



Oregon Economic and Revenue Forecast

March 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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EXECUTIVE SUMMARY

March 2016

Economic turmoil is front page news in recent months, headlined by falling stock prices. Given financial market trends, coupled with declining industrial production and a clearly weakened manufacturing sector, many are wondering if the next recession is just around the corner. The answer is a strong “probably not,” even as the prospect cannot be ruled out completely. The reason is twofold. First, the vast majority of non-manufacturing measures and indicators remain clearly in expansion territory. In particular, strong job gains are now being followed by accelerating wage growth. Second, the manufacturing weakness so far remains confined to energy, mining and related sectors like metals and the states that rely upon such industries. Certainly the overall decline in industrial production is concerning, however there is yet to be widespread pain, which is typically seen in recessions.

Oregon continues to see full-throttle rates of growth. Job gains are outpacing the typical state, as are wages for Oregon workers. The state’s average wage today, while still lower than the nation’s, is at its highest relative point since the mills closed in the early 1980s. Furthermore, these wage increases are not confined to certain industries or regions of the state. Rather, wage gains are seen statewide and across all major industries. Encouragingly, Oregon’s improving economy is pulling workers into the labor market, as the participation rate is increasing off its recessionary lows. While much of the decline in labor force participation is demographic, some is certainly attributable to the business cycle and job opportunities. Overall, much of Oregon’s advantage in expansion, vis-à-vis the nation, is attributable to the state’s industrial structure and net migration flows.

Heading into the peak season for income tax collections, Oregon’s General Fund revenues are posting healthy growth. In keeping with a strong labor market, personal income tax collections are expanding at nearly a double-digit annual rate. While revenue growth has been strong thus far in the biennium, these gains have not come as a surprise. Expectations for growth in Oregon’s General Fund revenues have remained virtually unchanged since the 2015-17 budget was drafted.

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

Although General Fund revenues have been tracking very close to expectations to date, sharp recent declines in equity prices and corporate profits have led to a reduction in the revenue forecast going forward. In particular, Oregon’s budget depends heavily on personal income tax collections tied to realizations of capital gains and taxable dividends. These collections are extremely volatile, with revenues subject to the sometimes unpredictable behavior of investors.

Equity markets took a step backward soon after monetary policymakers began to raise interest rates this winter. The full negative impact of stock price declines on personal income tax collections will take time to be realized. During a sell-off, the volume of trade increases, and paper gains from past years become subject to tax. Afterward, taxable capital gains face considerable downward pressure, with paper earnings from past years having been tapped, and with losses being carried forward into future tax years.

At the level of price declines we have seen thus far (around 10% at the time of production), much of the pain will be felt during the 2017-19 biennium and beyond. For now, many investors are still taking in some profit when pulling their assets out. If prices decline further, income losses will become more significant. Taxable capital gains will be further supported in 2016 by realizations related to one-time events including the sale of many large local businesses.

ECONOMIC OUTLOOