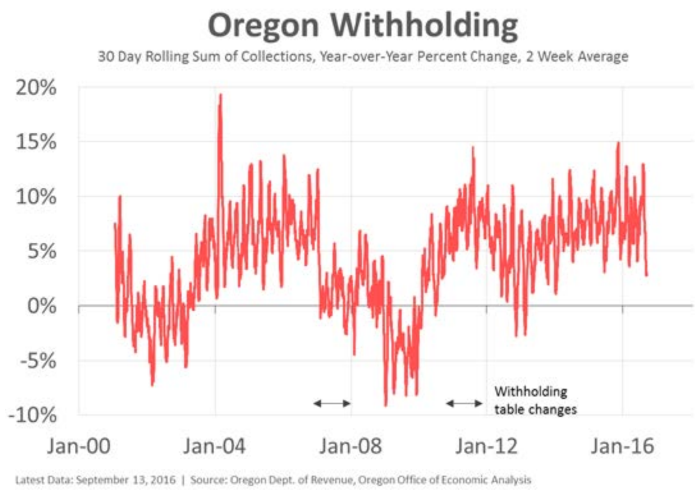
Source: BLS, IMF, CBO, Dartmouth, Oregon Office of Economic Analysis

REVENUE OUTLOOK

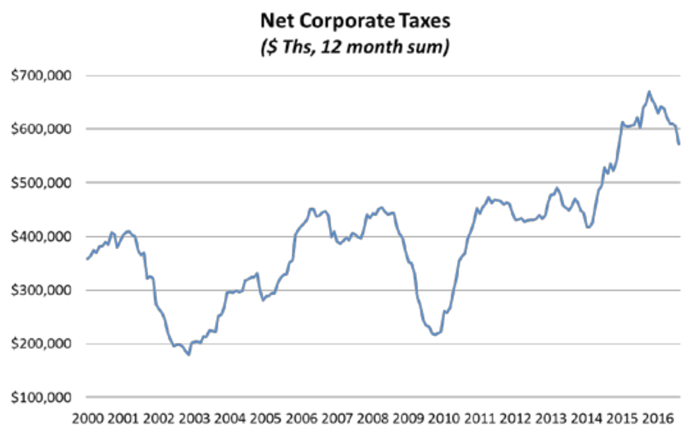
Revenue Summary

Oregon's General Fund revenue outlook remains stable. Personal income tax collections continue to expand at a healthy pace, keeping revenues in line with what was expected when the budget was drafted. Oregon's General Fund revenues are currently expected to end the biennium within 0.1% of the Close of Session forecast.

Personal income tax collections continue to reflect Oregon's strong underlying labor market. Withholdings out of paychecks expanded at an 8% rate during fiscal year 2016. As such, state revenue growth in Oregon remains among the strongest in the U.S. State revenue growth would have been even more rapid in recent months if not for the payout of the personal income tax kicker generated during the 2013-15 biennium. The vast majority of kicker payments have now been made, and will no longer weigh on overall collections.



In contrast to the healthy growth seen in personal income tax collections, corporate tax collections have been falling sharply in recent months. Nationwide, corporate profits have taken a step back, largely due to rapid appreciation of the U.S. dollar and struggles among energy firms and other commodity producers. Even so, profits and corporate tax collections remain large relative to historical norms. Given the expectation that collections would return to earth, revenue declines were built into the forecast, leaving the outlook very close to the Close of Session forecast for now. Declines are expected to continue through the current fiscal year, further reducing annual revenues by around $50 million.



In addition to healthy General Fund revenue growth, Oregon Lottery sales and Estate taxes have been very strong as well. Recent collections have consistently come in above expectations.

Revenue growth in Oregon and other states will face considerable downward pressure over the 10-year extended forecast horizon. As the baby boom population cohort works less and spends less, traditional state tax instruments such as personal income taxes and general sales taxes will become less effective, and revenue growth will fail to match the pace seen in the past.

2015-17 General Fund Revenues

General Fund revenues for the 2015-17 biennium are expected to reach $18,022 million. This represents a decrease of $1.3 million (0.0%) from the June 2016 forecast, and an increase of $1.9 billion (11.9%) relative to the 2013-15 biennium. General Fund revenues for the 2015-17 biennium are now expected to come in $24 million (0.1%) above the Close of Session forecast.

Personal Income Tax

Personal income tax collections were $2,309 million during the fourth quarter of fiscal year 2016, $105 million (4.7%) above the latest forecast. Compared to the year-ago level, total personal income tax collections fell by 3.2% relative to a forecast that called for a 7.6% decline. Declines relative to last year were the result of kicker payments. Table B.8 in Appendix B presents a comparison of actual and projected personal income tax revenues for the April-June quarter. It should be noted, however, that comparisons with past tax collections have been complicated by the use of a new personal income tax processing system.

Corporate Excise Tax

Corporate excise tax collections equaled $192 million for the fourth quarter of fiscal year 2016, $8 million above the June forecast. Compared to the year-ago level, net corporate excise tax collections fell by 12.8% relative to a forecast that called for a 16.4% decline.

Corporate tax collections remain above historical norms even after recent declines. In addition to profitability, recent law changes have supported collections, as has a decline in outstanding Business Energy Tax Credits.

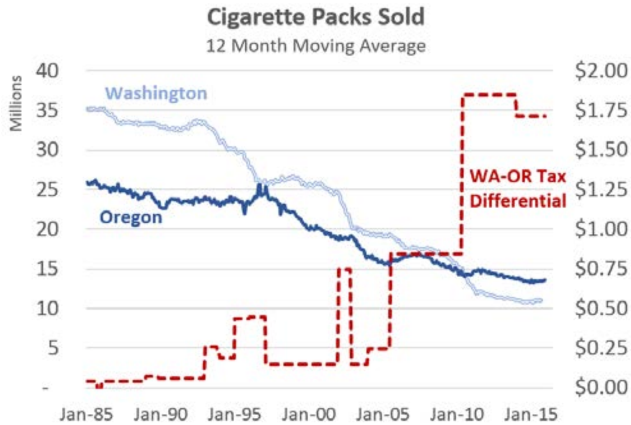
Corporate income tax collections for 2015-17 are now expected to end the biennium 1.0% higher than what was called for in the Close of Session forecast.

Tobacco Tax Revenue

Cigarettes sold in Oregon have been on a long-run decline since the early 1980s, if not longer, as the smoking rate and overall consumption and usage have plunged. Oregon's trends have matched or exceeded the national ones over this time period. However, packs sold in 2015 were 2.7 percent higher than in 2014, or nearly 360,000 more. The increase in sales has resulted in more tax revenue than expected. So far in the first year of the 2015-17 biennium, actual cigarette tax revenue has exceeded forecast by $15.1 million, of which $2.6 million is General Fund.

This increase in cigarette sales last year is national in scope, based on conversations with our office's counterparts around the country. The vast majority of states experienced sales above forecast, with many seeing outright increases in sales like Oregon. This indicates the driver of the recent strength is national in scope and not any particular local issue.

That said, the interplay between tax policy and tax rates in Oregon and Washington has driven sizable fluctuations around the long-term trend in cigarette sales in the Northwest. Typically, when Washington raises taxes and Oregon does not, Washington sales fall considerably and Oregon's stabilize or increase. The opposite is true as well. However one has to go back to the early 1990s to find a time when Oregon sales increased and the tax environment was stable, like it is today.

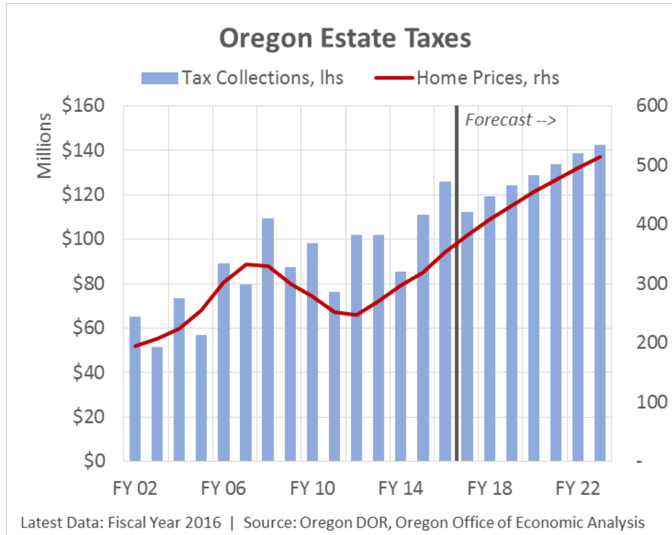


Oregon data through Dec '15, Washington data through Sept '15
Source: Washington Economic and Revenue Forecast Council, Oregon Office of Economic Analysis

Estate Tax Revenue

At the time the 2015-17 biennium budget was set by the Legislature, the estate tax forecast called for record levels of revenue. The first year of the biennium exceeded this record-expecting forecast by approximately $16 million (+15%), a considerable margin. As a result, the current outlook for such tax collections has been raised.

There are three competing factors influencing the outlook. The first is that over time asset prices, stocks and houses in particular, will increase. The second is that the large Baby Boomer generation is aging into their retirement years today and into their later ages in the coming decades. As such there will be an increase in the number of Oregonians passing away in the relatively near future. Both of these first two factors suggest a robust outlook for estate tax collections. However the third factor influencing the outlook is increased, or improved estate planning on the part of families and their accountants. Through various plans and gifts and the like, legal tax avoidance or minimization can be achieved. Relative to the robust outlook due to growing asset values and an aging population, the baseline forecast is adjusted lower to account for estate planning on the part of Oregon families and their tax professionals.



Other Sources of Revenue

Liquor revenues from the Oregon Liquor Control Commission have been raised $35.4 million for the 2017-19 biennium due to the Commission extending the $0.50 per bottle surcharge. Absent the surcharge change, the underlying liquor revenue outlook remains unchanged.

All other sources of General Fund revenues remain relatively unchanged in recent months. The net adjustment for these sources is a reduction of $375,000 (-0.1%) relative to the previous forecast. These minor

Table R.1

2015-17 General Fund Forecast Summary

(Millions)	2015 COS Forecast	June 2016 Forecast	September 2016 Forecast	Change from Prior Forecast	Change from COS Forecast
Structural Revenues					
Personal Income Tax	$15,713.5	$15,702.1	$15,713.7	$11.6	$0.3
Corporate Income Tax	$1,100.0	$1,132.3	$1,110.8	-$21.5	$10.8
All Other Revenues	$1,184.6	$1,189.2	$1,197.8	$8.6	$13.2
Gross GF Revenues	$17,998.1	$18,023.6	$18,022.3	-$1.3	$24.2
Offsets and Transfers	-$42.8	-$43.6	-$44.4	-$0.9	-$1.7
Administrative Actions[1]	-$20.2	-$14.0	-$14.0	$0.0	$6.2
Legislative Actions	-$158.9	-$158.3	-$158.3	$0.0	$0.6
Net Available Resources	**$18,309.1**	**$18,336.5**	**$18,334.3**	**-$2.2**	**$25.2**
Confidence Intervals					
67% Confidence	**+/- 3.7%**		**$669.3**	**$17.35B to $18.69B**	
95% Confidence	**+/- 7.4%**		**$1,338.7**	**$16.68B to $19.36B**	

1 Reflects cost of cashflow management actions, exclusive of internal borrowing.

adjustments included a slight increase in insurance taxes that were offset by a decrease in security fees. In terms of judicial revenues, the outlook for state court fees has increased somewhat but criminal fines and assessments has decreased.

Extended General Fund Outlook

Table R.2 exhibits the long-run forecast for General Fund revenues through the 2023-25 biennium. Users should note that the potential for error in the forecast increases substantially the further ahead we look.

Revenue growth in Oregon and other states will face considerable downward pressure over the 10-year extended forecast horizon. As the baby boom population cohort works less and spends less, traditional state tax instruments such as personal income taxes and general sales taxes will become less effective, and revenue growth will fail to match the pace seen in the past.

Table R.2

General Fund Revenue Forecast Summary (Millions of Dollars, Current Law)

Revenue Source	Forecast 2013-15 Biennium	% Chg	Forecast 2015-17 Biennium	% Chg	Forecast 2017-19 Biennium	% Chg	Forecast 2019-21 Biennium	% Chg	Forecast 2021-23 Biennium	% Chg	Forecast 2023-25 Biennium	% Chg
Personal Income Taxes	13,958.3	15.2%	15,713.7	12.6%	17,424.8	10.9%	19,228.3	10.4%	21,422.9	11.4%	23,389.3	9.2%
Corporate Income Taxes	1,116.5	26.3%	1,110.8	-0.5%	1,018.2	-8.3%	1,052.6	3.4%	1,114.5	5.9%	1,169.3	4.9%
All Others	1,030.2	-11.4%	1,197.8	16.3%	1,123.5	-6.2%	1,179.6	5.0%	1,260.6	6.9%	1,338.6	6.2%
Gross General Fund	16,105.0	13.7%	18,022.3	11.9%	19,566.4	8.6%	21,460.5	9.7%	23,798.0	10.9%	25,897.2	8.8%
Offsets and Transfers	*(74.5)*		*(44.4)*		*(72.1)*		*(75.4)*		*(76.5)*		*(78.8)*	
Net Revenue	16,030.5	13.3%	17,977.8	12.1%	19,494.3	8.4%	21,385.1	9.7%	23,721.6	10.9%	25,818.4	8.8%

General Fund revenues are expected to total $19,566 million in the 2017-19 biennium, an increase of 8.6% percent from the prior period, and $56 million below the June forecast. In the 2019-21 biennium, revenue growth is expected to reach 9.7%, followed by rates of 10.9% in the 2021-23 biennium and 8.8% in the 2023-25 biennium. The slowdown in long-run revenue growth is largely due to the impact of slower labor force growth and changes in savings behavior. In particular, the labor force will lose many very productive workers with a lifetime of experience over the coming years. On a smaller scale, a newly enacted minimum wage increase will weigh on the outlook over the extended horizon. Table B.2 in Appendix presents a more detailed look at the long-term General Fund revenue forecast.

Tax Law Assumptions

The revenue forecast is based on existing law, including measures and actions signed into law during the 2015 Oregon Legislative Session. OEA makes routine adjustments to the forecast to account for legislative and other actions not factored into the personal and corporate income tax models. These adjustments can include expected kicker refunds, when applicable, as well as any tax law changes not yet present in the historical data. A summary of actions taken during the 2015 Legislative Session can be found in Appendix B Table B.3. For a detailed treatment of the components of the 2015 Legislatively Enacted Budget, see: LFO 2015-17 Budget Summary. For changes made during the 2016 short session see: Budget Highlights 20152017.

Although based on current law, many of the tax policies that impact the revenue forecast are not set in stone. In particular, sunset dates for many large tax credits have been scheduled. As credits are allowed to disappear, considerable support is lent to the revenue outlook in the outer years of the forecast. To the extent that tax credits are extended and not allowed to expire when their sunset dates arrive, the outlook for revenue growth will be reduced. The current forecast relies on estimates taken from the Oregon Department of Revenue's 2015-17 Tax Expenditure Report together with more timely updates produced by the Legislative Revenue Office.

Alternative Scenarios

The latest revenue forecast for the current biennium represents the most probable outcome given available information. OEA feels that it is important that anyone using this forecast for decision-making purposes recognize the potential for actual revenues to depart significantly from this projection.

Currently, the overwhelming downside risk facing the revenue outlook is the threat that the U.S. economic recovery will lose steam in the near term. Such a scenario, however it played out, would result in drastic revenue losses. Two recessionary scenarios are displayed in table R.2b. In a severe recession, biennial revenues could come in as much as $2 billion lower than predicted[9].

[9] The methodology for computing alternative scenarios has been changed to reflect recent work done by the Legislative Revenue Office. Assumptions: Recessions begin in 2017 and return to baseline income by 2024. The moderate recession scenario assumes personal income growth will be reduced by one-half relative to the baseline in 2017 and 2018. The severe recession scenario assumes personal income will decline in 2017 by as much as it did in 2009. The percentage deviation in personal income taxes is 1.4 times the deviation in personal income. The percentage deviation in corporate income taxes is 2.0 times the deviation in personal income.

TABLE R2b **September 2016**

Alternative Cyclical Revenue Forecast ($ millions)

	2015-17 BN		2017-19 BN		2019-21 BN		2021-23 BN		2023-25 BN	
Baseline Case	**FY '16**	**FY '17**	**FY '18**	**FY '19**	**FY '20**	**FY '21**	**FY '22**	**FY '23**	**FY '24**	**FY '25**
Personal Income										
Level	178.08	187.84	199.65	211.64	223.90	235.46	245.73	259.12	270.75	282.86
% change	*5.8%*	*5.5%*	*6.3%*	*6.0%*	*5.8%*	*5.2%*	*4.4%*	*5.5%*	*4.5%*	*4.5%*
Taxes										
Personal Income	7,753	7,961	8,495	8,930	9,320	9,909	10,473	10,950	11,437	11,953
Corporate Excise & Income	610	501	504	514	522	531	548	567	579	590
Other General Fund	536	662	548	576	575	605	618	643	657	682
Total General Fund	8,899	9,124	9,548	10,019	10,416	11,045	11,638	12,160	12,672	13,225
% change	*5.2%*	*2.5%*	*4.6%*	*4.9%*	*4.0%*	*6.0%*	*5.4%*	*4.5%*	*4.2%*	*4.4%*

Moderate Recession	**FY '16**	**FY '17**	**FY '18**	**FY '19**	**FY '20**	**FY '21**	**FY '22**	**FY '23**	**FY '24**	**FY '25**
Personal Income										
Level	178.1	183.3	190.1	203.7	217.9	231.1	243.0	256.8	268.8	282.5
% change	*5.8%*	*2.9%*	*3.7%*	*7.2%*	*7.0%*	*6.0%*	*5.1%*	*5.7%*	*4.6%*	*5.1%*
Taxes										
Personal Income	7,753	7,689	7,924	8,458	8,973	9,651	10,308	10,805	11,304	11,904
Deviation from baseline		*-272*	*-571*	*-471*	*-347*	*-258*	*-165*	*-144*	*-133*	*-49*
Corporate Excise & Income	610	476	456	475	494	511	535	557	571	589
Deviation from baseline		*-24*	*-48*	*-39*	*-28*	*-20*	*-12*	*-10*	*-8*	*-2*
Other General Fund	536	662	548	576	575	605	618	643	657	682
Total General Fund	8,899	8,828	8,928	9,509	10,041	10,767	11,461	12,005	12,531	13,174
% change	*5.2%*	*-0.8%*	*1.1%*	*6.5%*	*5.6%*	*7.2%*	*6.4%*	*4.8%*	*4.4%*	*5.1%*
Deviation from baseline		*-296*	*-620*	*-510*	*-375*	*-278*	*-178*	*-154*	*-141*	*-51*
Biennial Deviation		*-296*		*-1,130*		*-653*		*-332*		*-192*

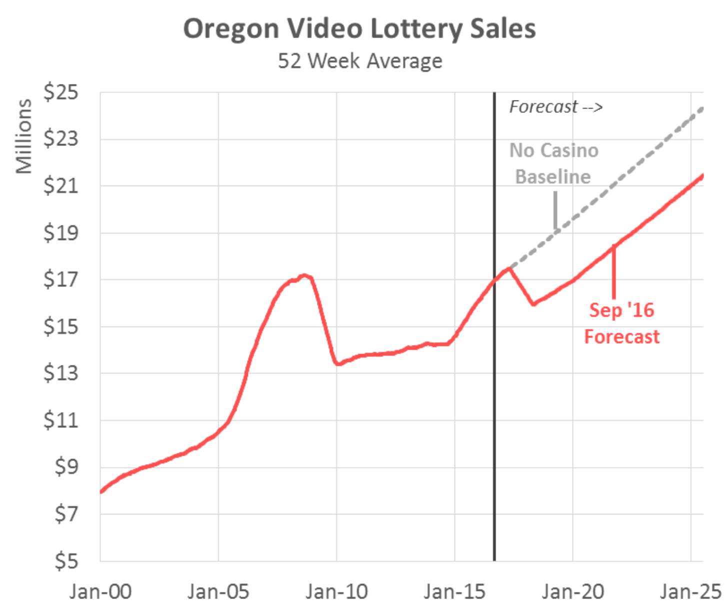
Severe Recession	**FY '16**	**FY '17**	**FY '18**	**FY '19**	**FY '20**	**FY '21**	**FY '22**	**FY '23**	**FY '24**	**FY '25**
Personal Income										
Level	178.1	171.2	180.2	195.8	212.2	227.5	241.7	255.5	267.4	280.1
% change	*5.8%*	*-3.9%*	*5.3%*	*8.7%*	*8.3%*	*7.2%*	*6.2%*	*5.7%*	*4.6%*	*4.8%*
Taxes										
Personal Income	7,753	6,972	7,337	7,996	8,635	9,439	10,231	10,725	11,220	11,751
Deviation from baseline		*-988*	*-1,158*	*-933*	*-685*	*-470*	*-242*	*-225*	*-217*	*-202*
Corporate Excise & Income	610	412	406	437	467	495	530	551	564	576
Deviation from baseline		*-89*	*-98*	*-77*	*-55*	*-36*	*-18*	*-16*	*-14*	*-14*
Other General Fund	536	662	548	576	575	605	618	643	657	682
Total General Fund	8,899	8,046	8,292	9,009	9,676	10,539	11,378	11,919	12,441	13,009
% change	*5.2%*	*-9.6%*	*3.0%*	*8.7%*	*7.4%*	*8.9%*	*8.0%*	*4.8%*	*4.4%*	*4.6%*
Deviation from baseline		*-1,077*	*-1,256*	*-1,010*	*-739*	*-506*	*-260*	*-240*	*-231*	*-216*
Biennial Deviation		*-1,077*		*-2,266*		*-1,245*		*-500*		*-447*

Lottery Earnings

Lottery proceeds continue to boom and come in ahead of expectations, primarily driven by ongoing strength in video lottery sales. While Fiscal Year 2016 results did not quite match the record levels set back in 2008, sales in recent months are at an all-time high. Video lottery growth is slowing somewhat, edging lower from 10 percent growth a year ago to 7 percent growth today. This is to be expected. Sales do not grow at double-digit rates forever. However these gains remain quite strong.

Our office made two big changes to the outlook in our previous forecast (June 2016). First, given the ongoing economic strength and improving gaming market nationwide, we raised the underlying, fundamental sales forecast for video lottery. Second, for the first time, the forecast also included an estimated impact due to the Cowlitz Tribe's upcoming casino in La Center, Washington (16 miles north of Portland) which is set to open in "late spring" 2017. While the casino won approval a year or two ago, legal challenges remained and our office had previously taken a wait and see approach before adjusting the outlook accordingly.

Initially our office's estimate of the casino's impact was set at a loss of around $100 million per year in video lottery sales, or $65 million per year reduction in transfers. This estimate was based off the Legislative Revenue Office's previous work on the impact of the proposed Wood Village casino in 2012, with some updates to incorporate the larger gaming market today and the like. That approach started by examining the total gaming market in the Portland region and estimating what share of the market the new casino would take. It was a top-down approach to arrive at an estimate.



Latest Data: August 27, 2016 | Source: Oregon Lottery, Oregon Office of Economic Analysis

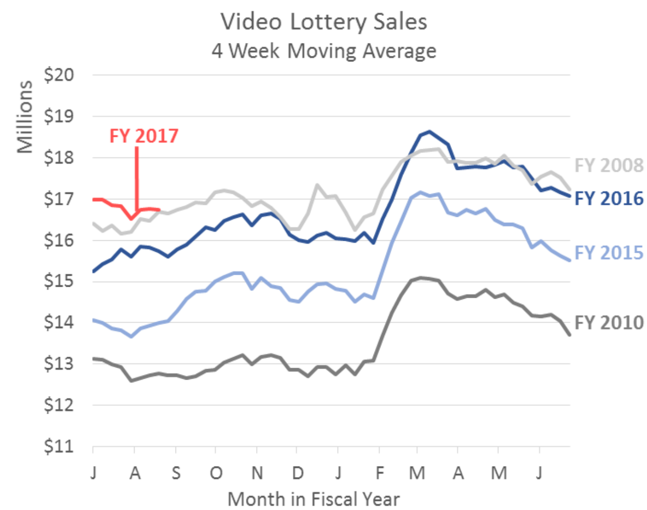
The only real change to the Lottery outlook made in this forecast is to increase the estimated impact due to the Cowlitz casino to around $120 million per year, or $78 million per year reduction in transfers. This slightly larger estimate is based on a bottom-up approach that starts by examining video lottery sales at the individual retailer and neighborhood/zip code level. More than half of Oregon's statewide video lottery sales occur within the Portland MSA. 11 percent of statewide video lottery sales occur within just the northern portion of the Portland MSA – from St. Johns through Parkrose, including Hayden Island. Anecdotal evidence, like the proportion of Washington license plates in the parking lots suggest that a significant, and likely majority of the video lottery players in these retailers live in the State of Washington. Such border effects – where Oregon has video lottery in retailers throughout the state, while neighboring states do not – are seen not only across the two interstate bridges in Portland, but also in nearly all the population centers along Oregon's borders with California, Idaho and Washington. If these northern Portland zip codes see a 40-50 percent decline in video lottery sales, that means total statewide video lottery sales would decline 4.5 to 5.5 percent. Factoring in additional losses of around 10-15 percent throughout the rest of the Portland region brings the statewide total impact to nearly 12 percent, relative to the no casino baseline.

Both the top-down and bottom-up approaches yield fairly close estimates in terms of the new Cowlitz Tribe casino. Our office will continue to work on refining the estimates and updating the likely impact in the coming quarterly forecasts. In particular, with the help of the Lottery research division, we are currently working on learning more about how many of the current players are Washingtonians and how far into the Portland market they travel to play.

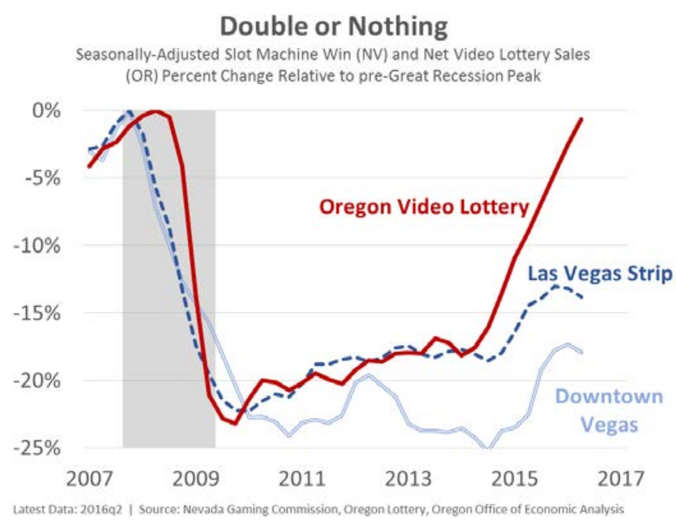
All told, relative to the previous forecast, Lottery earnings for 2015-17 were increased $8.3 million due to the ongoing strength in video lottery sales. The larger casino impact is seen in the 2017-19 forecast in which earnings are lowered $14.4 million relative to three months ago. 2019-21 earnings are revised down by $15 million, 2021-23 by $17.1 million and 2023-25 by $18.3 million.

Lottery Overview

Overall, video lottery dominates total lottery earnings, accounting for approximately 88 percent of all lottery transfers in the past two years. Over the past decade, video lottery has underwent four distinct phases.



The first, during the housing boom era, followed the implementation of line games back in 2005. Not only was video lottery new to the marketplace and experienced somewhat of a novelty factor intrigue from consumers, it also coincided with an economic expansion. Growth in the early years of line games was in the double digits and spending as a share of statewide income increased by 40 percent.



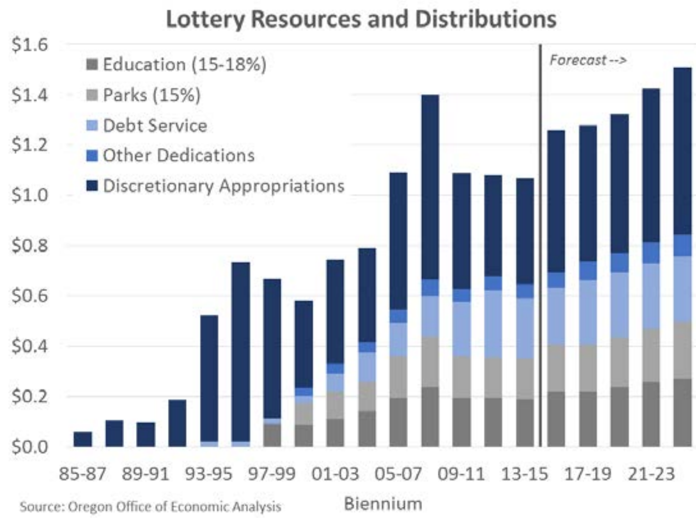
The second phase followed the onset of the Great Recession and enactment of the smoking ban in Oregon. During this time, video lottery sales plummeted 23 percent from pre-recession highs to the depths of the recession; the same magnitude of losses seen in slot machines in Clark County, Nevada, home of Las Vegas.

The third phase covered the initial years of recovery, fiscal years 2010 to 2014. Even as Oregon video lottery sales rebounded at approximately three times the rate seen in Clark County, Nevada, growth still averaged just 1.2 percent per year. Similar sales trends were seen nationwide across the gaming industry, although Oregon's slow growth was better than most where sales were flat to down.

Fiscal Year 2015 marked a new phase in Oregon video lottery history with the capital replacement plan. Lottery is replacing the 12,000 existing video lottery terminals throughout the state with new machines and underlying IT system. Due to advancements in technology, like a lot of industries, the current machines are becoming obsolete in the marketplace. The replacement program cost approximately $215 million over four years, of which Lottery self-funded $85 million. The remaining $130 million was deduced from Lottery earnings prior to being transferred for general revenue purposes. The Lottery has replaced more than half of the terminals today and the reduced transfers, to set-aside money, were completed in Fiscal Year 2016.

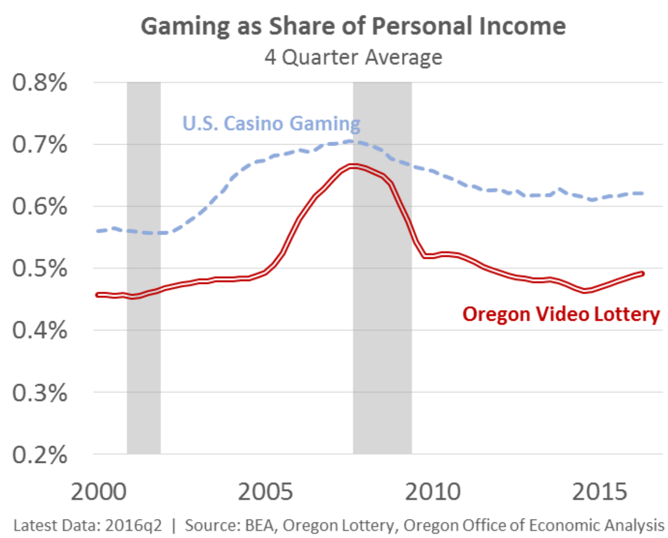
As the first wave of these new video lottery terminals has been deployed across Oregon – essentially two new terminals in each retailer – there has been a sizable initial sales bump. Every region of the state, regardless of economic performance in recent years, saw double-digit increases in video lottery sales. The second wave – one more new terminal in each retailer – is nearing completion today.

While sales remain strong, expectations are for a continued modest deceleration in growth until the Cowlitz Tribe casino opens approximately nine months from now, or a little sooner. Video lottery growth has already slowed from around 10 percent year-over-year to 7 percent today. Over the next year, sales are projected to slow further to 5 or 6 percent. After that time, sales are expected to fall approximately 9 percent before resuming growth due to the underlying improvements in the economy and increases in consumer spending.



The Cowlitz Tribe casino will be significantly closer to the Portland MSA than any other existing tribal casino. In fact, La Center, WA is *in* the Portland MSA, albeit 16 miles north of the state border. Overall the Portland MSA accounts for more than half of Oregon video lottery sales, thus the increased competition for gaming dollars will impact state revenues. As the casino's opening nears, our office expects to modify and refine the estimated impact, either up or down, as we gather more information.

Other issues to watch include broader and national trends in gaming markets, demographic preferences for recreational activities, and to what extent consumers increase the share of their incomes spent on gaming. In much of the past 6 years, consumers have remained cautious with their disposable income.



The current outlook does leave room for both upside and downside risks. The Cowlitz Tribe casino may still be derailed due to legal challenges and if not, its impact may be greater or smaller than the current forecast assumes. The stronger economy and new terminals may unlock permanently higher sales. However the increases seen may also prove temporary and just a novelty-bump as Oregonians tried the new machines simply because they were new.

The full extended outlook for lottery earnings can be found in Table B.9 in Appendix B.

Budgetary Reserves

The state currently administers two general reserve accounts, the Oregon Rainy Day Fund[10] (ORDF) and the Education Stability Fund[11] (ESF). This section updates balances and recalculates the outlook for these funds based on the June revenue forecast.

As of this forecast, the two reserve funds currently total a combined $676.0 million. Additionally there is a projected General Fund ending balance for this biennium of $259.6 million, bringing effective reserves to $935.6 million, or about 5.2 percent of current biennium's revenue.

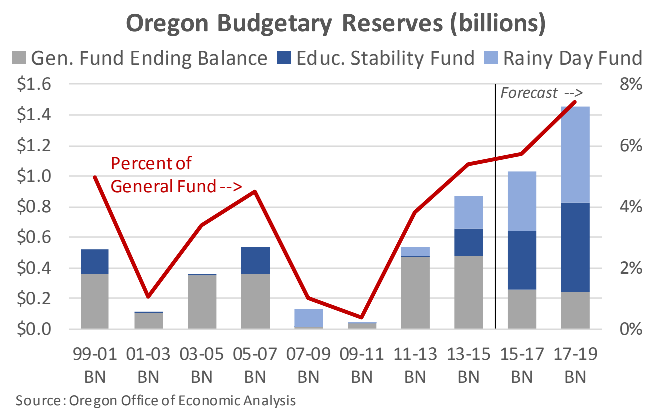
The forecast for the ORDF includes two deposits for this biennium. The first, $158.3 million, is related to the General Fund ending balance from last biennium (2013-15) and occurred in February 2016. The second, $11.8 million, is due to the increased corporate taxes from Measure 67. This brings the projected ORDF ending balance at the end of 2015-17 to $387.8 million.

The forecast calls for $199.3 million in deposits into the ESF in 2015-17 based on the current Lottery forecast. This would bring the ESF balance to $382.9 million at the end of the current biennium.

Together, the ORDF and ESF are projected to have a combined balance of $770.7 million at the close of the 2015-17 biennium. Provided the General Fund ending balance remains unallocated, total effective reserves at the end of 2015-17 would just over $1 billion, or 5.7 percent of current revenues.

Such levels of reserve balances are bigger than Oregon has ever been able to accumulate, at least in the state's recent history. However, that does not indicate they are sufficient to withstand a recession's impact on the state budget. Reserve balances of approximately 7 percent are generally accepted to be able to withstand a recession of average size[12]. Provided the economic expansion continues, Oregon's reserves are projected to reach 7 percent of expenditures at the end of the 2017-19 biennium.

B.10 in Appendix B provides more details for Oregon's budgetary reserves.



Effective Reserves ($ millions)

	Jul 2016	End 2015-17
ESF	$303.2	$382.9
RDF	$372.8	$387.8
Reserves	$676.0	$770.7
Ending Balance	$259.6	$259.6
Total	**$935.6**	**$1,030.4**
% of GF	5.2%	5.7%

[10] The ORDF is funded from ending balances each biennium, up to one percent of appropriations. The Legislature can deposit additional funds, as it did in first populating the ORDF with surplus corporate income tax revenues from the 2005-07 biennium. The ORDF also retains interest earnings. Withdrawals from the ORDF require one of three triggers, including a decline in employment, a projected budgetary shortfall, or declaration of a state of emergency, plus a three-fifths vote. Withdrawals are capped at two-thirds of the balance as of the beginning of the biennium in question. Fund balances are capped at 7.5 percent of General Fund revenues in the prior biennium.

[11] The ESF gained its current reserve structure and mechanics via constitutional amendment in 2002. The ESF receives 18 percent of lottery earnings, deposited on a quarterly basis – 5% of which are deposited in the Oregon Growth sub-account. The ESF does not retain interest earnings. The ESF has similar triggers as the ORDF, but does not have the two-thirds cap on withdrawals. The ESF balance is capped at five percent of General Fund revenues collected in the prior biennium.

[12] Based on a one standard deviation change in revenues. Larger reserves needed to insure against a more severe recession.

POPULATION AND DEMOGRAPHIC OUTLOOK

Population and Demographic Summary

Oregon's population count on April 1, 2010 was 3,831,074. Oregon gained 409,550 persons between the years 2000 and 2010. The population growth during the decade of 2000 to 2010 was 12.0 percent, down from 20.4 percent growth from the previous decade. Oregon's rankings in terms of decennial growth rate dropped from 11th between 1990-2000 to 18th between 2000 and 2010. Oregon's national ranking in population growth rate was 16th between 2010 and 2015 lagging behind all of the neighboring states, except California. Slow population growth during the decade preceding the 2010 Census characterized by double recessions probably cost Oregon one additional seat in the U.S. House of Representatives. Actually, Oregon's decennial population growth rate during the most recent decade was the second lowest since 1900. As a result of economic downturn and sluggish recovery that followed, Oregon's population increased at a slow pace in the recent past. However, Oregon's population growth since 2014 rebounded strongly. Growth in 2015 ranked 10th fastest in the nation, surpassing Idaho and California. Based on the current forecast, Oregon's population will reach 4.39 million in the year 2022 with an annual rate of growth of 1.27 percent between 2015 and 2022.

Oregon's economic condition heavily influences the state's population growth. Its economy determines the ability to retain existing work force as well as attract job seekers from national and international labor market. As Oregon's total fertility rate remains below the replacement level and number of deaths continue to rise due to ageing population, long-term growth comes mainly from net in-migration. Working-age adults come to Oregon as long as we have favorable economic and employment environments. During the 1980s, which include a major recession and a net loss of population during the early years, net migration contributed to 22 percent of the population change. On the other extreme, net migration accounted for 73 percent of the population change during the booming economy of 1990s. This share of migration to population change declined to 32 percent in 2010, lowest since early 1980s when we actually had negative net migration. As a sign of slow to modest economic gain, the ratio of net migration-to-population change has already exceeded 80 percent and remain that way throughout the forecast horizon due largely to combination of increase in net migration and rise in the number of deaths among elderly population associated with increasing number of elderly population. Although economy and employment situation in Oregon looked stagnant in the recent past, migration situation was not similar to the early 1980s pattern of negative net migration. Potential Oregon out-migrants had no better place to go since other states were also in the same boat in terms of economy and employment. California is the number one state of origin of migrants to Oregon. As California's housing market improves, we expect positive impact on Oregon's net migration.

Age structure and its change affect employment, state revenue, and expenditure. Demographics are the major budget drivers, which are modified by policy choices on service coverage and delivery. Growth in many age groups will show the effects of the baby-boom and their echo generations during the period of 2015-2022. It will also reflect demographics impacted by the depression era birth cohort combined with diminished migration of the working age population and elderly retirees. After a period of slow growth during the 1990s and early 2000s, the elderly population (65+) has picked up a faster pace of growth and will surge to the record high levels as the baby-boom generation continue to enter this age group. The average annual growth of the elderly population will be 3.8 percent during the forecast period as the boomers continue to enter retirement age. However, the youngest elderly (aged 65-74) has been growing at an extremely fast pace in the recent past and will continue the trend in the near future exceeding 5 percent annual rate of growth due to the direct impact of the baby-boom generation entering the retirement age and smaller pre-baby boom cohort exiting the 65-74 age group. The annual growth rate will taper off to 1.34 percent by the end of the forecast period as a sign of baby-boom generation's transition to elderly age group. Reversing several years of slow growth and shrinking population, the elderly aged 75-84 started to show a positive growth as the effect of depression era birth-cohort has dissipated. An unprecedented fast pace of growth of population in this age group has started as the baby-boom generation starts to mature into 75-84 age group. The oldest elderly (aged 85+) will continue to grow at a slow but steady rate due to the combination of cohort change, continued positive net migration, and improving longevity. The average annual rate of growth for this oldest elderly over the forecast horizon will be 1.0 percent. An unprecedented growth in oldest elderly will commence at the end of the forecast horizon.

As the baby-boom generation matures out of oldest working-age cohort combined with slowing net migration, the once fast-paced growth of population aged 45-64 has gradually tapered off to below zero percent rate of growth by 2012 and will remain at slow or below zero growth phase for several years. The size of this older working-age population will remain virtually unchanged at the beginning to the end of the forecast period. The 25-44 age group population is recovering from several years of declining and slow growing trend. The decline was mainly due to the exiting baby-boom cohort. This age group has seen positive growth starting in the year 2004 and will increase by 1.8 percent annual average rate during the forecast horizon mainly because of the exiting smaller birth (baby-bust) cohort being replaced by baby-boom echo cohort. The young adult population (aged 18-24) will remain nearly unchanged over the forecast period. Although the slow or stagnant growth of college-age population (age 18-24), in general, tend to ease the pressure on public spending on higher education, college enrollment typically goes up during the time of high unemployment and scarcity of well-paying jobs when even the older people flock back to colleges to better position themselves in a tough job market. The growth in K-12 population (aged 5-17) will remain very low which will translate into slow growth in school enrollments. This school-age population has actually declined in size in recent past years and will grow in the future at well below the overall state average. The growth rate for children under the age of five has remained below or near zero percent in the recent past due to the sharp decline in the number of births. This cohort of children will see steady positive growth only after 2015. Although the number of children under the age of five declined in the recent years, the demand for child care services and pre-Kindergarten program will be additionally determined by the labor force participation and poverty rates of the parents. Overall, elderly population over age 65 will increase rapidly whereas population groups under age 65 will experience slow growth in the coming years. Hence, based solely on demographics of Oregon, demand for public services geared towards children and young adults will likely to increase at a slower pace, whereas demand for elderly care and services will increase rapidly.

Procedure and Assumptions

Population forecasts by age and sex are developed using the cohort-component projection procedure. The population by single year of age and sex is projected based on the specific assumptions of vital events and migrations. Oregon's estimated population of July 1, 2010 based on the most recent decennial census is the base for the forecast. To explain the cohort-component projection procedure very briefly, the forecasting model "survives" the initial population distribution by age and sex to the next age-sex category in the following year, and then applies age-sex-specific birth and migration rates to the mid-period population. Further iterations subject the in-and-out migrants to the same mortality and fertility rates.

Populations by age-sex detail for the years 2000 through 2009, called intercensal estimates, in the following tables are developed by OEA based on 2000 and 2010 censuses. Post-censal population totals for the years 2010 through 2015 are from the Population Research Center, Portland State University. The numbers of births and deaths through 2015 are from Oregon's Center for Health Statistics. All other numbers and age-sex detail are generated by OEA.

Annual numbers of births are determined from the age-specific fertility rates projected based on Oregon's past trends and past and projected national trends. Oregon's total fertility rate is assumed to remain below the replacement level of 2.1 children per woman during the forecast period, tracking at slightly lower than the national rate.

Life Table survival rates are developed for the year 2010. Male and female life expectancies for the 2010-202 period are projected based on the past three decades of trends and national projected life expectancies. Gradual improvements in life expectancies are expected over the forecast period. At the same time, the difference between the male and female life expectancies will continue to shrink. The male life expectancy at births of 77.4 and the female life expectancy of 81.8 in 2010 are projected to improve to 79.0 years for males and 83.25 years for females by the year 2022.

Estimates and forecasts of the number of net migrations are based on the residuals from the difference between population change and natural increase (births minus deaths) in a given forecast period. The migration forecasting model uses Oregon’s employment, unemployment rates, income/wage data from Oregon and neighboring states, and past trends. Distribution of migrants by age and sex is based on detailed data from the American Community Survey. The annual net migration between 2015 and 2022 is expected to remain in the range of 38,000 to 48,200, averaging 43,600 persons annually. Slowdown in Oregon’s economy in the recent years resulted in smaller net migration and slow population growth. Estimated population growth and net migration rates in 2010 and 2011 were the lowest in over two decades. Oregon’s population growth has already rebounded and will continue high rate of growth. Migration is intrinsically related to economy and employment situation of the state. Still, high unemployment and job loss in the recent past have impacted net migration and population growth, but not to the extent in the early 1980s. Main reason for this is the fact that other states of potential destination for Oregon out-migrants were not faring any better either. Hence the potential out-migrants had very limited destination choices. The future growth will not look like high growth period of 1990s. The role of net migration in Oregon’s population growth will get more prominence as the natural increase will decline considerably due to rapid increase in the number of deaths associated with ageing population.

APPENDIX A: ECONOMIC FORECAST DETAIL

Table A.1 – Employment Forecast Tracking

Total Nonfarm Employment, 2nd quarter 2016

(Employment in thousands, Annualized Percent Change)

	Preliminary Estimate		Forecast		Forecast Error		Y/Y Change
	level	% ch	level	% ch	level	%	% ch
Total Nonfarm	1,830.3	2.6	1,834.5	3.4	(4.2)	(0.2)	3.3
Total Private	1,523.6	2.6	1,525.6	3.0	(2.0)	(0.1)	3.5
Mining and Logging	7.8	(1.6)	7.9	3.5	(0.1)	(1.2)	0.1
Construction	89.3	2.8	87.9	(2.2)	1.4	1.6	9.1
Manufacturing	188.3	(3.2)	186.8	(0.3)	1.5	0.8	1.1
Durable Goods	131.7	(3.6)	130.6	(0.6)	1.1	0.9	0.9
Wood Product	23.3	(0.5)	22.4	1.0	0.9	3.9	3.9
Metals and Machinery	36.7	(0.5)	36.9	0.8	(0.2)	(0.5)	(0.6)
Computer and Electronic Product	38.9	1.9	37.8	(3.1)	1.1	2.8	2.7
Transportation Equipment	12.4	(3.9)	12.5	1.4	(0.0)	(0.2)	(0.1)
Other Durable Goods	20.4	(20.7)	21.0	(1.1)	(0.6)	(3.0)	(2.1)
Nondurable Goods	56.6	(2.2)	56.2	0.4	0.4	0.6	1.6
Food	29.0	(2.9)	28.5	(0.6)	0.5	1.9	3.2
Other Nondurable Goods	27.6	(1.5)	27.7	1.3	(0.2)	(0.7)	(0.0)
Trade, Transportation & Utilities	341.7	2.9	340.7	3.0	1.1	0.3	2.1
Retail Trade	206.5	4.1	206.4	3.7	0.1	0.0	2.0
Wholesale Trade	75.4	1.2	74.8	2.1	0.6	0.8	2.2
Transportation, Warehousing & Utilities	59.9	1.3	59.5	1.7	0.4	0.6	2.5
Information	33.9	8.8	34.4	4.5	(0.5)	(1.5)	3.6
Financial Activities	95.1	(0.6)	96.9	3.6	(1.7)	(1.8)	0.8
Professional & Business Services	239.8	7.1	241.2	5.4	(1.4)	(0.6)	5.8
Educational & Health Services	265.2	2.4	267.9	3.7	(2.7)	(1.0)	3.3
Educational Services	35.6	2.1	36.1	1.3	(0.5)	(1.4)	1.9
Health Services	229.6	2.4	231.8	4.1	(2.2)	(1.0)	3.6
Leisure and Hospitality	199.0	2.5	199.7	4.8	(0.7)	(0.4)	4.4
Other Services	63.5	5.2	62.3	1.0	1.2	2.0	5.5
Government	306.7	2.5	308.9	5.5	(2.2)	(0.7)	2.4
Federal	28.2	2.4	28.0	2.5	0.2	0.7	1.4
State	89.1	1.9	90.2	6.8	(1.1)	(1.3)	2.0
State Education	33.7	1.8	32.9	(5.6)	0.8	2.5	1.9
Local	189.5	2.8	190.8	5.3	(1.3)	(0.7)	2.7
Local Education	98.2	2.6	98.7	5.4	(0.5)	(0.5)	3.0

Table A.2 – Short-Term Oregon Economic Summary

Oregon Forecast Summary

	Quarterly					Annual					
	2016:2	2016:3	2016:4	2017:1	2017:2	2015	2016	2017	2018	2019	2020
Personal Income ($ billions)											
Nominal Personal Income	181.1	183.9	186.4	189.1	191.9	173.4	182.6	193.5	205.7	217.7	229.9
% change	4.6	6.4	5.6	5.9	6.0	6.0	5.3	6.0	6.3	5.8	5.6
Real Personal Income (base year=2005)	163.9	166.0	167.3	169.0	170.6	158.3	165.0	171.7	179.0	185.7	192.1
% change	2.6	5.3	3.2	4.1	3.9	5.6	4.2	4.0	4.3	3.7	3.4
Nominal Wages and Salaries	95.9	97.7	99.3	100.9	102.7	91.0	97.0	103.7	110.5	116.5	122.6
% change	3.9	7.8	6.4	6.9	7.0	6.9	6.6	6.9	6.6	5.5	5.2
Other Indicators											
Per Capita Income ($1,000)	44.6	45.0	45.5	46.0	46.6	43.1	44.8	46.8	49.1	51.3	53.5
% change	3.2	4.1	4.4	4.8	4.7	4.6	3.9	4.5	4.9	4.5	4.3
Average Wage rate ($1,000)	51.9	52.5	53.0	53.5	54.0	50.6	52.3	54.4	56.8	59.2	61.7
% change	1.2	4.8	3.6	4.0	4.1	3.5	3.4	4.1	4.4	4.2	4.3
Population (Millions)	4.1	4.1	4.1	4.1	4.1	4.02	4.08	4.13	4.19	4.24	4.30
% change	1.3	2.2	1.1	1.1	1.2	1.3	1.4	1.4	1.4	1.3	1.2
Housing Starts (Thousands)	18.3	18.6	19.5	20.5	21.1	16.0	18.9	21.4	23.0	23.1	23.8
% change	(18.9)	7.4	20.0	22.5	12.8	2.8	18.3	13.0	7.5	0.7	2.9
Unemployment Rate	4.6	5.0	5.0	5.0	5.1	5.7	4.9	5.1	5.3	5.4	5.4
Point Change	(0.2)	0.4	0.0	0.0	0.1	(1.1)	(0.9)	0.3	0.2	0.0	0.1
Employment (Thousands)											
Total Nonfarm	1,830.3	1,842.5	1,855.0	1,868.3	1,881.2	1,779.4	1,836.7	1,887.1	1,927.4	1,951.4	1,969.6
% change	2.6	2.7	2.8	2.9	2.8	3.3	3.2	2.7	2.1	1.2	0.9
Private Nonfarm	1,523.6	1,534.0	1,544.8	1,556.4	1,567.9	1,478.9	1,529.1	1,573.2	1,608.9	1,628.8	1,641.5
% change	2.6	2.7	2.8	3.0	3.0	3.6	3.4	2.9	2.3	1.2	0.8
Construction	89.3	89.8	90.3	91.0	91.3	83.3	89.5	91.5	92.6	92.9	93.4
% change	2.8	2.3	2.3	2.9	1.2	4.0	7.5	2.2	1.3	0.3	0.5
Manufacturing	188.3	187.2	186.2	185.8	186.3	185.9	187.9	186.5	187.8	189.0	190.4
% change	(3.2)	(2.1)	(2.1)	(0.8)	1.0	3.5	1.0	(0.7)	0.7	0.7	0.7
Durable Manufacturing	131.7	130.6	129.6	129.1	129.4	130.4	131.2	129.5	130.2	130.9	131.7
% change	(3.6)	(3.3)	(2.9)	(1.6)	1.0	3.3	0.6	(1.3)	0.5	0.5	0.6
Wood Product Manufacturing	23.3	23.2	23.2	23.2	23.3	22.5	23.3	23.4	23.5	23.6	23.7
% change	(0.5)	(1.2)	(0.6)	1.0	1.2	2.2	3.6	0.4	0.8	0.3	0.3
High Tech Manufacturing	38.9	38.0	37.2	36.6	36.5	37.8	38.2	36.5	36.5	36.5	36.5
% change	1.9	(8.9)	(7.6)	(6.3)	(1.1)	3.2	1.1	(4.5)	0.0	(0.1)	0.0
Transportation Equipment	12.4	12.6	12.6	12.5	12.4	12.4	12.5	12.5	12.4	12.4	12.6
% change	(3.9)	4.1	0.2	(2.5)	(1.6)	8.1	0.7	(0.6)	(0.1)	0.1	1.1
Nondurable Manufacturing	56.6	56.7	56.6	56.8	56.9	55.6	56.7	57.0	57.6	58.1	58.6
% change	(2.2)	0.6	(0.3)	1.0	1.1	4.1	2.0	0.5	1.0	1.0	0.9
Private nonmanufacturing	1,334.0	1,346.7	1,358.5	1,370.5	1,381.6	1,293.2	1,340.5	1,386.7	1,421.2	1,439.8	1,451.1
% change	3.5	3.9	3.6	3.6	3.3	3.6	3.7	3.4	2.5	1.3	0.8
Retail Trade	206.5	208.2	210.0	211.8	213.6	202.5	207.3	214.4	219.0	220.4	221.9
% change	4.1	3.5	3.5	3.4	3.5	3.1	2.4	3.4	2.2	0.6	0.7
Wholesale Trade	75.4	75.8	76.0	76.4	76.6	74.0	75.6	76.6	77.3	77.9	78.5
% change	1.2	2.1	1.3	1.8	1.0	2.0	2.2	1.4	0.9	0.8	0.8
Information	33.9	34.2	34.5	34.7	34.9	32.8	34.0	35.0	35.9	36.5	36.5
% change	8.8	3.5	3.3	2.7	2.3	2.0	3.5	3.1	2.5	1.6	0.0
Professional and Business Services	239.8	243.5	246.8	250.2	253.2	228.6	241.5	254.8	266.5	273.4	278.1
% change	7.1	6.2	5.5	5.6	4.9	4.0	5.6	5.5	4.6	2.6	1.7
Health Services	229.6	231.5	233.7	235.9	238.0	222.7	230.8	238.9	244.8	247.9	250.7
% change	2.4	3.5	3.8	3.8	3.7	4.2	3.6	3.5	2.5	1.3	1.1
Leisure and Hospitality	199.0	200.6	202.8	205.0	206.9	191.8	200.0	207.8	212.5	215.2	215.4
% change	2.5	3.3	4.4	4.3	3.8	4.9	4.3	3.9	2.3	1.3	0.1
Government	306.7	308.5	310.3	311.9	313.3	300.5	307.6	313.9	318.5	322.6	328.1
% change	2.5	2.4	2.3	2.2	1.8	2.2	2.4	2.0	1.5	1.3	1.7

Table A.3 – Oregon Economic Forecast Change

Oregon Forecast Change (Current vs. Last)

	Quarterly					Annual					
	2016:2	2016:3	2016:4	2017:1	2017:2	2015	2016	2017	2018	2019	2020
Personal Income ($ billions)											
Nominal Personal Income	181.1	183.9	186.4	189.1	191.9	173.4	182.6	193.5	205.7	217.7	229.9
% change	(0.2)	(0.0)	(0.2)	(0.3)	(0.5)	0.1	(0.0)	(0.5)	(0.6)	(0.5)	(0.1)
Real Personal Income (base year=2005)	163.9	166.0	167.3	169.0	170.6	158.3	165.0	171.7	179.0	185.7	192.1
% change	(0.5)	(0.3)	(0.4)	(0.8)	(1.0)	0.1	(0.2)	(1.0)	(0.9)	(0.7)	(0.4)
Nominal Wages and Salaries	95.9	97.7	99.3	100.9	102.7	91.0	97.0	103.7	110.5	116.5	122.6
% change	(0.4)	(0.3)	(0.4)	(0.5)	(0.5)	0.3	(0.1)	(0.5)	(0.3)	(0.2)	(0.0)
Other Indicators											
Per Capita Income ($1,000)	44.6	45.0	45.5	46.0	46.6	43.1	44.8	46.8	49.1	51.3	53.5
% change	(0.2)	(0.0)	(0.2)	(0.3)	(0.5)	0.1	(0.0)	(0.5)	(0.6)	(0.5)	(0.1)
Average Wage rate ($1,000)	51.9	52.5	53.0	53.5	54.0	50.6	52.3	54.4	56.8	59.2	61.7
% change	(0.1)	0.1	0.1	0.1	0.2	0.2	0.1	0.2	0.3	0.4	0.6
Population (Millions)	4.06	4.09	4.10	4.1	4.1	4.02	4.08	4.13	4.19	4.24	4.30
% change	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Housing Starts (Thousands)	18.3	18.6	19.5	20.5	21.1	16.0	18.9	21.4	23.0	23.1	23.8
% change	1.3	0.0	0.0	(0.0)	0.0	0.0	0.4	0.0	0.2	(0.1)	(0.1)
Unemployment Rate	4.6	5.0	5.0	5.0	5.1	5.7	4.9	5.1	5.3	5.4	5.4
Point Change	(0.3)	0.1	0.0	0.0	0.0	(0.0)	(0.1)	0.0	0.0	0.0	0.0
Employment (Thousands)											
Total Nonfarm	1,830.3	1,842.5	1,855.0	1,868.3	1,881.2	1,779.4	1,836.7	1,887.1	1,927.4	1,951.4	1,969.6
% change	(0.2)	(0.3)	(0.4)	(0.4)	(0.5)	0.0	(0.3)	(0.5)	(0.3)	(0.1)	(0.1)
Private Nonfarm	1,523.6	1,534.0	1,544.8	1,556.4	1,567.9	1,478.9	1,529.1	1,573.2	1,608.9	1,628.8	1,641.5
% change	(0.1)	(0.3)	(0.4)	(0.5)	(0.5)	0.0	(0.2)	(0.5)	(0.4)	(0.2)	(0.2)
Construction	89.3	89.8	90.3	91.0	91.3	83.3	89.5	91.5	92.6	92.9	93.4
% change	1.6	1.4	1.2	1.0	0.7	0.2	1.1	0.6	0.2	(0.1)	(0.2)
Manufacturing	188.3	187.2	186.2	185.8	186.3	185.9	187.9	186.5	187.8	189.0	190.4
% change	0.8	0.7	0.1	(0.3)	(0.3)	0.1	0.8	(0.3)	(0.5)	(0.3)	(0.3)
Durable Manufacturing	131.7	130.6	129.6	129.1	129.4	130.4	131.2	129.5	130.2	130.9	131.7
% change	0.9	0.7	0.1	(0.4)	(0.5)	0.0	0.8	(0.5)	(0.6)	(0.3)	(0.1)
Wood Product Manufacturing	23.3	23.2	23.2	23.2	23.3	22.5	23.3	23.4	23.5	23.6	23.7
% change	3.9	3.5	3.2	3.4	3.4	0.0	3.7	3.5	3.2	3.6	3.1
High Tech Manufacturing	38.9	38.0	37.2	36.6	36.5	37.8	38.2	36.5	36.5	36.5	36.5
% change	2.8	3.5	2.6	0.9	0.5	0.0	2.6	0.4	0.2	0.7	0.9
Transportation Equipment	12.4	12.6	12.6	12.5	12.4	12.4	12.5	12.5	12.4	12.4	12.6
% change	(0.2)	0.6	0.1	(0.8)	(1.6)	0.0	0.4	(1.8)	(3.1)	(2.4)	(0.0)
Nondurable Manufacturing	56.6	56.7	56.6	56.8	56.9	55.6	56.7	57.0	57.6	58.1	58.6
% change	0.6	0.6	0.1	0.0	(0.0)	0.1	0.7	(0.1)	(0.3)	(0.5)	(0.7)
Private nonmanufacturing	1,334.0	1,346.7	1,358.5	1,370.5	1,381.6	1,293.2	1,340.5	1,386.7	1,421.2	1,439.8	1,451.1
% change	(0.4)	(0.4)	(0.5)	(0.5)	(0.5)	0.1	(0.4)	(0.5)	(0.4)	(0.1)	(0.1)
Retail Trade	206.5	208.2	210.0	211.8	213.6	202.5	207.3	214.4	219.0	220.4	221.9
% change	0.0	(0.1)	(0.2)	(0.3)	(0.3)	0.0	(0.1)	(0.3)	(0.5)	(0.5)	(0.5)
Wholesale Trade	75.4	75.8	76.0	76.4	76.6	74.0	75.6	76.6	77.3	77.9	78.5
% change	0.8	0.7	0.4	0.2	(0.2)	0.1	0.7	(0.3)	(0.9)	(1.0)	(1.2)
Information	33.9	34.2	34.5	34.7	34.9	32.8	34.0	35.0	35.9	36.5	36.5
% change	(1.5)	(1.9)	(2.3)	(2.6)	(2.7)	(0.9)	(2.0)	(2.5)	(1.5)	(1.4)	(2.3)
Professional and Business Services	239.8	243.5	246.8	250.2	253.2	228.6	241.5	254.8	266.5	273.4	278.1
% change	(0.6)	(0.5)	(0.4)	(0.4)	(0.5)	0.1	(0.6)	(0.5)	0.0	0.9	1.3
Health Services	229.6	231.5	233.7	235.9	238.0	222.7	230.8	238.9	244.8	247.9	250.7
% change	(1.0)	(1.1)	(1.0)	(1.0)	(0.9)	0.0	(0.9)	(0.9)	(0.8)	(0.8)	(0.7)
Leisure and Hospitality	199.0	200.6	202.8	205.0	206.9	191.8	200.0	207.8	212.5	215.2	215.4
% change	(0.4)	(0.7)	(0.7)	(0.6)	(0.6)	0.1	(0.4)	(0.6)	(0.2)	(0.1)	(0.3)
Government	306.7	308.5	310.3	311.9	313.3	300.5	307.6	313.9	318.5	322.6	328.1
% change	(0.7)	(0.7)	(0.5)	(0.3)	(0.2)	0.0	(0.5)	(0.2)	(0.1)	0.0	0.1

Table A.4 – Annual Economic Forecast

Sep 2016 - Personal Income

(Billions of Current Dollars)

	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Total Personal Income*												
Oregon	163.7	173.4	182.6	193.5	205.7	217.7	229.9	241.2	253.2	264.9	276.8	289.1
% Ch	5.7	6.0	5.3	6.0	6.3	5.8	5.6	4.9	5.0	4.6	4.5	4.5
U.S.	14,809.8	15,458.5	15,967.2	16,714.9	17,555.6	18,436.8	19,367.4	20,301.7	21,297.1	22,309.7	23,317.5	24,343.1
% Ch	5.2	4.4	3.3	4.7	5.0	5.0	5.0	4.8	4.9	4.8	4.5	4.4
Wage and Salary												
Oregon	85.1	91.0	97.0	103.7	110.5	116.5	122.6	128.4	134.7	140.8	147.1	153.8
% Ch	6.1	6.9	6.6	6.9	6.6	5.5	5.2	4.8	4.9	4.5	4.5	4.5
U.S.	7,476.3	7,854.8	8,126.8	8,537.9	8,961.7	9,387.2	9,837.8	10,318.9	10,848.1	11,392.9	11,933.9	12,477.2
% Ch	5.1	5.1	3.5	5.1	5.0	4.7	4.8	4.9	5.1	5.0	4.7	4.6
Other Labor Income												
Oregon	19.8	20.6	21.6	22.6	23.7	24.9	26.1	27.3	28.5	29.7	31.0	32.2
% Ch	(1.6)	4.2	4.7	4.6	4.8	5.2	4.9	4.6	4.3	4.3	4.2	4.0
U.S.	1,229.8	1,270.5	1,325.4	1,376.0	1,418.2	1,469.8	1,524.9	1,578.6	1,633.6	1,693.5	1,755.4	1,819.0
% Ch	2.6	3.3	4.3	3.8	3.1	3.6	3.7	3.5	3.5	3.7	3.7	3.6
Nonfarm Proprietor's Income												
Oregon	11.8	12.4	13.0	13.9	14.9	15.8	16.6	17.5	18.4	19.4	20.3	21.3
% Ch	5.9	5.1	5.3	7.1	6.9	5.7	5.3	5.3	5.5	5.2	4.7	4.9
U.S.	1,269.2	1,336.8	1,390.3	1,465.2	1,529.3	1,583.5	1,646.7	1,724.4	1,812.1	1,900.1	1,987.0	2,080.9
% Ch	6.0	5.3	4.0	5.4	4.4	3.5	4.0	4.7	5.1	4.9	4.6	4.7
Dividend, Interest and Rent												
Oregon	31.4	32.6	34.0	35.7	38.1	40.8	43.8	46.1	48.4	50.5	52.4	54.3
% Ch	4.2	3.9	4.1	5.1	6.6	7.2	7.3	5.3	4.8	4.5	3.8	3.6
U.S.	2,833.1	2,913.5	2,965.4	3,077.0	3,257.7	3,470.6	3,701.0	3,881.1	4,054.3	4,226.2	4,382.4	4,532.3
% Ch	8.0	2.8	1.8	3.8	5.9	6.5	6.6	4.9	4.5	4.2	3.7	3.4
Transfer Payments												
Oregon	33.5	35.7	37.0	38.9	41.1	43.5	45.8	48.1	50.7	53.2	56.1	59.1
% Ch	8.8	6.6	3.5	5.0	5.8	5.7	5.3	5.1	5.4	5.0	5.3	5.4
U.S.	2,487.2	2,619.5	2,731.5	2,858.3	2,999.2	3,159.3	3,326.8	3,503.8	3,693.0	3,885.1	4,088.9	4,303.7
% Ch	4.3	5.3	4.3	4.6	4.9	5.3	5.3	5.3	5.4	5.2	5.2	5.3
Contributions for Social Security												
Oregon	14.9	15.8	16.6	17.7	18.8	19.8	20.9	22.0	23.2	24.4	25.7	26.9
% Ch	5.4	5.8	5.2	6.2	6.3	5.7	5.4	5.4	5.1	5.4	5.1	4.9
U.S.	607.6	635.7	659.6	693.1	727.9	761.8	798.5	838.4	880.5	925.3	969.3	1,013.8
% Ch	5.1	4.6	3.8	5.1	5.0	4.7	4.8	5.0	5.0	5.1	4.8	4.6
Residence Adjustment												
Oregon	(3.6)	(3.9)	(4.1)	(4.2)	(4.3)	(4.3)	(4.4)	(4.5)	(4.6)	(4.7)	(4.8)	(4.9)
% Ch	0.1	7.1	4.7	2.8	2.4	1.7	1.8	1.8	1.7	1.9	2.4	2.6
Farm Proprietor's Income												
Oregon	0.7	0.8	0.7	0.6	0.5	0.4	0.4	0.3	0.3	0.3	0.3	0.3
% Ch	86.1	17.1	(4.8)	(22.9)	(17.0)	(15.5)	(10.4)	(3.7)	(11.5)	(2.3)	0.8	2.3
Per Capita Income (Thousands of $)												
Oregon	41.2	43.1	44.8	46.8	49.1	51.3	53.5	55.5	57.6	59.6	61.6	63.7
% Ch	4.5	4.6	3.9	4.5	4.9	4.5	4.3	3.7	3.8	3.5	3.4	3.4
U.S.	46.4	48.0	49.2	51.1	53.2	55.5	57.8	60.1	62.6	65.1	67.5	70.0
% Ch	4.4	3.6	2.5	3.8	4.2	4.2	4.2	4.0	4.1	4.0	3.7	3.6

* Personal Income includes all classes of income minus Contributions for Social Security

Sep 2016 - Employment By Industry
(Oregon - Thousands, U.S. - Millions)

	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Total Nonfarm												
Oregon	1,722.0	1,779.4	1,836.7	1,887.1	1,927.4	1,951.4	1,969.6	1,981.8	1,997.0	2,010.6	2,025.7	2,044.1
% Ch	2.9	3.3	3.2	2.7	2.1	1.2	0.9	0.6	0.8	0.7	0.8	0.9
U.S.	138.9	141.8	144.3	146.1	147.3	148.4	149.8	151.0	152.8	154.5	155.9	157.1
% Ch	1.9	2.1	1.7	1.2	0.8	0.8	0.9	0.9	1.1	1.1	0.9	0.8
Private Nonfarm												
Oregon	1,428.0	1,478.9	1,529.1	1,573.2	1,608.9	1,628.8	1,641.5	1,651.6	1,663.3	1,673.8	1,685.5	1,700.0
% Ch	3.1	3.6	3.4	2.9	2.3	1.2	0.8	0.6	0.7	0.6	0.7	0.9
U.S.	117.1	119.8	122.2	123.9	125.0	126.0	127.1	128.4	130.0	131.6	132.9	134.0
% Ch	2.2	2.4	2.0	1.4	0.8	0.8	0.8	1.1	1.3	1.2	1.0	0.8
Mining and Logging												
Oregon	7.7	7.8	7.8	8.0	8.1	8.2	8.2	8.3	8.3	8.3	8.4	8.4
% Ch	1.8	0.4	0.8	2.0	1.6	0.8	0.6	0.4	0.4	0.5	0.4	0.3
U.S.	0.9	0.8	0.7	0.7	0.7	0.8	0.8	0.8	0.8	0.8	0.9	0.9
% Ch	3.2	(7.9)	(15.1)	0.6	5.5	2.5	3.1	3.3	2.5	2.3	2.0	0.8
Construction												
Oregon	80.1	83.3	89.5	91.5	92.6	92.9	93.4	94.1	94.8	95.8	96.5	97.3
% Ch	8.0	4.0	7.5	2.2	1.3	0.3	0.5	0.7	0.8	1.0	0.7	0.8
U.S.	6.1	6.4	6.7	6.9	7.2	7.3	7.5	7.6	7.8	7.9	8.1	8.2
% Ch	5.0	4.8	3.6	3.4	3.7	2.4	1.8	1.9	2.1	2.3	2.1	1.6
Manufacturing												
Oregon	179.6	185.9	187.9	186.5	187.8	189.0	190.4	191.6	192.6	193.3	194.1	195.2
% Ch	2.6	3.5	1.0	(0.7)	0.7	0.7	0.7	0.6	0.5	0.3	0.4	0.6
U.S.	12.2	12.3	12.3	12.4	12.4	12.5	12.7	12.8	12.8	12.8	12.8	12.9
% Ch	1.4	1.1	(0.2)	0.5	0.3	1.2	1.0	0.9	0.3	0.1	0.1	0.1
Durable Manufacturing												
Oregon	126.3	130.4	131.2	129.5	130.2	130.9	131.7	132.5	133.1	133.2	133.5	134.0
% Ch	2.4	3.3	0.6	(1.3)	0.5	0.5	0.6	0.6	0.4	0.1	0.2	0.4
U.S.	7.7	7.8	7.7	7.8	7.8	7.9	8.0	8.1	8.2	8.2	8.2	8.3
% Ch	1.7	1.1	(0.7)	0.8	0.6	1.5	1.4	1.3	0.5	0.2	0.2	0.3
Wood Products												
Oregon	22.0	22.5	23.3	23.4	23.5	23.6	23.7	23.9	24.0	24.0	24.1	24.2
% Ch	4.0	2.2	3.6	0.4	0.8	0.3	0.3	0.8	0.6	0.1	0.2	0.5
U.S.	0.4	0.4	0.4	0.4	0.4	0.4	0.5	0.5	0.5	0.5	0.5	0.5
% Ch	5.2	2.1	0.7	5.8	6.2	3.1	3.9	3.8	2.8	3.0	2.4	1.5
Metal and Machinery												
Oregon	35.9	36.8	36.7	36.8	37.3	37.7	38.1	38.5	38.8	39.1	39.4	39.8
% Ch	1.5	2.4	(0.3)	0.4	1.1	1.2	1.1	0.9	0.9	0.7	0.8	0.9
U.S.	3.0	3.0	2.9	2.9	2.9	3.0	3.0	3.1	3.2	3.2	3.3	3.3
% Ch	1.6	(0.2)	(2.8)	0.3	0.9	2.2	2.0	2.1	1.8	1.5	1.2	0.6
Computer and Electronic Products												
Oregon	36.6	37.8	38.2	36.5	36.5	36.5	36.5	36.3	36.2	36.1	36.0	35.9
% Ch	(0.1)	3.2	1.1	(4.5)	0.0	(0.1)	0.0	(0.4)	(0.2)	(0.5)	(0.3)	(0.3)
U.S.	1.0	1.1	1.0	1.0	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
% Ch	(1.5)	0.1	(1.1)	0.3	2.6	0.8	0.5	0.5	0.4	0.3	0.5	0.3
Transportation Equipment												
Oregon	11.5	12.4	12.5	12.5	12.4	12.4	12.6	12.7	12.7	12.6	12.5	12.5
% Ch	6.0	8.1	0.7	(0.6)	(0.1)	0.1	1.1	1.2	(0.1)	(0.9)	(0.8)	0.0
U.S.	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.5	1.5	1.4	1.4
% Ch	3.3	2.6	0.9	(0.4)	(2.8)	1.0	1.2	(0.1)	(2.8)	(3.8)	(2.9)	(0.2)
Other Durables												
Oregon	20.3	20.9	20.5	20.4	20.5	20.7	20.8	21.1	21.2	21.4	21.5	21.6
% Ch	5.4	3.3	(2.0)	(0.6)	0.6	0.9	0.9	1.0	0.9	0.6	0.7	0.5
U.S.	2.1	2.1	2.2	2.2	2.2	2.3	2.3	2.3	2.4	2.4	2.4	2.4
% Ch	2.2	2.2	1.1	2.5	1.9	1.2	1.3	1.7	1.3	1.2	0.8	0.4
Nondurable Manufacturing												
Oregon	53.4	55.6	56.7	57.0	57.6	58.1	58.6	59.1	59.6	60.1	60.6	61.3
% Ch	3.1	4.1	2.0	0.5	1.0	1.0	0.9	0.8	0.8	0.8	0.9	1.0
U.S.	4.5	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6
% Ch	0.9	1.1	0.8	0.1	(0.3)	0.7	0.3	0.1	(0.2)	(0.1)	(0.1)	(0.2)
Food Manufacturing												
Oregon	27.0	28.0	29.1	29.1	29.4	29.6	29.8	29.9	30.1	30.3	30.5	30.8
% Ch	4.2	3.8	3.8	0.2	0.8	0.7	0.6	0.6	0.6	0.6	0.8	0.9
U.S.	1.5	1.5	1.5	1.6	1.6	1.6	1.6	1.6	1.7	1.7	1.7	1.7
% Ch	0.7	1.4	1.7	1.8	1.0	1.7	1.4	1.4	1.3	1.4	1.4	1.2
Other Nondurable												
Oregon	26.4	27.6	27.6	27.9	28.2	28.6	28.9	29.2	29.5	29.8	30.1	30.4
% Ch	2.0	4.4	0.3	0.9	1.2	1.3	1.1	1.0	1.1	1.1	1.1	1.1
U.S.	3.0	3.1	3.1	3.0	3.0	3.0	3.0	3.0	3.0	2.9	2.9	2.9
% Ch	0.9	1.0	0.4	(0.8)	(0.9)	0.2	(0.3)	(0.7)	(1.0)	(1.0)	(1.0)	(1.0)
Trade, Transportation, and Utilities												
Oregon	325.7	335.4	343.0	352.3	358.6	361.6	364.2	365.9	367.6	368.6	369.0	370.5
% Ch	2.4	3.0	2.3	2.7	1.8	0.8	0.7	0.5	0.4	0.3	0.1	0.4
U.S.	26.4	26.9	27.3	27.4	27.3	27.4	27.4	27.4	27.5	27.6	27.7	27.8
% Ch	2.0	2.0	1.5	0.4	(0.4)	0.1	(0.1)	0.1	0.4	0.4	0.3	0.3

Sep 2016 - Employment By Industry
(Oregon - Thousands, U.S. - Millions)

	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Retail Trade												
Oregon	196.3	202.5	207.3	214.4	219.0	220.4	221.9	222.8	224.0	224.8	224.9	226.1
% Ch	2.5	3.1	2.4	3.4	2.2	0.6	0.7	0.4	0.5	0.3	0.1	0.5
U.S.	15.4	15.6	16.0	16.0	15.8	15.7	15.6	15.6	15.6	15.7	15.7	15.7
% Ch	1.9	1.9	2.0	0.2	(1.1)	(0.4)	(0.6)	(0.4)	0.2	0.3	0.2	0.2
Wholesale Trade												
Oregon	72.6	74.0	75.6	76.6	77.3	77.9	78.5	79.1	79.4	79.7	80.0	80.2
% Ch	1.5	2.0	2.2	1.4	0.9	0.8	0.8	0.7	0.5	0.4	0.3	0.3
U.S.	5.8	5.9	5.9	5.9	6.0	6.0	6.1	6.1	6.2	6.3	6.3	6.3
% Ch	1.4	1.1	0.8	0.3	0.5	1.0	0.9	1.0	1.0	0.9	0.7	0.4
Transportation and Warehousing, and Utilities												
Oregon	56.9	59.0	60.1	61.3	62.3	63.3	63.8	64.0	64.1	64.1	64.1	64.2
% Ch	3.6	3.7	2.0	2.0	1.6	1.6	0.8	0.3	0.1	0.1	(0.0)	0.1
U.S.	5.2	5.4	5.5	5.5	5.6	5.6	5.6	5.6	5.7	5.7	5.7	5.7
% Ch	3.2	3.7	1.0	1.2	0.9	0.6	0.4	0.4	0.4	0.3	0.2	0.6
Information												
Oregon	32.2	32.8	34.0	35.0	35.9	36.5	36.5	36.5	36.6	36.8	37.1	37.4
% Ch	(0.2)	2.0	3.5	3.1	2.5	1.6	0.0	0.0	0.4	0.6	0.6	0.8
U.S.	2.7	2.8	2.8	2.7	2.8	2.8	2.8	2.8	2.9	2.9	2.9	3.0
% Ch	0.8	0.9	0.9	(2.1)	2.4	0.1	(0.2)	1.3	1.5	1.4	1.3	0.8
Financial Activities												
Oregon	92.4	94.5	95.7	98.3	100.5	101.3	101.1	100.9	100.9	101.0	101.2	101.3
% Ch	0.9	2.3	1.2	2.7	2.3	0.8	(0.2)	(0.2)	(0.1)	0.2	0.1	0.2
U.S.	8.0	8.1	8.3	8.3	8.3	8.3	8.3	8.3	8.3	8.3	8.4	8.4
% Ch	1.1	1.9	1.9	0.4	(0.4)	(0.1)	(0.2)	0.3	0.4	0.4	0.4	0.1
Professional and Business Services												
Oregon	219.8	228.6	241.5	254.8	266.5	273.4	278.1	282.2	286.8	290.9	295.2	300.0
% Ch	4.9	4.0	5.6	5.5	4.6	2.6	1.7	1.5	1.6	1.4	1.5	1.6
U.S.	19.1	19.7	20.2	21.0	21.7	22.1	22.5	23.0	23.8	24.6	25.2	25.8
% Ch	2.9	3.1	2.9	3.8	3.2	1.8	2.0	2.3	3.5	3.4	2.6	2.2
Education and Health Services												
Oregon	248.5	258.1	266.4	275.1	281.5	285.0	288.0	291.2	294.7	298.3	302.5	307.0
% Ch	2.4	3.9	3.2	3.3	2.3	1.2	1.1	1.1	1.2	1.2	1.4	1.5
U.S.	21.4	22.1	22.7	23.1	23.2	23.4	23.6	23.9	24.2	24.4	24.7	25.0
% Ch	1.7	2.9	2.9	1.6	0.5	0.9	0.9	1.1	1.2	1.2	1.2	1.0
Educational Services												
Oregon	34.7	35.4	35.6	36.2	36.7	37.1	37.4	37.5	37.6	37.7	37.8	38.1
% Ch	1.9	1.8	0.7	1.7	1.4	1.0	0.8	0.4	0.3	0.2	0.4	0.6
U.S.	3.4	3.5	3.5	3.5	3.4	3.4	3.4	3.3	3.3	3.3	3.2	3.1
% Ch	1.8	1.4	1.8	(1.1)	(1.5)	(0.7)	(0.8)	(1.1)	(1.3)	(1.5)	(1.9)	(2.3)
Health Care and Social Assistance												
Oregon	213.7	222.7	230.8	238.9	244.8	247.9	250.7	253.7	257.0	260.6	264.7	269.0
% Ch	2.5	4.2	3.6	3.5	2.5	1.3	1.1	1.2	1.3	1.4	1.6	1.6
U.S.	18.0	18.6	19.2	19.6	19.7	20.0	20.2	20.5	20.9	21.2	21.5	21.8
% Ch	1.6	3.1	3.1	2.1	0.9	1.2	1.2	1.4	1.6	1.6	1.6	1.4
Leisure and Hospitality												
Oregon	182.9	191.8	200.0	207.8	212.5	215.2	215.4	214.5	214.0	213.4	214.0	215.0
% Ch	3.6	4.9	4.3	3.9	2.3	1.3	0.1	(0.4)	(0.2)	(0.3)	0.3	0.5
U.S.	14.7	15.1	15.5	15.8	15.8	15.9	16.1	16.3	16.5	16.6	16.6	16.6
% Ch	3.1	2.9	2.7	1.7	0.3	0.6	1.1	1.3	0.9	0.6	0.4	0.0
Other Services												
Oregon	59.2	60.7	63.3	63.9	64.8	65.7	66.2	66.5	67.1	67.3	67.6	68.0
% Ch	2.0	2.7	4.2	1.0	1.5	1.3	0.7	0.5	0.8	0.4	0.5	0.6
U.S.	5.6	5.6	5.7	5.6	5.6	5.6	5.5	5.5	5.5	5.5	5.5	5.5
% Ch	1.5	1.0	1.1	(0.8)	(1.0)	(0.5)	(0.1)	(0.0)	(0.2)	(0.2)	(0.4)	(0.4)
Government												
Oregon	293.9	300.5	307.6	313.9	318.5	322.6	328.1	330.1	333.7	336.9	340.2	344.1
% Ch	1.8	2.2	2.4	2.0	1.5	1.3	1.7	0.6	1.1	1.0	1.0	1.1
U.S.	21.9	22.0	22.1	22.2	22.3	22.4	22.7	22.6	22.7	22.9	23.0	23.2
% Ch	0.1	0.6	0.5	0.3	0.5	0.6	1.2	(0.3)	0.5	0.6	0.6	0.6
Federal Government												
Oregon	27.4	27.8	28.1	28.4	28.3	28.1	29.5	27.8	27.7	27.7	27.6	27.6
% Ch	(0.3)	1.2	1.4	0.8	(0.3)	(0.7)	5.3	(5.9)	(0.3)	(0.2)	(0.2)	(0.2)
U.S.	2.7	2.8	2.8	2.8	2.7	2.7	2.8	2.7	2.6	2.6	2.6	2.6
% Ch	(1.3)	0.7	1.0	0.0	(1.3)	(1.5)	4.6	(6.0)	(0.6)	(0.3)	(0.3)	(0.3)
State Government, Oregon												
State Total	84.2	87.3	89.3	91.1	92.4	93.4	94.3	95.1	95.9	96.7	97.5	98.4
% Ch	3.9	3.7	2.4	1.9	1.4	1.1	0.9	0.9	0.8	0.8	0.9	1.0
State Education	32.5	33.1	33.7	34.0	34.2	34.5	34.7	34.9	34.9	35.0	35.0	35.1
% Ch	1.6	1.8	1.8	0.8	0.7	0.7	0.7	0.5	0.2	0.1	0.2	0.2
Local Government, Oregon												
Local Total	182.3	185.5	190.1	194.4	197.8	201.1	204.3	207.2	210.0	212.5	215.1	218.1
% Ch	1.1	1.8	2.5	2.3	1.7	1.7	1.6	1.4	1.4	1.2	1.2	1.4
Local Education	94.5	96.2	98.5	100.5	102.1	103.5	104.7	105.9	106.9	107.8	108.6	109.3
% Ch	1.0	1.8	2.4	2.0	1.6	1.3	1.2	1.1	1.0	0.9	0.7	0.7

Sep 2016 - Other Economic Indicators

	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
GDP (Bil of 2009 $),												
Chain Weight (in billions of $)	15,982.3	16,397.2	16,651.8	17,057.6	17,460.3	17,850.8	18,262.3	18,675.9	19,131.3	19,582.5	20,003.6	20,407.3
% Ch	2.4	2.6	1.6	2.4	2.4	2.2	2.3	2.3	2.4	2.4	2.2	2.0
Price and Wage Indicators												
GDP Implicit Price Deflator,												
Chain Weight U.S., 2009=100	108.8	110.0	111.6	114.0	116.3	118.7	121.2	123.8	126.3	128.9	131.5	134.1
% Ch	1.8	1.1	1.4	2.2	2.1	2.1	2.1	2.1	2.1	2.0	2.0	2.0
Personal Consumption Deflator,												
Chain Weight U.S., 2009=100	109.2	109.5	110.7	112.7	114.9	117.2	119.7	122.3	124.9	127.6	130.3	133.1
% Ch	1.5	0.3	1.0	1.9	1.9	2.0	2.1	2.2	2.1	2.1	2.2	2.1
CPI, Urban Consumers,												
1982-84=100												
Portland-Salem, OR-WA	241.2	244.2	248.4	254.3	260.6	266.7	273.2	280.0	286.8	293.6	300.9	308.0
% Ch	2.4	1.2	1.7	2.4	2.5	2.4	2.4	2.5	2.4	2.4	2.5	2.4
U.S.	236.7	237.0	239.9	246.0	251.9	258.1	264.7	271.7	278.6	285.7	292.9	300.0
% Ch	1.6	0.1	1.2	2.5	2.4	2.4	2.6	2.7	2.6	2.5	2.5	2.4
Oregon Average Wage												
Rate (Thous $)	48.9	50.6	52.3	54.4	56.8	59.2	61.7	64.3	66.9	69.5	72.1	74.7
% Ch	3.2	3.5	3.4	4.1	4.4	4.2	4.3	4.1	4.1	3.8	3.7	3.6
U.S. Average Wage												
Wage Rate (Thous $)	53.8	55.4	56.3	58.4	60.9	63.2	65.7	68.3	71.0	73.7	76.5	79.4
% Ch	3.1	2.9	1.7	3.8	4.1	3.9	3.9	4.0	3.9	3.9	3.8	3.8
Housing Indicators												
FHFA Oregon Housing Price Index												
1991 Q1=100	306.9	334.7	367.3	395.0	422.7	444.4	465.7	485.2	504.0	522.9	540.0	555.1
% Ch	7.8	9.0	9.7	7.5	7.0	5.1	4.8	4.2	3.9	3.8	3.3	2.8
FHFA National Housing Price Index												
1991 Q1=100	209.8	221.6	233.3	242.3	250.3	257.7	266.0	274.7	283.6	293.0	302.5	312.1
% Ch	5.4	5.6	5.3	3.8	3.3	3.0	3.2	3.3	3.2	3.3	3.2	3.2
Housing Starts												
Oregon (Thous)	15.5	16.0	18.9	21.4	23.0	23.1	23.8	24.2	24.3	24.1	23.6	23.2
% Ch	9.1	2.8	18.3	13.0	7.5	0.7	2.9	1.6	0.3	(0.8)	(2.1)	(1.6)
U.S. (Millions)	1.0	1.1	1.2	1.4	1.5	1.5	1.6	1.6	1.6	1.7	1.7	1.7
% Ch	7.8	10.7	6.4	15.9	9.3	3.6	4.0	1.1	1.1	0.9	0.1	(0.6)
Other Indicators												
Unemployment Rate (%)												
Oregon	6.8	5.7	4.9	5.1	5.3	5.4	5.4	5.4	5.5	5.5	5.5	5.5
Point Change	(1.0)	(1.1)	(0.9)	0.3	0.2	0.0	0.1	0.0	0.0	(0.0)	0.0	0.0
U.S.	6.2	5.3	4.9	4.7	4.8	4.9	5.0	5.0	4.9	4.7	4.6	4.6
Point Change	(1.2)	(0.9)	(0.4)	(0.1)	0.0	0.1	0.1	0.0	(0.1)	(0.2)	(0.1)	(0.0)
Industrial Production Index												
U.S, 2002 = 100	104.9	105.2	104.0	105.3	108.8	111.6	114.5	116.9	119.6	122.0	124.0	125.7
% Ch	2.9	0.3	(1.2)	1.3	3.3	2.6	2.6	2.1	2.3	1.9	1.6	1.4
Prime Rate (Percent)	3.3	3.3	3.5	4.0	4.7	5.7	6.0	6.0	6.0	6.0	6.0	6.0
% Ch	0.0	0.3	7.7	13.0	18.9	19.8	6.2	0.0	0.0	0.0	0.0	0.0
Population (Millions)												
Oregon	3.97	4.02	4.08	4.13	4.19	4.24	4.30	4.35	4.39	4.44	4.49	4.54
% Ch	1.1	1.3	1.4	1.4	1.4	1.3	1.2	1.2	1.1	1.1	1.1	1.1
U.S.	319.5	322.0	324.5	327.1	329.8	332.4	335.0	337.6	340.2	342.8	345.3	347.8
% Ch	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.7	0.7
Timber Harvest (Mil Bd Ft)												
Oregon	4,125.6	3,788.1	4,350.3	4,740.0	4,763.5	4,793.0	4,803.5	4,804.4	4,826.1	4,813.0	4,805.6	3,829.4
% Ch	(1.8)	(8.2)	14.8	9.0	0.5	0.6	0.2	0.0	0.5	(0.3)	(0.2)	(20.3)

APPENDIX B: REVENUE FORECAST DETAIL

Table B.1 General Fund Revenue Statement

Table B.1a
General Fund Revenue Statement -- 2015-17

	Estimate at COS 2015	Forecasts Dated: 6/1/2010 2015-16	Forecasts Dated: 6/1/2010 2016-17	Forecasts Dated: 6/1/2010 Total 2015-17	Forecasts Dated: 9/1/2016 2015-16	Forecasts Dated: 9/1/2016 2016-17	Forecasts Dated: 9/1/2016 Total 2015-17	Difference 09/1/2016 Less 6/1/2016	Difference 09/1/2016 Less COS
Taxes									
Personal Income Taxes	15,713,459,000	7,647,271,000	8,054,828,000	15,702,099,000	7,752,914,000	7,960,812,000	15,713,726,000	11,627,000	267,000
Shared Service Fund (Gainshare)	(32,663,000)	(16,313,000)	(16,329,000)	(32,642,000)	(16,313,000)	(16,329,000)	(32,642,000)	0	21,000
Corporate Income Taxes	1,100,007,000	601,942,000	530,335,000	1,132,277,000	609,868,000	500,894,000	1,110,762,000	(21,515,000)	10,755,000
Rainy Day Fund Transfer (Minimum Tax)	(10,114,000)	(5,979,000)	(4,933,000)	(10,912,000)	(6,519,000)	(5,282,000)	(11,801,000)	(889,000)	(1,687,000)
Insurance Taxes	118,885,000	65,118,000	59,391,000	124,509,000	66,085,000	58,957,000	125,042,000	533,000	6,157,000
Estate Taxes	217,126,000	115,564,000	111,062,000	226,626,000	125,970,000	112,062,000	238,032,000	11,406,000	20,906,000
Cigarette Taxes	65,029,000	36,195,000	33,520,000	69,715,000	36,214,000	33,615,000	69,829,000	114,000	4,800,000
Other Tobacco Products Taxes	63,819,000	30,767,000	31,179,000	61,946,000	30,983,000	31,331,000	62,314,000	368,000	(1,505,000)
Other Taxes	1,736,000	868,000	868,000	1,736,000	905,000	868,000	1,773,000	37,000	37,000
Fines and Fees									
State Court Fees	125,978,000	56,700,000	58,579,000	115,279,000	57,444,000	58,421,000	115,865,000	586,000	(10,113,000)
Secretary of State Fees	61,627,000	31,672,000	31,923,000	63,595,000	32,138,000	31,923,000	64,061,000	466,000	2,434,000
Criminal Fines & Assessments	60,419,000	28,022,000	33,117,000	61,139,000	27,758,000	32,805,000	60,563,000	(576,000)	144,000
Securities Fees	21,859,000	12,104,000	11,934,000	24,038,000	12,027,000	11,795,000	23,822,000	(216,000)	1,963,000
Central Service Charges	8,152,000	4,076,000	4,076,000	8,152,000	5,190,000	4,076,000	9,266,000	1,114,000	1,114,000
Liquor Apportionment	273,519,000	130,358,000	135,679,000	266,037,000	127,421,000	135,679,000	263,100,000	(2,937,000)	(10,419,000)
Interest Earnings	14,943,000	6,974,000	7,969,000	14,943,000	7,366,000	7,969,000	15,335,000	392,000	392,000
Miscellaneous Revenues	12,409,960	6,105,000	6,305,000	12,410,000	4,060,000	6,305,000	10,365,000	(2,045,000)	(2,044,960)
One-time Transfers	139,088,000	3,000,000	136,088,000	139,088,000	2,334,000	136,088,000	138,422,000	(666,000)	(666,000)
Gross General Fund Revenues	17,998,055,960	8,776,736,000	9,246,853,000	18,023,589,000	8,898,677,000	9,123,600,000	18,022,277,000	(1,312,000)	24,221,040
Offsets and Transfers	(42,777,000)	(22,292,000)	(21,262,000)	(43,554,000)	(22,832,000)	(21,611,000)	(44,443,000)	(889,000)	(1,666,000)
Net General Fund Revenues	17,955,278,960	8,754,444,000	9,225,591,000	17,980,035,000	8,875,845,000	9,101,989,000	17,977,834,000	(2,201,000)	22,555,040
Plus Beginning Balance	532,887,537			528,792,871			528,792,871	0	(4,094,666)
Less Anticipated Administrative Actions*	(20,200,000)			(14,018,000)			(14,018,000)	0	6,182,000
Less Legislatively Adopted Actions**	(158,894,706)			(158,328,302)			(158,328,302)	0	566,404
Available Resources	18,309,071,791			18,336,481,569			18,334,280,569	(2,201,000)	25,208,778
Appropriations	17,984,668,302			18,074,633,526			18,074,633,526	0	89,965,224
Projected Expenditures	17,984,668,302			18,074,633,526			18,074,633,526	0	89,965,224
Estimated Ending Balance	324,403,489			261,848,043			259,647,043	(2,201,000)	(64,756,446)

Table B.1b
General Fund Revenue Statement -- 2017-19

	Forecasts Dated: 6/1/2016			Forecasts Dated: 9/1/2016			Difference
	2017-18	2018-19	Total 2017-19	2017-18	2018-19	Total 2017-19	09/1/2016 Less 6/1/2016
Taxes							
Personal Income Taxes (Before Kicker)	8,528,098,000	8,969,263,000	17,497,361,000	8,495,176,000	8,929,607,000	17,424,783,000	(72,578,000)
Offsets and Transfers	(16,345,000)	(16,363,000)	(32,708,000)	(16,345,000)	(16,363,000)	(32,708,000)	0
Corporate Income Taxes (Before Kicker)	525,170,000	520,637,000	1,045,807,000	504,385,000	513,803,000	1,018,188,000	(27,619,000)
Offsets and Transfers	(18,935,000)	(19,781,000)	(38,716,000)	(19,074,000)	(20,311,000)	(39,385,000)	(669,000)
Insurance Taxes	63,226,000	66,131,000	129,357,000	62,469,000	64,774,000	127,243,000	(2,114,000)
Estate Taxes	114,066,000	119,299,000	233,365,000	119,066,000	124,299,000	243,365,000	10,000,000
Cigarette Taxes	31,814,000	29,937,000	61,751,000	32,158,000	30,500,000	62,658,000	907,000
Other Tobacco Products Taxes	31,922,000	32,683,000	64,605,000	32,078,000	32,842,000	64,920,000	315,000
Other Taxes	843,000	833,000	1,676,000	843,000	833,000	1,676,000	0
Fines and Fees							
State Court Fees	59,200,000	59,832,000	119,032,000	59,029,000	59,646,000	118,675,000	(357,000)
Secretary of State Fees	32,140,000	32,567,000	64,707,000	32,140,000	32,567,000	64,707,000	0
Criminal Fines & Assessments	30,187,000	35,675,000	65,862,000	29,973,000	35,423,000	65,396,000	(466,000)
Securities Fees	11,758,000	12,080,000	23,838,000	11,893,000	12,250,000	24,143,000	305,000
Central Service Charges	4,076,000	4,076,000	8,152,000	4,076,000	4,076,000	8,152,000	0
Liquor Apportionment	125,601,000	133,170,000	258,771,000	143,026,000	151,187,000	294,213,000	35,442,000
Interest Earnings	11,763,000	17,516,000	29,279,000	11,763,000	17,516,000	29,279,000	0
Miscellaneous Revenues	6,425,000	6,602,000	13,027,000	6,425,000	6,602,000	13,027,000	0
One-time Transfers	3,000,000	3,000,000	6,000,000	3,000,000	3,000,000	6,000,000	0
Gross General Fund Revenues	9,579,289,000	10,043,301,000	19,622,590,000	9,547,500,000	10,018,925,000	19,566,425,000	(56,165,000)
Total Kicker Refunds/Credits	(35,280,000)	(36,144,000)	(71,424,000)	(35,419,000)	(36,674,000)	(72,093,000)	(669,000)
Net General Fund Revenues	9,544,009,000	10,007,157,000	19,551,166,000	9,512,081,000	9,982,251,000	19,494,332,000	(56,834,000)
Plus Beginning Balance			261,848,043			259,647,043	(2,201,000)
Less Anticipated Administrative Actions*			0			0	0
Less Legislatively Adopted Actions**			(180,746,335)			(180,746,335)	0
Available Resources			19,632,267,708			19,573,232,708	(59,035,000)

Table B.2 General Fund Revenue Forecast by Fiscal Year

General Fund Revenue Forecast

($Millions)

September 2016

Fiscal Years	2013-14 Fiscal Year	2014-15 Fiscal Year	2015-16 Fiscal Year	2016-17 Fiscal Year	2017-18 Fiscal Year	2018-19 Fiscal Year	2019-20 Fiscal Year	2020-21 Fiscal Year	2021-22 Fiscal Year	2022-23 Fiscal Year	2023-24 Fiscal Year	2024-25 Fiscal Year
Taxes												
Personal Income	6,628.0	7,330.3	7,752.9	7,960.8	8,495.2	8,929.6	9,319.5	9,908.7	10,473.1	10,949.9	11,436.6	11,952.7
Offsets and Transfers	(24.1)	(38.1)	(16.3)	(16.3)	(16.3)	(16.4)	(16.4)	(16.4)	(16.4)	(16.4)	(16.5)	(16.5)
Corporate Excise & Income	494.8	621.8	609.9	500.9	504.4	513.8	521.7	531.0	547.8	566.7	578.9	590.4
Offsets and Transfers	(6.9)	(5.4)	(6.5)	(5.3)	(19.1)	(20.3)	(21.1)	(21.5)	(21.5)	(22.1)	(21.3)	(24.5)
Insurance	59.8	61.3	66.1	59.0	62.5	64.8	66.8	68.9	70.9	73.4	75.8	78.0
Estate	85.5	111.0	126.0	112.1	119.1	124.3	128.8	133.6	138.9	142.6	146.6	150.6
Cigarette	36.1	37.2	36.2	33.6	32.2	30.5	29.1	27.7	26.4	25.2	23.7	22.2
Other Tobacco Products	30.2	29.9	31.0	31.3	32.1	32.8	33.6	34.4	35.2	36.1	37.1	38.2
Other Taxes	1.1	0.9	0.9	0.9	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
Other Revenues												
Licenses and Fees	128.2	128.1	129.4	134.9	133.0	139.9	136.1	143.1	137.4	144.4	139.8	146.3
Charges for Services	3.6	5.1	5.2	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1
Liquor Apportionment	120.8	125.9	127.4	135.7	143.0	151.2	141.2	149.7	158.7	168.2	178.2	188.9
Interest Earnings	4.2	4.8	7.4	8.0	11.8	17.5	24.4	32.7	35.0	38.0	40.0	42.0
Others	50.8	5.7	6.4	142.4	9.4	9.6	9.8	10.0	10.2	10.4	10.6	10.8
Gross General Fund	7,643.1	8,461.8	8,898.7	9,123.6	9,547.5	10,018.9	10,415.9	11,044.7	11,638.5	12,159.5	12,672.2	13,225.0
Net General Fund	7,612.1	8,418.3	8,875.8	9,102.0	9,512.1	9,982.3	10,378.4	11,006.7	11,600.6	12,121.0	12,634.4	13,184.0

Biennial Totals	2013-15 Biennium	Percent Change	2015-17 Biennium	Percent Change	2017-19 Biennium	Percent Change	2019-21 Biennium	Percent Change	2021-23 Biennium	Percent Change	2023-25 Biennium	Percent Change
Taxes												
Personal Income	13,958.3	15.2%	15,713.7	12.6%	17,424.8	10.9%	19,228.3	10.4%	21,422.9	11.4%	23,389.3	9.2%
Corporate Excise & Income	1,116.5	26.3%	1,110.8	-0.5%	1,018.2	-8.3%	1,052.6	3.4%	1,114.5	5.9%	1,169.3	4.9%
Insurance	121.0	22.2%	125.0	3.3%	127.2	1.8%	135.7	6.6%	144.3	6.4%	153.8	6.6%
Estate Taxes	196.5	-3.5%	238.0	21.1%	243.4	2.2%	262.4	7.8%	281.4	7.3%	297.1	5.6%
Cigarette	73.3	-1.8%	69.8	-4.7%	62.7	-10.3%	56.8	-9.3%	51.6	-9.2%	45.9	-11.0%
Other Tobacco Products	60.1	3.2%	62.3	3.7%	64.9	4.2%	68.0	4.8%	71.3	4.8%	75.3	5.6%
Other Taxes	2.0	-15.9%	1.8	-12.2%	1.7	-5.5%	1.6	-2.4%	1.6	-0.6%	1.6	0.0%
Other Revenues												
Licenses and Fees	256.4	-7.1%	264.3	3.1%	272.9	3.3%	279.1	2.3%	281.8	1.0%	286.1	1.5%
Charges for Services	8.7	-24.7%	9.3	6.2%	8.2	-12.0%	8.2	0.0%	8.2	0.0%	8.2	0.0%
Liquor Apportionment	246.7	5.9%	263.1	6.6%	294.2	11.8%	290.9	-1.1%	326.8	12.4%	367.1	12.3%
Interest Earnings	9.0	-44.1%	15.3	70.2%	29.3	90.9%	57.1	95.1%	73.0	27.8%	82.0	12.3%
Others	56.5	-70.0%	148.8	163.6%	19.0	-87.2%	19.8	4.1%	20.6	4.0%	21.4	3.9%
Gross General Fund	16,105.0	13.7%	18,022.3	11.9%	19,566.4	8.6%	21,460.5	9.7%	23,798.0	10.9%	25,897.2	8.8%
Net General Fund	16,030.5	13.3%	17,977.8	12.1%	19,494.3	8.4%	21,385.1	9.7%	23,721.6	10.9%	25,818.4	8.8%

Table B.3 Summary of 2015 Legislative Session Adjustments

	Biennia 15-17	17-19	19-21	21-23	Revenue Impact Statement
Personal Income Tax Impacts (millions)					
DOR Compliance Tools - HB 5035	$4.0	$4.2	$4.4	$4.6	HB 5035
Gain Share - SB 129	$53.5	$24.8	-$33.1	-$34.0	SB 129
ABLE (529) Accounts - SB 777	-$0.2	-$0.5	-$0.5	-$0.6	SB 777
Tax Credits - HB 2171	-$40.1	-$112.6	-$125.3	-$75.7	HB 2171
Working Family Child & Dependent Care	-$31.4	-$62.7	-$62.7	-$31.5	
IDA Contributions	-$6.9	-$14.3	-$14.5	-$7.5	
Oregon Veterans' Home Physicians		< $50K per year			
Severe Disability	-$5.3	-$11.6	-$13.0	-$7.1	
Child with a Disability	-$4.6	-$10.2	-$11.7	-$6.2	
Rural Medical Providers	-$0.1	-$2.8	-$2.3	-$1.9	
Office of Child Care Contributions	-$0.4	-$0.9	-$1.0	-$0.5	
Long-term Care Insurance	$10.4	$0.0	$0.0	$0.0	
Film & Video	$0.0	-$9.3	-$19.3	-$20.0	
Military active duty	-$1.8	-$0.8	-$0.9	-$1.0	
Personal Income Tax Total	**$17.2**	**-$84.1**	**-$154.5**	**-$105.7**	
Corporate Income Tax Impacts (millions)					
Tax Havens - SB 61	$0.1	$0.2	$0.3	$0.4	SB 61
Tax Credits - HB 2171	$19.2	$20.4	$20.7	$0.0	HB 2171
Oregon Life & Health IGA Assessments		< $50K per year			
Corporate minimum tax	$19.2	$20.4	$20.7	$0.0	
Corporate Income Tax Total	**$19.3**	**$20.6**	**$21.0**	**$0.4**	
Other Tax/Revenue Impacts (millions)					
Program Change Bill - SB 501	$154.1	$0.0	$0.0	$0.0	SB 501
Lottery CFA - HB 5029	-$7.1	$0.0	$0.0	$0.0	HB 5029
Racing Commission - HB 2719	-$0.2	-$0.4	-$0.5	-$0.6	HB 2719
Portland Photo Radar - HB 2621	$16.1	$42.5	$47.4	$50.0	HB 2621
Other Tax Total	**$162.9**	**$42.1**	**$46.9**	**$49.4**	

Table B.4 Oregon Personal Income Tax Revenue Forecast

TABLE B.4 **OREGON PERSONAL INCOME TAX REVENUE FORECAST - QUARTERLY COLLECTIONS**

Thousands of Dollars - Not Seasonally Adjusted **September 2016**

	2007:3	2007:4	2008:1	2008:2	FY 2008	2008:3	2008:4	2009:1	2009:2	FY 2009
WITHHOLDING	1,115,359	1,200,822	1,196,532	1,111,034	4,623,747	1,162,107	1,182,763	1,128,994	1,089,305	4,563,169
%CHYA	-0.3%	2.4%	1.2%	2.1%	1.4%	4.2%	-1.5%	-5.6%	-2.0%	-1.3%
EST. PAYMENTS	250,749	217,163	281,441	399,475	1,148,828	264,440	174,826	217,305	263,135	919,707
%CHYA	8.2%	22.7%	5.3%	10.0%	10.6%	5.5%	-19.5%	-22.8%	-34.1%	-19.9%
FINAL PAYMENTS	57,503	129,817	104,841	971,325	1,263,486	70,306	99,430	104,105	529,995	803,836
%CHYA	3.8%	45.2%	4.3%	24.6%	23.3%	22.3%	-23.4%	-0.7%	-45.4%	-36.4%
REFUNDS	71,372	155,912	389,876	365,908	983,068	92,063	180,329	447,706	404,229	1,124,327
%CHYA	-20.0%	23.0%	-12.3%	-1.0%	-4.6%	29.0%	15.7%	14.8%	10.5%	14.4%
OTHER	(177,781)	(1,084,201)	-	182,322	(1,079,660)	(182,322)	-	-	138,521	(43,801)
TOTAL	1,174,457	307,689	1,192,938	2,298,247	4,973,332	1,222,469	1,276,690	1,002,698	1,616,726	5,118,583
%CHYA	3.0%	-76.6%	7.9%	12.7%	-11.1%	4.1%	314.9%	-15.9%	-29.7%	2.9%
	2009:3	**2009:4**	**2010:1**	**2010:2**	**FY 2010**	**2010:3**	**2010:4**	**2011:1**	**2011:2**	**FY 2011**
WITHHOLDING	1,092,795	1,151,673	1,157,857	1,116,552	4,518,878	1,146,189	1,196,214	1,262,781	1,218,439	4,823,622
%CHYA	-6.0%	-2.6%	2.6%	2.5%	-1.0%	4.9%	3.9%	9.1%	9.1%	6.7%
EST. PAYMENTS	176,110	161,759	186,894	265,703	790,467	179,692	148,589	207,036	284,662	819,978
%CHYA	-33.4%	-7.5%	-14.0%	1.0%	-14.1%	2.0%	-8.1%	10.8%	7.1%	3.7%
FINAL PAYMENTS	63,363	77,013	105,745	515,262	761,383	62,259	81,728	114,877	607,592	866,456
%CHYA	-9.9%	-22.5%	1.6%	-2.8%	-5.3%	-1.7%	6.1%	8.6%	17.9%	13.8%
REFUNDS	96,477	188,704	459,550	380,459	1,125,190	92,291	151,515	432,478	340,652	1,016,937
%CHYA	4.8%	4.6%	2.6%	-5.9%	0.1%	-4.3%	-19.7%	-5.9%	-10.5%	-9.6%
OTHER	(138,521)	-	-	136,193	(2,328)	(136,193)	-	-	165,933	29,740
TOTAL	1,097,271	1,201,740	990,947	1,653,251	4,943,210	1,159,655	1,275,015	1,152,216	1,935,973	5,522,860
%CHYA	-10.2%	-5.9%	-1.2%	2.3%	-3.4%	5.7%	6.1%	16.3%	17.1%	11.7%
	2011:3	**2011:4**	**2012:1**	**2012:2**	**FY 2012**	**2012:3**	**2012:4**	**2013:1**	**2013:2**	**FY 2013**
WITHHOLDING	1,235,508	1,287,030	1,348,171	1,269,562	5,140,271	1,262,589	1,364,547	1,354,116	1,321,413	5,302,666
%CHYA	7.8%	7.6%	6.8%	4.2%	6.6%	2.2%	6.0%	0.4%	4.1%	3.2%
EST. PAYMENTS	194,674	185,239	199,238	299,646	878,797	205,533	159,104	278,341	321,896	964,874
%CHYA	8.3%	24.7%	-3.8%	5.3%	7.2%	5.6%	-14.1%	39.7%	7.4%	9.8%
FINAL PAYMENTS	85,889	87,233	117,628	627,762	918,512	72,224	91,338	123,456	785,542	1,072,560
%CHYA	38.0%	6.7%	2.4%	3.3%	6.0%	-15.9%	4.7%	5.0%	25.1%	16.8%
REFUNDS	64,687	156,272	530,800	360,618	1,112,377	52,211	109,503	536,506	383,176	1,081,397
%CHYA	-29.9%	3.1%	22.7%	5.9%	9.4%	-19.3%	-29.9%	1.1%	6.3%	-2.8%
OTHER	(165,933)	-	-	193,614	27,681	(193,614)	-	-	201,367	7,753
TOTAL	1,285,451	1,403,230	1,134,237	2,029,966	5,852,884	1,294,521	1,505,486	1,219,407	2,247,042	6,266,457
%CHYA	10.8%	10.1%	-1.6%	4.9%	6.0%	0.7%	7.3%	7.5%	10.7%	7.1%
	2013:3	**2013:4**	**2014:1**	**2014:2**	**FY 2014**	**2014:3**	**2014:4**	**2015:1**	**2015:2**	**FY 2015**
WITHHOLDING	1,333,946	1,435,630	1,442,755	1,420,313	5,632,644	1,455,822	1,523,453	1,576,188	1,505,337	6,060,801
%CHYA	5.7%	5.2%	6.5%	7.5%	6.2%	9.1%	6.1%	9.2%	6.0%	7.6%
EST. PAYMENTS	221,695	214,342	247,826	357,218	1,041,080	264,823	236,303	305,582	408,957	1,215,665
%CHYA	7.9%	34.7%	-11.0%	11.0%	7.9%	19.5%	10.2%	23.3%	14.5%	16.8%
FINAL PAYMENTS[1]	83,096	112,495	139,923	730,795	1,066,309	92,647	144,239	156,188	847,330	1,240,403
%CHYA	15.1%	23.2%	13.3%	-7.0%	-0.6%	11.5%	28.2%	11.6%	15.9%	16.3%
REFUNDS	67,098	197,448	472,018	354,437	1,091,001	100,729	173,522	520,272	375,119	1,169,642
%CHYA	28.5%	80.3%	-12.0%	-7.5%	0.9%	50.1%	-12.1%	10.2%	5.8%	7.2%
OTHER	(201,367)	-	-	180,356	(21,011)	(180,356)	-	-	163,398	(16,959)
TOTAL	1,370,272	1,565,018	1,358,485	2,334,246	6,628,021	1,532,207	1,730,473	1,517,685	2,549,903	7,330,268
%CHYA	5.9%	4.0%	11.4%	3.9%	5.8%	11.8%	10.6%	11.7%	9.2%	10.6%

Note: "Other" includes kicker and federal pension refunds, as well as July withholding accrued to June.

Tax law impacts are reflected in the collections numbers to produce more meaningful projections.

TABLE B.4 **OREGON PERSONAL INCOME TAX REVENUE FORECAST - QUARTERLY COLLECTIONS**

Thousands of Dollars - Not Seasonally Adjusted **September 2016**

	2015:3	**2015:4**	**2016:1**	**2016:2**	**FY 2016**	**2016:3**	**2016:4**	**2017:1**	**2017:2**	**FY 2017**
WITHHOLDING	1,551,517	1,644,209	1,711,568	1,634,728	6,542,022	1,637,821	1,749,316	1,813,118	1,714,077	6,914,332
%CHYA	6.6%	7.9%	8.6%	8.6%	7.9%	5.6%	6.4%	5.9%	4.9%	5.7%
EST. PAYMENTS	309,470	141,009	327,008	423,839	1,201,325	287,722	251,518	349,845	444,690	1,333,776
%CHYA	16.9%	-40.3%	7.0%	5.7%	-0.5%	-7.0%	78.4%	7.0%	4.9%	11.0%
FINAL PAYMENTS[1]	99,618	321,345	141,818	813,132	1,375,913	89,446	108,298	145,854	902,349	1,245,947
%CHYA	7.5%	122.8%	-9.2%	-4.9%	10.2%	-10.2%	-66.3%	2.8%	11.0%	-9.4%
REFUNDS	85,113	203,981	577,546	562,601	1,429,241	130,950	253,304	637,936	551,129	1,573,320
%CHYA	-15.5%	17.6%	11.0%	50.0%	22.2%	53.9%	24.2%	10.5%	-2.0%	10.1%
OTHER	(163,398)	-	-	226,292	62,895	(226,292)	-	-	266,371	40,078
TOTAL	1,712,094	1,902,583	1,602,848	2,535,390	7,752,914	1,657,746	1,855,828	1,670,880	2,776,358	7,960,812
%CHYA	11.7%	9.9%	5.6%	-0.6%	5.8%	-3.2%	-2.5%	4.2%	9.5%	2.7%
	2017:3	**2017:4**	**2018:1**	**2018:2**	**FY 2018**	**2018:3**	**2018:4**	**2019:1**	**2019:2**	**FY 2019**
WITHHOLDING	1,715,559	1,851,101	1,925,619	1,821,548	7,313,827	1,823,075	1,967,114	2,024,748	1,911,904	7,726,841
%CHYA	5.6%	5.8%	6.2%	6.3%	6.0%	6.3%	6.3%	5.1%	5.0%	5.6%
EST. PAYMENTS	322,861	263,892	367,319	470,473	1,424,545	341,580	279,193	388,427	494,946	1,504,146
%CHYA	12.2%	4.9%	5.0%	5.8%	6.8%	5.8%	5.8%	5.7%	5.2%	5.6%
FINAL PAYMENTS[1]	84,604	116,171	133,509	1,012,897	1,347,181	89,353	122,920	137,723	1,072,586	1,422,583
%CHYA	-5.4%	7.3%	-8.5%	12.3%	8.1%	5.6%	5.8%	3.2%	5.9%	5.6%
REFUNDS	89,167	229,469	705,420	570,103	1,594,158	95,243	247,086	774,382	625,969	1,742,681
%CHYA	-31.9%	-9.4%	10.6%	3.4%	1.3%	6.8%	7.7%	9.8%	9.8%	9.3%
OTHER	(266,371)	-	-	270,151	3,780	(270,151)	-	-	288,870	18,719
TOTAL	1,767,487	2,001,696	1,721,027	3,004,966	8,495,176	1,888,614	2,122,140	1,776,517	3,142,337	8,929,607
%CHYA	7.5%	7.9%	3.0%	8.2%	3.9%	6.9%	6.0%	3.2%	4.6%	5.1%
	2019:3	**2019:4**	**2020:1**	**2020:2**	**FY 2020**	**2020:3**	**2020:4**	**2021:1**	**2021:2**	**FY 2021**
WITHHOLDING	1,913,652	2,064,842	2,132,561	2,014,868	8,125,923	2,016,661	2,175,990	2,236,842	2,111,714	8,541,207
%CHYA	5.0%	5.0%	5.3%	5.4%	5.2%	5.4%	5.4%	4.9%	4.8%	5.1%
EST. PAYMENTS	362,348	296,715	411,939	528,258	1,599,260	384,356	314,703	436,753	556,989	1,692,800
%CHYA	6.1%	6.3%	6.1%	6.7%	6.3%	6.1%	6.1%	6.0%	5.4%	5.8%
FINAL PAYMENTS[1]	92,048	126,736	143,886	1,137,921	1,500,592	96,195	132,199	150,713	1,193,599	1,572,706
%CHYA	3.0%	3.1%	4.5%	6.1%	5.5%	4.5%	4.3%	4.7%	4.9%	4.8%
REFUNDS	104,087	270,442	812,189	656,358	1,843,076	109,181	283,574	848,596	685,851	1,927,202
%CHYA	9.3%	9.5%	4.9%	4.9%	5.8%	4.9%	4.9%	4.5%	4.5%	4.6%
OTHER	(288,870)	-	-	225,714	(63,155)	(225,714)	-	-	254,916	29,201
TOTAL	1,975,093	2,217,851	1,876,198	3,250,403	9,319,545	2,162,317	2,339,318	1,975,712	3,431,367	9,908,714
%CHYA	4.6%	4.5%	5.6%	3.4%	4.4%	9.5%	5.5%	5.3%	5.6%	6.3%
	2021:3	**2021:4**	**2022:1**	**2022:2**	**FY 2022**	**2022:3**	**2022:4**	**2023:1**	**2023:2**	**FY 2023**
WITHHOLDING	2,113,665	2,280,656	2,345,410	2,214,367	8,954,098	2,216,406	2,391,514	2,452,861	2,314,765	9,375,546
%CHYA	4.8%	4.8%	4.9%	4.9%	4.8%	4.9%	4.9%	4.6%	4.5%	4.7%
EST. PAYMENTS	402,215	328,753	457,249	580,883	1,769,100	421,741	344,713	479,349	607,636	1,853,439
%CHYA	4.6%	4.5%	4.7%	4.3%	4.5%	4.9%	4.9%	4.8%	4.6%	4.8%
FINAL PAYMENTS[1]	104,839	142,711	162,620	1,213,333	1,623,503	106,151	146,190	165,689	1,256,773	1,674,803
%CHYA	9.0%	8.0%	7.9%	1.7%	3.2%	1.3%	2.4%	1.9%	3.6%	3.2%
REFUNDS	114,379	296,586	841,007	674,024	1,925,996	117,822	304,685	877,831	703,862	2,004,200
%CHYA	4.8%	4.6%	-0.9%	-1.7%	-0.1%	3.0%	2.7%	4.4%	4.4%	4.1%
OTHER	(254,916)	-	-	307,271	52,355	(307,271)	-	-	357,552	50,282
TOTAL	2,251,425	2,455,534	2,124,273	3,641,830	10,473,060	2,319,206	2,577,732	2,220,068	3,832,863	10,949,870
%CHYA	4.1%	5.0%	7.5%	6.1%	5.7%	3.0%	5.0%	4.5%	5.2%	4.6%
	2023:3	**2023:4**	**2024:1**	**2024:2**	**FY 2023**	**2024:3**	**2024:4**	**2025:1**	**2025:2**	**FY 2025**
WITHHOLDING	2,316,941	2,499,990	2,565,897	2,421,723	9,804,550	2,423,987	2,615,494	2,686,548	2,535,932	10,261,961
%CHYA	4.5%	4.5%	4.6%	4.6%	4.6%	4.6%	4.6%	4.7%	4.7%	4.7%
EST. PAYMENTS	441,165	360,589	501,453	636,016	1,939,222	461,770	377,431	524,923	666,454	2,030,578
%CHYA	4.6%	4.6%	4.6%	4.7%	4.6%	4.7%	4.7%	4.7%	4.8%	4.7%
FINAL PAYMENTS[1]	114,752	156,338	176,898	1,313,569	1,761,557	115,612	158,947	180,241	1,363,853	1,818,652
%CHYA	8.1%	6.9%	6.8%	4.5%	5.2%	0.7%	1.7%	1.9%	3.8%	3.2%
REFUNDS	122,693	317,576	907,284	727,645	2,075,198	126,763	327,875	940,517	754,511	2,149,666
%CHYA	4.1%	4.2%	3.4%	3.4%	3.5%	3.3%	3.2%	3.7%	3.7%	3.6%
OTHER	(357,552)	-	-	363,996	6,444	(363,996)	-	-	355,217	(8,779)
TOTAL	2,392,612	2,699,341	2,336,963	4,007,660	11,436,575	2,510,610	2,823,996	2,451,195	4,166,945	11,952,747
%CHYA	3.2%	4.7%	5.3%	4.6%	4.4%	4.9%	4.6%	4.9%	4.0%	4.5%

Note: "Other" includes July withholding accrued to June. After a new processing system was launched November 2015, the July withholding number and the split between estimated and other payments has not been made available. Tax law impacts are reflected in the collections numbers to produce more meaningful projections.

Table B.5 Oregon Corporate Income Tax Revenue Forecast

TABLE B.5 **OREGON CORPORATE INCOME TAX REVENUE FORECAST - QUARTERLY COLLECTIONS**

Thousands of Dollars - Not Seasonally Adjusted **September 2016**

	2007:3	2007:4	2008:1	2008:2	FY 2008	2008:3	2008:4	2009:1	2009:2	FY 2009
ADVANCE PAYMENTS	133,408	205,375	64,256	155,284	558,323	100,589	145,285	63,802	97,368	407,044
%CHYA	2.8%	-13.1%	7.5%	-4.4%	-5.1%	-24.6%	-29.3%	-0.7%	-37.3%	-27.1%
FINAL PAYMENTS	23,631	45,064	35,076	52,143	155,912	23,501	26,721	22,314	21,822	94,357
%CHYA	19.8%	162.7%	37.9%	-20.5%	21.9%	-0.6%	-40.7%	-36.4%	-58.1%	-39.5%
REFUNDS	39,623	158,106	36,380	39,394	273,503	28,134	124,826	67,471	37,218	257,649
%CHYA	76.3%	-20.7%	-6.0%	-21.0%	-11.9%	-29.0%	-21.0%	85.5%	-5.5%	-5.8%
TOTAL	117,416	92,333	62,951	168,032	440,732	95,956	47,181	18,645	81,971	243,753
%CHYA	-7.5%	70.4%	35.4%	-5.7%	8.6%	-18.3%	-48.9%	-70.4%	-51.2%	-44.7%

	2009:3	2009:4	2010:1	2010:2	FY 2010	2010:3	2010:4	2011:1	2011:2	FY 2011
ADVANCE PAYMENTS	79,579	163,877	66,451	147,313	457,220	115,286	175,561	76,405	165,354	532,606
%CHYA	-20.9%	12.8%	4.2%	51.3%	12.3%	44.9%	7.1%	15.0%	12.2%	16.5%
FINAL PAYMENTS	20,404	24,009	38,412	45,714	128,539	21,781	21,206	35,770	40,805	119,562
%CHYA	-13.2%	-10.2%	72.1%	109.5%	36.2%	6.8%	-11.7%	-6.9%	-10.7%	-7.0%
REFUNDS	29,072	137,244	40,080	25,774	232,170	23,130	89,877	39,065	31,489	183,562
%CHYA	3.3%	9.9%	-40.6%	-30.7%	-9.9%	-20.4%	-34.5%	-2.5%	22.2%	-20.9%
TOTAL	70,910	50,642	64,784	167,254	353,589	113,936	106,890	73,111	174,670	468,606
%CHYA	-26.1%	7.3%	247.5%	104.0%	45.1%	60.7%	111.1%	12.9%	4.4%	32.5%

	2011:3	2011:4	2012:1	2012:2	FY 2012	2012:3	2012:4	2013:1	2013:2	FY 2013
ADVANCE PAYMENTS	120,766	154,290	86,873	156,652	518,581	130,348	110,207	80,942	282,526	604,023
%CHYA	4.8%	-12.1%	13.7%	-5.3%	-2.6%	7.9%	-28.6%	-6.8%	80.4%	16.5%
FINAL PAYMENTS	19,117	26,841	32,512	33,322	111,792	16,387	21,377	36,660	34,009	108,433
%CHYA	-12.2%	26.6%	-9.1%	-18.3%	-6.5%	-14.3%	-20.4%	12.8%	2.1%	-3.0%
REFUNDS	34,927	91,252	55,051	18,153	199,384	33,212	17,832	25,595	182,929	259,568
%CHYA	51.0%	1.5%	40.9%	-42.4%	8.6%	-4.9%	-80.5%	-53.5%	907.7%	30.2%
TOTAL	104,955	89,878	64,335	171,820	430,989	113,524	113,751	92,007	133,606	452,888
%CHYA	-7.9%	-15.9%	-12.0%	-1.6%	-8.0%	8.2%	26.6%	43.0%	-22.2%	5.1%

	2013:3	2013:4	2014:1	2014:2	FY 2014	2014:3	2014:4	2015:1	2015:2	FY 2015
ADVANCE PAYMENTS	123,591	187,195	150,401	183,348	644,535	193,248	206,088	106,689	183,611	689,637
%CHYA	-5.2%	69.9%	85.8%	-35.1%	6.7%	56.4%	10.1%	-29.1%	0.1%	7.0%
FINAL PAYMENTS	27,794	18,162	32,218	52,283	130,456	28,815	73,552	57,268	71,415	231,051
%CHYA	69.6%	-15.0%	-12.1%	53.7%	20.3%	3.7%	305.0%	77.8%	36.6%	77.1%
REFUNDS	20,123	118,303	109,296	32,511	280,232	49,952	155,439	58,361	35,167	298,918
%CHYA	-39.4%	563.4%	327.0%	-82.2%	8.0%	148.2%	31.4%	-46.6%	8.2%	6.7%
TOTAL	131,262	87,054	73,323	203,120	494,759	172,111	124,202	105,597	219,860	621,770
%CHYA	15.6%	-23.5%	-20.3%	52.0%	9.2%	31.1%	42.7%	44.0%	8.2%	25.7%

TABLE B.5 **OREGON CORPORATE INCOME TAX REVENUE FORECAST - QUARTERLY COLLECTIONS**

Thousands of Dollars - Not Seasonally Adjusted **September 2016**

	2015:3	2015:4	2016:1	2016:2	FY 2016	2016:3	2016:4	2017:1	2017:2	FY 2017
ADVANCE PAYMENTS	173,329	220,326	118,673	202,813	715,141	166,385	196,827	99,488	167,364	630,064
%CHYA	-10.3%	6.9%	11.2%	10.5%	3.7%	-4.0%	-10.7%	-16.2%	-17.5%	-11.9%
FINAL PAYMENTS	67,305	59,752	63,509	70,433	260,998	32,335	89,547	78,132	64,824	264,838
%CHYA	133.6%	-18.8%	10.9%	-1.4%	13.0%	-52.0%	49.9%	23.0%	-8.0%	1.5%
REFUNDS	42,388	156,984	85,446	81,453	366,271	57,813	186,979	96,641	52,574	394,007
%CHYA	-15.1%	1.0%	46.4%	131.6%	22.5%	36.4%	19.1%	13.1%	-35.5%	7.6%
TOTAL	198,245	123,094	96,736	191,793	609,868	140,908	99,395	80,979	179,613	500,894
%CHYA	15.2%	-0.9%	-8.4%	-12.8%	-1.9%	-28.9%	-19.3%	-16.3%	-6.4%	-17.9%

	2017:3	2017:4	2018:1	2018:2	FY 2018	2018:3	2018:4	2019:1	2019:2	FY 2019
ADVANCE PAYMENTS	151,836	192,939	99,694	168,894	613,363	155,078	196,857	101,777	172,326	626,038
%CHYA	-8.7%	-2.0%	0.2%	0.9%	-2.7%	2.1%	2.0%	2.1%	2.0%	2.1%
FINAL PAYMENTS	27,446	76,729	74,257	63,636	242,069	27,172	86,526	78,721	65,433	257,853
%CHYA	-15.1%	-14.3%	-5.0%	-1.8%	-8.6%	-1.0%	12.8%	6.0%	2.8%	6.5%
REFUNDS	40,769	167,588	91,284	51,406	351,047	40,247	179,441	96,411	53,989	370,088
%CHYA	-29.5%	-10.4%	-5.5%	-2.2%	-10.9%	-1.3%	7.1%	5.6%	5.0%	5.4%
TOTAL	138,513	102,081	82,668	181,124	504,385	142,003	103,943	84,088	183,769	513,803
%CHYA	-1.7%	2.7%	2.1%	0.8%	0.7%	2.5%	1.8%	1.7%	1.5%	1.9%

	2019:3	2019:4	2020:1	2020:2	FY 2020	2020:3	2020:4	2021:1	2021:2	FY 2021
ADVANCE PAYMENTS	158,468	200,924	103,840	175,809	639,041	161,633	205,140	106,044	179,776	652,593
%CHYA	2.2%	2.1%	2.0%	2.0%	2.1%	2.0%	2.1%	2.1%	2.3%	2.1%
FINAL PAYMENTS	27,659	99,313	84,210	67,838	279,019	28,363	113,735	90,527	71,243	303,868
%CHYA	1.8%	14.8%	7.0%	3.7%	8.2%	2.5%	14.5%	7.5%	5.0%	8.9%
REFUNDS	41,629	194,780	102,788	57,212	396,408	43,438	211,604	109,783	60,639	425,465
%CHYA	3.4%	8.5%	6.6%	6.0%	7.1%	4.3%	8.6%	6.8%	6.0%	7.3%
TOTAL	144,498	105,457	85,261	186,435	521,652	146,559	107,271	86,787	190,380	530,997
%CHYA	1.8%	1.5%	1.4%	1.5%	1.5%	1.4%	1.7%	1.8%	2.1%	1.8%

	2021:3	2021:4	2022:1	2022:2	FY 2022	2022:3	2022:4	2023:1	2023:2	FY 2023
ADVANCE PAYMENTS	165,517	210,667	108,971	184,760	669,915	170,255	216,567	111,968	189,563	688,353
%CHYA	2.4%	2.7%	2.8%	2.8%	2.7%	2.9%	2.8%	2.8%	2.6%	2.8%
FINAL PAYMENTS	30,138	128,882	97,876	76,580	333,476	33,162	144,232	105,139	81,345	363,878
%CHYA	6.3%	13.3%	8.1%	7.5%	9.7%	10.0%	11.9%	7.4%	6.2%	9.1%
REFUNDS	45,429	228,815	117,080	64,282	455,606	47,556	246,074	124,212	67,703	485,545
%CHYA	4.6%	8.1%	6.6%	6.0%	7.1%	4.7%	7.5%	6.1%	5.3%	6.6%
TOTAL	150,225	110,734	89,767	197,058	547,784	155,861	114,725	92,895	203,205	566,687
%CHYA	2.5%	3.2%	3.4%	3.5%	3.2%	3.8%	3.6%	3.5%	3.1%	3.5%

	2023:3	2023:4	2024:1	2024:2	FY 2024	2024:3	2024:4	2025:1	2025:2	FY 2025
ADVANCE PAYMENTS	174,353	221,314	113,988	192,202	701,857	176,136	222,893	114,838	193,901	707,768
%CHYA	2.4%	2.2%	1.8%	1.4%	2.0%	1.0%	0.7%	0.7%	0.9%	0.8%
FINAL PAYMENTS	35,038	158,373	132,319	95,714	421,443	43,319	226,067	155,602	109,541	534,530
%CHYA	5.7%	9.8%	25.9%	17.7%	15.8%	23.6%	42.7%	17.6%	14.4%	26.8%
REFUNDS	49,398	262,493	151,525	80,946	544,362	56,625	329,631	173,860	91,823	651,939
%CHYA	3.9%	6.7%	22.0%	19.6%	12.1%	14.6%	25.6%	14.7%	13.4%	19.8%
TOTAL	159,992	117,193	94,782	206,970	578,938	162,831	119,329	96,580	211,619	590,359
%CHYA	2.7%	2.2%	2.0%	1.9%	2.2%	1.8%	1.8%	1.9%	2.2%	2.0%

Table B.6 Cigarette and Tobacco Tax Distribution

TABLE B.6 September 2016

Cigarette & Tobacco Tax Distribution (Millions of $)

	Cigarette Tax Distribution*							Other Tobacco Tax Distribution			
	General Fund	Health Plan	Tobacco Use Reduction	Mental Health	State Total	Cities, Counties & Public Transit	Total	General Fund	Health Plan	Tobacco Use Reduction	State Total
Distribution Forecast*											
2013-14	36.077	140.132	5.675	7.673	189.557	11.086	200.643	30.181	23.416	2.604	56.202
2014-15	37.184	136.842	5.633	15.675	195.334	10.727	206.061	29.927	23.228	2.583	55.738
2013-15 Biennium	73.260	276.974	11.308	23.348	384.891	21.813	406.704	60.108	46.644	5.188	111.940
2015-16	36.214	138.159	5.606	18.920	198.898	10.918	209.817	30.983	23.738	2.640	57.361
2016-17	33.615	131.006	5.226	21.391	191.238	10.451	201.689	31.331	24.173	2.688	58.193
2015-17 Biennium	69.829	269.165	10.832	40.311	390.136	21.369	411.505	62.314	47.911	5.329	115.554
2017-18	32.158	125.329	4.999	21.139	183.625	9.998	193.624	32.078	24.750	2.753	59.580
2018-19	30.500	118.866	4.741	20.795	174.902	9.483	184.385	32.842	25.339	2.818	61.000
2017-19 Biennium	62.658	244.195	9.740	41.934	358.527	19.481	378.008	64.920	50.089	5.571	120.580
2019-20	29.145	113.585	4.531	19.871	167.131	9.061	176.193	33.624	25.942	2.885	62.451
2020-21	27.683	107.887	4.303	18.875	158.748	8.607	167.354	34.423	26.559	2.954	63.936
2019-21 Biennium	56.827	221.472	8.834	38.746	325.879	17.668	343.547	68.047	52.501	5.839	126.387
2021-22	26.422	102.972	4.107	18.015	151.515	8.215	159.730	35.240	27.190	3.024	65.454
2022-23	25.163	98.068	3.912	17.157	144.300	7.823	152.123	36.076	27.834	3.096	67.006
2021-23 Biennium	51.585	201.040	8.019	35.171	295.815	16.038	311.853	71.317	55.024	6.120	132.460
2023-24	23.653	92.184	3.677	16.127	135.642	7.354	142.996	37.122	28.642	3.185	68.949
2024-25	22.234	86.653	3.456	15.160	127.503	6.913	134.416	38.199	29.472	3.278	70.949
2023-25 Biennium	45.888	178.837	7.133	31.287	263.145	14.267	277.412	75.321	58.114	6.463	139.898

* Prior to January 1, 2014 the cigarette tax per pack totaled $1.18 with the following distribution. $0.8574 to the Health Plan, $0.22 to the state general fund, $0.0342 to Tobacco Use Reducation and $0.0684 to Cities, Counties and Public Transit. Following the passage of HB 3601 during the 2013 Special Session, the following changes were made to cigarette taxes. Beginning January 1, 2014 taxes per pack were raised $0.13 to a total of $1.31 per pack. Beginning January 1, 2016 taxes will increase an additional $0.01 for a total of $1.32 per pack with a further $0.01 increase on January 1, 2018 for a total of $1.33 per pack. The distribution of the $0.13 increase beginning in 2014 is split $0.10 to Mental Health, $0.013 to the state general fund, $0.002 to Tobacco Use Reduction and $0.016 to the Health Plan. Beginning January 1, 2016 the full tax increase of $0.14 per pack relative to pre-2014 tax rates, is dedicated to Mental Health. Similarly the full $0.15 post January 1, 2018 is likewise dedicated to Mental Health.

Table B.7 Revenue Distribution to Local Governments

TABLE B.7 **September 2016**

Liquor Apportionment and Revenue Distribution to Local Governments (Millions of $)

	Liquor Apportionment Distribution								
					City Revenue				
	Total Liquor Revenue Available	General Fund (56%)	Mental Health [1]	Oregon Wine Board	Revenue Sharing	Regular	Total	Counties	Cigarette Tax Distribution [2]
2013-14	213.810	121.426	8.626	0.294	26.557	37.938	64.495	18.969	11.086
2014-15	221.681	125.959	8.720	0.295	27.589	39.413	67.001	19.706	10.727
2013-15 Biennium	435.491	247.385	17.345	0.589	54.146	77.351	131.497	38.675	21.813
2015-16	224.137	127.421	8.991	0.307	27.815	39.735	67.550	19.868	10.918
2016-17	238.249	135.679	9.178	0.321	29.613	42.305	71.918	21.152	10.451
2015-17 Biennium	462.385	263.101	18.169	0.628	57.428	82.040	139.468	41.020	21.369
2017-18	250.499	143.026	9.417	0.332	31.094	44.420	75.514	22.210	9.998
2018-19	263.804	151.187	9.662	0.344	32.649	46.641	79.290	23.320	9.483
2017-19 Biennium	514.303	294.214	19.079	0.677	63.743	91.061	154.804	45.530	19.481
2019-20	259.195	141.185	9.913	0.357	34.281	48.973	83.254	24.487	9.061
2020-21	273.338	149.670	10.171	0.370	35.995	51.422	87.417	25.711	8.607
2019-21 Biennium	532.533	290.855	20.084	0.726	70.276	100.395	170.671	50.197	17.668
2021-22	288.256	158.654	10.435	0.383	37.795	53.993	91.788	26.996	8.215
2022-23	303.992	168.166	10.706	0.397	39.685	56.692	96.377	28.346	7.823
2021-23 Biennium	592.248	326.820	21.141	0.779	77.480	110.685	188.165	55.343	16.038
2023-24	320.591	178.235	10.985	0.411	41.669	59.527	101.196	29.764	7.354
2024-25	338.099	188.896	11.270	0.426	43.752	62.503	106.256	31.252	6.913
2023-25 Biennium	658.690	367.131	22.255	0.837	85.421	122.030	207.452	61.015	14.267

[1] Mental Health Alcoholism and Drug Services Account, per ORS 471.810

[2] For details on cigarette revenues see TABLE B.6 on previous page

Table B.8 Track Record for the June 2016 Forecast

(Quarter ending June 30, 2016)

Personal Income Tax

(Millions of dollars)	Forecast Comparison: Actual Revenues	Forecast Comparison: Latest Forecast	Forecast Comparison: Percent Difference	Year/Year Change: Prior Year	Year/Year Change: Percent Change
Withholding	$1,634.7	$1,612.3	1.4%	$1,505.3	8.6%
Dollar difference		$22.4		$129.4	
Estimated Payments*	$423.8	$395.5	7.2%	$401.1	5.7%
Dollar difference		$28.4		$22.7	
Final Payments*	$813.1	$767.1	6.0%	$855.1	-4.9%
Dollar difference		$46.1		-$42.0	
Refunds	-$562.6	-$570.4	-1.4%	-$375.1	50.0%
Dollar difference		$7.8		-$187.5	
Total Personal Income Tax	**$2,309.1**	**$2,204.4**	**4.7%**	**$2,386.5**	**-3.2%**
Dollar difference		$104.7		-$77.4	

Corporate Income Tax

(Millions of dollars)	Forecast Comparison: Actual Revenues	Forecast Comparison: Latest Forecast	Forecast Comparison: Percent Difference	Year/Year Change: Prior Year	Year/Year Change: Percent Change
Advanced Payments	$202.8	$176.0	15.2%	$183.6	10.5%
Dollar difference		$26.8		$19.2	
Final Payments	$70.4	$86.4	-18.4%	$71.4	-1.4%
Dollar difference		-$15.9		-$1.0	
Refunds	-$81.5	-$78.5	3.7%	-$35.2	131.6%
Dollar difference		-$2.9		-$46.3	
Total Corporate Income Tax	**$191.8**	**$183.9**	**4.3%**	**$219.9**	**-12.8%**
Dollar difference		$7.9		-$28.1	

Total Income Tax

(Millions of dollars)	Forecast Comparison: Actual Revenues	Forecast Comparison: Latest Forecast	Forecast Comparison: Percent Difference	Year/Year Change: Prior Year	Year/Year Change: Percent Change
Corporate and Personal Tax	**$2,500.9**	**$2,388.3**	**4.7%**	**$2,606.4**	**-4.0%**
Dollar difference		$112.6		-$105.5	

* A new processing system for the personal income tax program was deployed in November. Data on estimated and other personal income tax payments has yet to become available.

Table B.9 Summary of Lottery Resources

TABLE B.9
Summary of Lottery Resources

Sep 2016 Forecast

(in millions of dollars)	2015-17 Current Forecast	2015-17 *Change from Jun-16*	2015-17 *Change from COS 2015*	2017-19 Current Forecast	2017-19 *Change from Jun-16*	2019-21 Current Forecast	2019-21 *Change from Jun-16*	2021-23 Current Forecast	2021-23 *Change from Jun-16*	2023-25 Current Forecast	2023-25 *Change from Jun-16*
LOTTERY EARNINGS											
Traditional Lottery	135.353	*0.767*	*17.549*	125.701	*0.250*	126.029	0.823	125.711	1.127	125.690	1.130
Video Lottery	1,153.891	*7.517*	*83.239*	1,105.523	*(14.686)*	1,195.723	(15.776)	1,297.992	(18.258)	1,380.983	(19.426)
Administrative Actions	0.000	*0.000*	*0.000*	0.000	*0.000*	0.000	0.000	0.000	0.000	0.000	0.000
Video Lottery Terminal Replacement	(59.200)	*0.000*	*0.000*	0.000	*0.000*	0.000	0.000	0.000	0.000	0.000	0.000
Total Available to Transfer	1,230.044	*8.284*	*100.788*	1,231.225	*(14.436)*	1,321.752	(14.953)	1,423.703	(17.131)	1,506.672	(18.296)
ECONOMIC DEVELOPMENT FUND											
Beginning Balance	20.500	*0.000*	*1.181*	45.461	*5.550*	0.000	0.000	0.000	0.000	0.000	0.000
Transfers from Lottery	1,230.044	*8.284*	*100.788*	1,231.225	*(14.436)*	1,321.752	(14.953)	1,423.703	(17.131)	1,506.672	(18.296)
Other Resources[1]	9.425	*0.000*	*2.085*	2.000	*0.000*	2.000	0.000	2.000	0.000	2.000	0.000
Total Available Resources	1,259.968	*8.284*	*104.054*	1,278.686	*(8.886)*	1,323.752	(14.953)	1,425.703	(17.131)	1,508.672	(18.296)
ALLOCATION OF RESOURCES											
County Economic Development	39.084	*0.000*	*0.000*	42.452	*(0.564)*	46.633	(0.615)	51.920	(0.730)	55.239	(0.777)
Education Stability Fund [2]	221.408	*1.491*	*18.142*	221.620	*(2.598)*	237.915	(2.691)	256.267	(3.084)	271.201	(3.293)
Parks and Natural Resources Fund[3]	184.507	*1.243*	*15.118*	184.684	*(2.165)*	198.263	(2.243)	213.555	(2.570)	226.001	(2.744)
HECC Collegiate Athletic & Scholarships[4]	8.240	*0.000*	*0.000*	12.312	*(0.144)*	13.218	(0.150)	14.237	(0.171)	15.067	(0.183)
Gambling Addiction [4]	11.349	*0.000*	*0.056*	12.312	*(0.144)*	13.218	(0.150)	14.237	(0.171)	15.067	(0.183)
County Fairs	3.864	*0.000*	*0.000*	3.648	*0.000*	3.648	0.000	3.648	0.000	3.648	0.000
Other Legislatively Adopted Allocations[5]	746.056	*0.000*	*41.277*	258.600	*0.000*	258.600	0.000	258.600	0.000	258.600	0.000
Total Distributions	1,214.507	*2.734*	*74.593*	735.629	*(5.617)*	771.494	(5.849)	812.464	(6.726)	844.823	(7.18)
Ending Balance/Discretionary Resources	45.461	*5.550*	*29.461*	543.057	*(3.269)*	552.258	(9.104)	613.239	(10.405)	663.850	(11.115)

Note: Some totals may not foot due to rounding.

1. Includes interest earnings on Economic Development Fund and reversions.

2. Eighteen percent of proceeds accrue to the Ed. Stability Fund, until the balance equals 5% of GF Revenues. Thereafter, 15% of proceeds accrue to the Oregon Capital Matching Account.

3. The Parks and Natural Resources Fund Constitutional amendment requires 15% of net proceeds be transferred to this fund.

4. Approximately one percent of net lottery proceeds are dedicated to Collegiate Athletics and Gambling Addiction programs, respectively. Certain limits are imposed by HB 5035 for 2011-13.

5. Includes Debt Service Allocations, Allocations to State School Fund and Other Agency Allocations

Table B.10 Budgetary Reserve Summary and Outlook

Table B.10: Budgetary Reserve Summary and Outlook **Sep 2016**

Rainy Day Fund

(Millions)	2013-15	2015-17	2017-19	2019-21	2021-23	2023-25
Beginning Balance	$61.9	$211.8	$387.8	$629.1	$913.2	$1,236.7
Interest Earnings	$1.3	$5.7	$21.1	$48.2	$68.2	$90.7
Deposits[1]	$148.7	$170.1	$220.1	$235.9	$255.3	$280.6
Triggered Withdrawals	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0
Ending Balance[2]	**$211.8**	**$387.6**	**$629.1**	**$913.2**	**$1,236.7**	**$1,608.0**

Education Stability Fund[3]

(Millions)	2013-15	2015-17	2017-19	2019-21	2021-23	2023-25
Beginning Balance	$7.4	$179.4	$382.9	$582.4	$796.5	$968.0
Interest Earnings[4]	$1.0	$4.9	$20.7	$44.9	$59.5	$68.7
Deposits[5,6]	$171.9	$203.5	$199.5	$214.1	$171.5	$89.4
Distributions	$1.0	$4.9	$20.7	$44.9	$59.5	$68.7
Oregon Education Fund	$0.7	$0.1	$0.0	$0.0	$0.0	$0.0
Oregon Opportunity Grant	$0.2	$4.9	$20.7	$44.9	$59.5	$68.7
Withdrawals	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0
Ending Balance	**$179.4**	**$382.9**	**$582.4**	**$796.5**	**$968.0**	**$1,057.4**

Total Reserves

(Millions)	2013-15	2015-17	2017-19	2019-21	2021-23	2023-25
Ending Balances	**$391.2**	**$770.5**	**$1,211.4**	**$1,709.7**	**$2,204.7**	**$2,665.4**
Percent of General Fund Revenues	2.4%	4.3%	6.2%	8.0%	9.3%	10.3%

Footnotes:

1. Includes transfer of ending General Fund balances up to 1% of budgeted appropriations as well as private donations. Assumes future appropriations equal to 98.75 percent of available resources. Includes forecast for corporate income taxes above rate of 6.6% for the biennium are deposited on or before Jun 30 of each odd-numbered year.
2. Available funds in a given biennium equal 2/3rds of the beginning balance under current law.
3. Excludes funds in the Oregon Growth and the Oregon Resource and Technology Development subaccounts.
4. Interest earnings are distributed to the Oregon Education Funds (75%) and the State Scholarship Fund (25%), provided there remains debt outstanding. In the event that debt is paid off, all interest earnings distributed to the State Scholarship Fund.
5. Contributions to the ESF are capped at 5% of the prior biennium's General Fund revenue total. Quarterly contributions are made until the balance exceeds the cap.
6. ESF deposits in 2015-17 include both the regularly scheduled Lottery transfers plus an extra deposit of $4.3 million made in November 2015.

APPENDIX C: POPULATION FORECASTS BY AGE AND SEX

Table C.1 Population Forecasts Component of Change 1980-2022

STATE OF OREGON
POPULATION FORECASTS
COMPONENTS OF CHANGE 1980 -2022

Year (July 1)	Population	Population Change Number	Population Change Percent	Births Number	Births Rate/1000	Deaths Number	Deaths Rate/1000	Natural Increase	Net Migration Number	Net Migration Rate/1000
1980	2,641,200	---	---	---	---	---	---	---	---	---
1981	2,668,000	26,800	1.01	43,196	16.27	21,870	8.24	21,326	5,474	2.06
1982	2,664,900	-3,100	-0.12	42,261	15.85	21,548	8.08	20,713	-23,813	-8.93
1983	2,653,100	-11,800	-0.44	40,378	15.19	22,039	8.29	18,339	-30,139	-11.33
1984	2,666,600	13,500	0.51	39,611	14.89	22,702	8.54	16,909	-3,409	-1.28
1985	2,672,600	6,000	0.23	39,296	14.72	23,531	8.81	15,765	-9,765	-3.66
1980-1985		**31,400**		**204,742**		**111,690**		**93,052**	**-61,652**	
1986	2,683,500	10,900	0.41	39,332	14.69	23,403	8.74	15,929	-5,029	-1.88
1987	2,701,000	17,500	0.65	38,702	14.38	23,695	8.80	15,007	2,493	0.93
1988	2,741,300	40,300	1.49	39,120	14.38	24,752	9.10	14,368	25,932	9.53
1989	2,790,600	49,300	1.80	40,648	14.70	24,705	8.93	15,943	33,357	12.06
1990	2,860,400	69,800	2.50	42,008	14.87	24,763	8.76	17,245	52,555	18.60
1985-1990		**187,800**		**199,810**		**121,318**		**78,492**	**109,308**	
1991	2,928,500	68,100	2.38	42,682	14.75	24,944	8.62	17,738	50,362	17.40
1992	2,991,800	63,300	2.16	42,427	14.33	25,166	8.50	17,261	46,039	15.55
1993	3,060,400	68,600	2.29	41,442	13.69	26,543	8.77	14,899	53,701	17.75
1994	3,121,300	60,900	1.99	41,487	13.42	27,564	8.92	13,923	46,977	15.20
1995	3,184,400	63,100	2.02	42,426	13.46	27,552	8.74	14,874	48,226	15.30
1990-1995		**324,000**		**210,464**		**131,769**		**78,695**	**245,305**	
1996	3,247,100	62,700	1.97	43,196	13.43	28,768	8.95	14,428	48,272	15.01
1997	3,304,300	57,200	1.76	43,625	13.32	29,201	8.91	14,424	42,776	13.06
1998	3,352,400	48,100	1.46	44,696	13.43	28,705	8.62	15,991	32,109	9.65
1999	3,393,900	41,500	1.24	45,188	13.40	29,848	8.85	15,340	26,160	7.76
2000	3,431,100	37,200	1.10	45,534	13.34	28,909	8.47	16,625	20,575	6.03
1995-2000		**246,700**		**222,239**		**145,431**		**76,808**	**169,892**	
2001	3,470,400	39,300	1.15	45,536	13.20	29,934	8.67	15,602	23,698	6.87
2002	3,502,600	32,200	0.93	44,995	12.91	30,828	8.84	14,167	18,033	5.17
2003	3,538,600	36,000	1.03	45,686	12.98	30,604	8.69	15,082	20,918	5.94
2004	3,578,900	40,300	1.14	45,599	12.81	30,721	8.63	14,878	25,422	7.14
2005	3,626,900	48,000	1.34	45,892	12.74	30,717	8.53	15,175	32,825	9.11
2000-2005		**195,800**		**227,708**		**152,804**		**74,904**	**120,896**	
2006	3,685,200	58,300	1.61	46,946	12.84	30,771	8.42	16,175	42,125	11.52
2007	3,739,400	54,200	1.47	49,404	13.31	31,396	8.46	18,008	36,192	9.75
2008	3,784,200	44,800	1.20	49,659	13.20	32,008	8.51	17,651	27,149	7.22
2009	3,815,800	31,600	0.84	47,960	12.62	31,382	8.26	16,578	15,022	3.95
2010	3,837,300	21,500	0.56	46,256	12.09	31,689	8.28	14,567	6,933	1.81
2005-2010		**210,400**		**240,225**		**157,246**		**82,979**	**127,421**	
2011	3,857,625	20,325	0.53	45,381	11.80	32,437	8.43	12,944	7,381	1.92
2012	3,883,735	26,110	0.68	44,897	11.60	32,804	8.47	12,093	14,017	3.62
2013	3,919,020	35,285	0.91	44,969	11.53	33,168	8.50	11,801	23,484	6.02
2014	3,962,710	43,691	1.11	45,447	11.53	33,968	8.62	11,479	32,212	8.17
2015	4,013,845	51,135	1.29	45,658	11.45	35,110	8.80	10,548	40,586	10.18
2010-2015		**176,545**		**226,352**		**167,487**		**58,865**	**117,680**	
2016	4,072,100	58,256	1.45	46,254	11.44	36,214	8.96	10,040	48,215	11.93
2017	4,129,800	57,699	1.42	46,859	11.43	36,976	9.02	9,883	47,816	11.66
2018	4,185,400	55,600	1.35	47,377	11.40	37,530	9.03	9,847	45,753	11.00
2019	4,239,100	53,700	1.28	47,860	11.36	38,085	9.04	9,774	43,925	10.43
2020	4,290,700	51,601	1.22	48,303	11.33	38,698	9.07	9,606	41,995	9.85
2015-2020		**276,855**		**236,653**		**187,503**		**49,151**	**227,705**	
2021	4,339,400	48,700	1.14	48,638	11.27	39,391	9.13	9,247	39,452	9.14
2022	4,386,200	46,800	1.08	48,883	11.20	40,135	9.20	8,748	38,052	8.72
1980-1990		**219,200**		**404,552**		**233,008**		**171,544**	**47,656**	
1990-2000		**570,700**		**432,703**		**277,200**		**155,503**	**415,197**	41,520
2000-2010		**406,200**		**467,933**		**310,050**		**157,883**	**248,317**	24,832
2010-2020		**453,400**		**463,005**		**354,990**		**108,015**	**345,385**	34,538
2012-2022		**502,465**		**470,248**		**369,275**		**100,974**	**401,491**	40,149

Sources: 1980-1999 population - U.S. Census Bureau; 2000-2009 population - intercensal estimates by Office of Economic Analysis; population estimates 2010-2015 by Population Research Center, PSU; births and deaths 1980-15: Oregon Center for Health Statistics.

Table C.2 Population Forecasts by Age and Sex: 2000-2022

		2000			2001			2002			2003			2004			2005	
Age	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total
0-4	114,100	109,107	223,207	114,742	109,903	224,645	115,219	109,865	225,084	116,118	110,533	226,652	117,038	111,315	228,353	117,847	112,161	230,008
5- 9	119,699	113,984	233,683	118,879	113,240	232,119	117,908	112,625	230,533	117,595	112,522	230,117	118,055	112,983	231,038	118,737	113,851	232,588
10-14	124,726	118,350	243,076	125,950	119,470	245,421	126,474	120,344	246,818	127,007	120,408	247,415	126,169	119,728	245,898	124,732	118,604	243,336
15-19	126,002	119,265	245,267	127,311	119,879	247,190	127,250	119,862	247,112	126,490	120,236	246,726	127,484	121,227	248,711	129,634	122,978	252,612
20-24	119,300	113,318	232,618	120,814	115,792	236,605	122,925	118,001	240,926	125,433	119,922	245,356	127,001	121,951	248,952	128,090	122,777	250,867
25-29	120,547	112,269	232,816	119,436	111,809	231,245	119,216	112,937	232,153	120,690	114,847	235,536	122,799	117,484	240,282	125,208	121,121	246,329
30-34	122,441	114,757	237,198	125,882	117,768	243,651	127,842	119,417	247,259	128,373	120,485	248,858	127,650	119,951	247,601	126,179	119,324	245,503
35-39	128,698	126,230	254,928	125,463	122,883	248,346	123,019	119,340	242,360	121,225	116,792	238,017	121,489	116,438	237,927	124,789	119,125	243,914
40-44	134,421	137,137	271,558	134,585	136,761	271,346	133,102	135,121	268,224	131,876	133,467	265,343	131,106	132,016	263,121	129,401	129,428	258,829
45-49	135,644	137,430	273,074	136,214	138,948	275,162	136,992	140,305	277,297	136,336	140,343	276,679	134,864	139,381	274,245	134,310	139,320	273,629
50-54	118,659	119,623	238,282	125,826	127,295	253,120	126,548	128,354	254,902	129,544	132,212	261,756	132,767	136,330	269,097	135,022	138,899	273,921
55-59	85,965	88,187	174,151	89,314	91,758	181,072	98,235	100,967	199,202	103,863	106,596	210,460	109,932	112,923	222,855	117,120	120,794	237,914
60-64	64,543	67,459	132,003	67,383	70,539	137,922	70,666	74,175	144,841	75,490	79,114	154,604	80,095	83,740	163,835	84,062	88,300	172,361
65-69	53,103	59,261	112,364	53,861	59,438	113,299	54,996	60,295	115,291	56,889	62,083	118,972	59,083	64,273	123,356	61,643	66,384	128,027
70-74	48,532	58,102	106,633	48,249	57,290	105,539	47,788	56,535	104,323	47,448	55,941	103,389	47,523	55,493	103,016	48,249	55,650	103,899
75-79	40,475	54,794	95,269	40,503	54,397	94,900	40,508	53,697	94,204	40,627	52,917	93,545	40,403	52,009	92,412	40,366	51,512	91,878
80-84	26,469	40,450	66,919	27,465	41,513	68,978	28,398	42,507	70,905	28,798	43,326	72,124	29,266	44,164	73,430	29,725	44,474	74,199
85+	18,517	39,538	58,055	19,293	40,549	59,843	19,854	41,313	61,167	20,727	42,323	63,050	21,444	43,325	64,769	22,398	44,689	67,087
Total	1,701,841	1,729,259	3,431,100	1,721,170	1,749,230	3,470,400	1,736,939	1,765,661	3,502,600	1,754,532	1,784,068	3,538,600	1,774,167	1,804,733	3,578,900	1,797,511	1,829,389	3,626,900
Mdn. Age	35.2	37.6	36.4	35.3	37.8	36.6	35.5	38.0	36.8	35.7	38.2	36.9	35.8	38.4	37.1	36.0	38.5	37.2

		2006			2007			2008			2009			2010			2011	
Age	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total
0-4	118,832	113,050	231,882	121,058	115,102	236,160	122,723	116,618	239,340	123,056	116,873	239,929	122,327	116,130	238,457	121,092	115,088	236,180
5- 9	119,959	115,315	235,274	120,925	115,818	236,743	121,906	116,639	238,545	122,109	116,793	238,901	121,539	116,369	237,908	121,767	115,893	237,660
10-14	124,400	118,240	242,639	124,017	118,145	242,162	124,144	118,401	242,545	124,495	118,646	243,140	124,508	118,732	243,241	124,074	119,044	243,118
15-19	131,680	124,886	256,567	133,027	126,562	259,588	134,019	127,039	261,058	133,094	126,245	259,339	131,126	124,540	255,667	129,068	121,927	250,996
20-24	129,625	123,869	253,494	129,491	124,047	253,538	128,090	124,102	252,192	128,034	124,294	252,328	128,787	124,903	253,689	130,576	126,691	257,267
25-29	128,110	125,220	253,330	131,446	128,889	260,335	134,251	131,308	265,559	134,893	132,724	267,617	134,019	131,816	265,835	133,302	130,829	264,132
30-34	126,016	119,767	245,782	126,936	121,971	248,907	128,841	124,231	253,072	130,499	126,264	256,763	131,489	128,325	259,814	133,512	130,743	264,255
35-39	128,779	122,827	251,606	131,387	125,260	256,647	132,046	126,581	258,627	130,807	125,534	256,341	128,070	123,596	251,665	125,924	121,787	247,710
40-44	126,728	126,664	253,391	124,917	123,759	248,677	123,362	121,440	244,802	123,395	120,853	244,249	125,969	122,843	248,811	128,974	125,358	254,332
45-49	135,135	139,543	274,678	134,349	138,533	272,882	133,523	137,181	270,705	132,802	135,635	268,437	130,825	132,538	263,363	127,795	128,542	256,337
50-54	136,187	140,978	277,165	137,589	142,901	280,489	137,266	143,176	280,443	135,862	142,064	277,926	135,129	141,565	276,693	134,682	140,654	275,335
55-59	124,581	129,098	253,680	125,683	130,760	256,444	128,665	134,868	263,533	131,454	138,782	270,236	133,011	140,802	273,812	134,009	142,349	276,358
60-64	87,811	92,304	180,115	97,117	102,054	199,171	102,948	107,873	210,821	108,952	114,138	223,090	115,236	121,045	236,281	121,440	127,818	249,258
65-69	64,860	69,850	134,710	68,563	73,945	142,509	73,612	79,164	152,776	78,191	83,768	161,959	81,854	87,917	169,771	84,425	90,852	175,277
70-74	49,222	55,999	105,221	50,569	57,052	107,622	52,510	58,915	111,425	54,604	61,042	115,646	56,925	62,949	119,874	59,485	65,640	125,125
75-79	40,359	51,026	91,385	40,218	50,594	90,812	40,073	50,211	90,285	40,236	49,905	90,141	40,932	50,101	91,034	41,549	50,075	91,624
80-84	29,996	44,406	74,402	30,251	44,085	74,336	30,464	43,606	74,069	30,361	43,011	73,372	30,391	42,734	73,126	30,500	42,287	72,787
85+	23,554	46,323	69,877	24,585	47,794	72,379	25,325	49,078	74,403	26,014	50,369	76,383	26,800	51,458	78,258	27,598	52,275	79,874
Total	1,825,834	1,859,366	3,685,200	1,852,129	1,887,271	3,739,400	1,873,769	1,910,431	3,784,200	1,888,859	1,926,941	3,815,800	1,898,938	1,938,362	3,837,300	1,909,773	1,947,852	3,857,625
Mdn. Age	36.3	38.6	37.3	36.5	38.7	37.5	36.7	38.8	37.8	37.0	39.1	38.0	37.2	39.4	38.3	37.4	39.7	38.5

		2012			2013			2014			2015			2016			2017	
Age	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total
0-4	119,516	113,359	232,875	118,293	111,850	230,142	117,878	111,497	229,375	118,064	111,540	229,604	119,243	112,401	231,644	120,536	113,705	234,241
5- 9	122,733	116,900	239,634	124,024	117,953	241,977	124,740	118,043	242,782	125,504	118,322	243,826	125,417	118,009	243,425	125,053	117,130	242,183
10-14	123,603	118,287	241,890	123,386	118,206	241,593	123,406	118,466	241,872	122,975	118,329	241,304	123,728	118,546	242,275	125,472	120,432	245,904
15-19	127,517	120,587	248,104	126,643	119,875	246,518	126,855	119,977	246,832	127,736	120,632	248,367	128,281	121,518	249,799	128,754	121,625	250,379
20-24	132,853	128,787	261,640	135,293	130,705	265,998	136,756	132,101	268,857	137,305	132,672	269,977	137,277	132,326	269,604	137,278	132,258	269,536
25-29	132,463	129,927	262,390	132,508	130,403	262,911	134,597	132,898	267,496	137,962	137,060	275,023	143,313	143,511	286,823	148,207	148,906	297,113
30-34	135,689	133,329	269,018	137,321	135,074	272,395	139,946	137,422	277,368	141,529	138,711	280,240	143,837	140,556	284,394	145,371	142,225	287,597
35-39	126,018	122,275	248,293	128,683	124,338	253,022	130,863	126,564	257,427	134,486	129,808	264,294	138,078	133,056	271,134	141,895	136,731	278,626
40-44	130,795	126,620	257,415	131,483	127,467	258,950	131,052	126,702	257,753	130,040	125,303	255,343	128,941	124,233	253,174	129,842	125,376	255,218
45-49	125,434	124,976	250,410	123,864	122,179	246,043	124,312	121,476	245,788	127,061	123,545	250,606	131,144	126,731	257,875	133,811	128,633	262,444
50-54	133,445	139,197	272,643	132,080	137,545	269,625	131,567	136,143	267,710	129,982	133,568	263,551	127,774	130,509	258,283	126,146	127,399	253,544
55-59	134,403	143,058	277,461	134,376	142,746	277,122	133,343	142,044	275,387	133,245	142,270	275,515	133,674	142,572	276,246	132,904	141,841	274,744
60-64	122,921	129,548	252,470	124,925	132,821	257,745	127,751	136,836	264,587	130,409	139,687	270,096	132,720	142,291	275,011	133,985	143,860	277,846
65-69	92,096	98,785	190,881	97,983	105,059	203,042	103,537	110,482	214,019	109,924	117,546	227,471	116,736	124,836	241,571	118,882	127,150	246,032
70-74	62,496	69,113	131,609	67,184	73,899	141,083	71,293	78,464	149,757	74,863	82,506	157,368	77,621	85,533	163,154	85,209	93,430	178,639
75-79	42,654	50,692	93,346	44,224	52,064	96,287	46,431	54,134	100,565	48,616	56,079	104,695	50,938	58,618	109,556	53,619	61,882	115,501
80-84	30,560	41,822	72,381	30,774	41,257	72,031	31,032	40,774	71,806	31,710	40,803	72,514	32,441	40,858	73,299	33,450	41,447	74,897
85+	28,360	52,915	81,276	28,995	53,538	82,533	29,490	53,840	83,329	30,102	53,950	84,052	30,728	54,105	84,833	31,254	54,103	85,356
Total	1,923,557	1,960,178	3,883,735	1,942,040	1,976,980	3,919,020	1,964,847	1,997,864	3,962,710	1,991,514	2,022,331	4,013,845	2,021,889	2,050,211	4,072,100	2,051,668	2,078,132	4,129,800
Mdn. Age	37.6	39.9	38.7	37.8	40.0	38.9	38.0	40.1	39.0	38.1	40.2	39.1	38.2	40.2	39.2	38.3	40.3	39.3

		2018			2019			2020			2021			2022	
Age	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total
0-4	121,857	114,857	236,714	123,024	115,924	238,948	124,232	117,068	241,300	125,364	118,161	243,525	126,310	119,109	245,419
5- 9	124,567	116,120	240,686	124,497	115,994	240,492	124,669	116,018	240,687	125,393	116,536	241,929	126,381	117,377	243,758
10-14	127,261	122,012	249,273	128,257	122,370	250,627	129,127	122,737	251,864	128,889	122,281	251,169	128,119	120,962	249,081
15-19	128,983	121,891	250,874	129,209	122,340	251,548	128,734	122,186	250,921	129,283	122,178	251,461	130,528	123,626	254,154
20-24	137,262	132,392	269,653	137,816	132,790	270,606	138,612	133,338	271,949	138,686	133,854	272,540	138,402	132,962	271,364
25-29	152,648	153,402	306,050	155,088	156,080	311,169	155,604	156,596	312,199	154,689	155,009	309,698	153,691	154,042	307,733
30-34	147,053	144,465	291,518	150,203	148,163	298,365	153,963	152,885	306,848	159,017	159,126	318,144	163,882	164,776	328,658
35-39	144,556	139,087	283,643	147,793	141,812	289,605	149,491	143,182	292,673	151,358	144,742	296,099	152,565	146,050	298,615
40-44	133,120	127,815	260,935	135,642	130,252	265,894	139,408	133,572	272,979	142,868	136,765	279,634	146,325	140,076	286,401
45-49	135,037	129,853	264,890	134,844	129,255	264,099	133,797	127,830	261,627	132,386	126,549	258,935	133,077	127,405	260,482
50-54	125,002	124,958	249,960	125,695	124,405	250,100	128,521	126,585	255,106	132,427	129,657	262,084	134,901	131,362	266,263
55-59	131,921	140,697	272,618	131,595	139,499	271,094	130,013	136,723	266,736	127,623	133,319	260,942	125,746	130,092	255,838
60-64	134,580	144,103	278,683	133,826	143,638	277,464	133,718	143,828	277,546	133,832	143,833	277,665	132,930	143,004	275,934
65-69	121,371	130,751	252,122	124,406	134,871	259,277	127,034	137,665	264,700	128,968	140,043	269,011	130,084	141,425	271,508
70-74	91,032	99,593	190,625	96,379	104,814	201,193	102,342	111,470	213,812	108,381	118,206	226,587	110,361	120,381	230,742
75-79	57,775	66,252	124,027	61,392	70,370	131,762	64,515	73,959	138,474	66,805	76,656	143,461	73,378	83,802	157,181
80-84	34,804	42,593	77,397	36,618	44,286	80,904	38,427	45,888	84,316	40,242	48,052	88,294	42,359	50,805	93,164
85+	31,779	53,952	85,731	32,255	53,698	85,953	33,140	53,823	86,963	33,926	54,297	88,223	34,875	55,029	89,904
Total	2,080,608	2,104,792	4,185,400	2,108,538	2,130,562	4,239,100	2,135,347	2,155,354	4,290,700	2,160,134	2,179,266	4,339,400	2,183,914	2,202,286	4,386,200
Mdn. Age	38.5	40.3	39.4	38.6	40.4	39.5	38.8	40.5	39.6	38.9	40.7	39.8	39.1	40.8	39.9

Table C.3 Population of Oregon: 1990-2022

Population of Oregon: 1990-2022			
Year (July 1)	Total Population	Change from previous year Number	Percent
1990	2,860,400	-	-
1991	2,928,500	68,100	2.38%
1992	2,991,800	63,300	2.16%
1993	3,060,400	68,600	2.29%
1994	3,121,300	60,900	1.99%
1995	3,184,400	63,100	2.02%
1996	3,247,100	62,700	1.97%
1997	3,304,300	57,200	1.76%
1998	3,352,400	48,100	1.46%
1999	3,393,900	41,500	1.24%
2000	3,431,100	37,200	1.10%
2001	3,470,400	39,300	1.15%
2002	3,502,600	32,200	0.93%
2003	3,538,600	36,000	1.03%
2004	3,578,900	40,300	1.14%
2005	3,626,900	48,000	1.34%
2006	3,685,200	58,300	1.61%
2007	3,739,400	54,200	1.47%
2008	3,784,200	44,800	1.20%
2009	3,815,800	31,600	0.84%
2010	3,837,300	21,500	0.56%
2011	3,857,625	20,325	0.53%
2012	3,883,735	26,110	0.68%
2013	3,919,020	35,285	0.91%
2014	3,962,710	43,691	1.11%
2015	4,013,845	51,135	1.29%
2016	4,072,100	58,256	1.45%
2017	4,129,800	57,699	1.42%
2018	4,185,400	55,600	1.35%
2019	4,239,100	53,700	1.28%
2020	4,290,700	51,601	1.22%
2021	4,339,400	48,700	1.14%
2022	4,386,200	46,800	1.08%

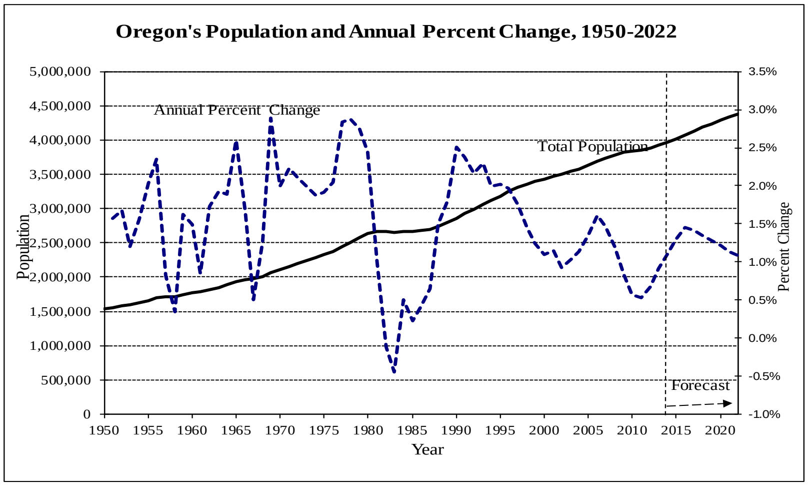


Table C.4 Children: Ages 0-4

Table C.5 School Age Population: Ages 5-17

Table C.6 Young Adult Population: Ages 18-24

	Children: Ages 0-4			School Age Population: Ages 5-17			Young Adult Population: Ages 18-24		
Year (July 1)	Population	% Change from previous decade/yr. Number	Percent	Population	% Change from previous decade/yr. Number	Percent	Population	% Change from previous decade/yr. Number	Percent
1980	199,525	---	---	524,446	---	---	329,407	---	---
1990	209,638	10,113	5.07%	532,727	8,281	1.58%	268,134	-61,273	-18.60%
2000	223,207	13,569	6.47%	624,316	91,589	17.19%	330,328	62,194	23.20%
2001	224,645	1,438	0.64%	624,675	358	0.06%	336,660	6,333	1.92%
2002	225,084	439	0.20%	624,611	-64	-0.01%	340,778	4,118	1.22%
2003	226,652	1,568	0.70%	624,349	-262	-0.04%	345,266	4,487	1.32%
2004	228,353	1,701	0.75%	625,461	1,112	0.18%	349,138	3,873	1.12%
2005	230,008	1,655	0.72%	628,326	2,865	0.46%	351,076	1,938	0.55%
2006	231,882	1,874	0.81%	633,646	5,320	0.85%	354,328	3,252	0.93%
2007	236,160	4,278	1.85%	635,720	2,074	0.33%	356,311	1,983	0.56%
2008	239,340	3,180	1.35%	635,372	-348	-0.05%	358,967	2,656	0.75%
2009	239,929	589	0.25%	633,575	-1,797	-0.28%	360,134	1,166	0.32%
2010	238,457	-1,472	-0.61%	630,741	-2,835	-0.45%	359,764	-370	-0.10%
2011	236,180	-2,277	-0.95%	628,366	-2,375	-0.38%	360,675	911	0.25%
2012	232,875	-3,305	-1.40%	628,688	323	0.05%	362,580	1,904	0.53%
2013	230,142	-2,733	-1.17%	630,161	1,473	0.23%	365,925	3,346	0.92%
2014	229,375	-767	-0.33%	631,776	1,614	0.26%	368,568	2,643	0.72%
2015	229,604	228	0.10%	633,307	1,531	0.24%	370,168	1,599	0.43%
2016	231,644	2,040	0.89%	634,915	1,608	0.25%	370,188	21	0.01%
2017	234,241	2,597	1.12%	637,323	2,408	0.38%	370,679	491	0.13%
2018	236,714	2,473	1.06%	638,067	744	0.12%	372,420	1,741	0.47%
2019	238,948	2,234	0.94%	639,507	1,440	0.23%	373,766	1,345	0.36%
2020	241,300	2,352	0.98%	641,854	2,347	0.37%	373,567	-199	-0.05%
2021	243,525	2,224	0.92%	643,813	1,958	0.31%	373,287	-280	-0.07%
2022	245,419	1,894	0.78%	645,265	1,452	0.23%	373,093	-194	-0.05%

Table C.7 Criminally At Risk Population (males): Ages 15-39

Table C.8 Prime Wage Earners: Ages 25-44

Table C.9 Older Wage Earners: Ages 45-64

	Criminally "At Risk" Population: Males Ages 15-39			Prime Wage Earners: Ages 25-44			Older Wage Earners: Ages 45-64		
		% Change from previous decade/yr.			% Change from previous decade/yr.			% Change from previous decade/yr.	
Year (July 1)	Population	Number	Percent	Population	Number	Percent	Population	Number	Percent
1980	561,931	---	---	790,750	---	---	491,249	---	---
1990	544,738	-17,193	-3.06%	926,326	135,576	17.15%	531,181	39,932	8.13%
2000	616,988	72,250	13.26%	996,500	70,174	7.58%	817,510	286,329	53.90%
2001	618,906	1,918	0.31%	994,587	-1,913	-0.19%	847,276	29,766	3.64%
2002	620,252	1,347	0.22%	989,996	-4,591	-0.46%	876,242	28,966	3.42%
2003	622,211	1,959	0.32%	987,755	-2,241	-0.23%	903,499	27,257	3.11%
2004	626,423	4,212	0.68%	988,932	1,177	0.12%	930,032	26,533	2.94%
2005	633,901	7,478	1.19%	994,575	5,644	0.57%	957,826	27,793	2.99%
2006	644,210	10,309	1.63%	1,004,110	9,535	0.96%	985,638	27,813	2.90%
2007	652,287	8,077	1.25%	1,014,565	10,455	1.04%	1,008,986	23,348	2.37%
2008	657,248	4,961	0.76%	1,022,060	7,495	0.74%	1,025,501	16,515	1.64%
2009	657,327	79	0.01%	1,024,971	2,911	0.28%	1,039,689	14,188	1.38%
2010	653,491	-3,836	-0.58%	1,026,126	1,155	0.11%	1,050,150	10,461	1.01%
2011	652,382	-1,109	-0.17%	1,030,430	4,304	0.42%	1,057,288	7,138	0.68%
2012	654,540	2,158	0.33%	1,037,116	6,686	0.65%	1,052,983	-4,305	-0.41%
2013	660,449	5,909	0.90%	1,047,277	10,162	0.98%	1,050,536	-2,447	-0.23%
2014	669,017	8,568	1.30%	1,060,044	12,766	1.22%	1,053,471	2,935	0.28%
2015	679,017	10,000	1.49%	1,074,899	14,855	1.40%	1,059,768	6,297	0.60%
2016	690,786	11,769	1.73%	1,095,525	20,626	1.92%	1,067,415	7,647	0.72%
2017	701,505	10,719	1.55%	1,118,553	23,029	2.10%	1,068,578	1,163	0.11%
2018	710,503	8,997	1.28%	1,142,146	23,593	2.11%	1,066,151	-2,427	-0.23%
2019	720,108	9,606	1.35%	1,165,033	22,887	2.00%	1,062,757	-3,394	-0.32%
2020	726,404	6,295	0.87%	1,184,700	19,667	1.69%	1,061,015	-1,742	-0.16%
2021	733,032	6,628	0.91%	1,203,574	18,874	1.59%	1,059,626	-1,389	-0.13%
2022	739,068	6,036	0.82%	1,221,408	17,834	1.48%	1,058,518	-1,109	-0.10%

Table C.10 Elderly Population by Age Group

Elderly Population by Age Group								
Year (July 1)	Ages 65+	%Change from previous decade/yr.	Ages 65-74	%Change from previous decade/yr.	Ages 75-84	%Change from previous decade/yr.	Ages 85+	%Change from previous decade/yr.
1980	305,841	---	185,863	---	91,137	---	28,841	---
1990	392,369	28.29%	224,772	20.93%	128,813	41.34%	38,784	34.48%
2000	439,239	11.95%	218,997	-2.57%	162,187	25.91%	58,055	49.69%
2001	442,558	0.76%	218,838	-0.07%	163,878	1.04%	59,843	3.08%
2002	445,890	0.75%	219,614	0.35%	165,109	0.75%	61,167	2.21%
2003	451,080	1.16%	222,361	1.25%	165,669	0.34%	63,050	3.08%
2004	456,984	1.31%	226,373	1.80%	165,842	0.10%	64,769	2.73%
2005	465,089	1.77%	231,926	2.45%	166,077	0.14%	67,087	3.58%
2006	475,596	2.26%	239,931	3.45%	165,787	-0.17%	69,877	4.16%
2007	487,657	2.54%	250,131	4.25%	165,148	-0.39%	72,379	3.58%
2008	502,959	3.14%	264,201	5.63%	164,354	-0.48%	74,403	2.80%
2009	517,502	2.89%	277,606	5.07%	163,513	-0.51%	76,383	2.66%
2010	532,062	2.81%	289,645	4.34%	164,159	0.40%	78,258	2.45%
2011	544,686	2.37%	300,402	3.71%	164,410	0.15%	79,874	2.06%
2012	569,493	4.55%	322,490	7.35%	165,727	0.80%	81,276	1.75%
2013	594,977	4.47%	344,125	6.71%	168,319	1.56%	82,533	1.55%
2014	619,476	4.12%	363,776	5.71%	172,371	2.41%	83,329	0.96%
2015	646,100	4.30%	384,839	5.79%	177,209	2.81%	84,052	0.87%
2016	672,414	4.07%	404,726	5.17%	182,855	3.19%	84,833	0.93%
2017	700,425	4.17%	424,670	4.93%	190,398	4.13%	85,356	0.62%
2018	729,901	4.21%	442,747	4.26%	201,423	5.79%	85,731	0.44%
2019	759,089	4.00%	460,470	4.00%	212,666	5.58%	85,953	0.26%
2020	788,264	3.84%	478,511	3.92%	222,790	4.76%	86,963	1.18%
2021	815,576	3.46%	495,598	3.57%	231,755	4.02%	88,223	1.45%
2022	842,499	3.30%	502,251	1.34%	250,345	8.02%	89,904	1.91%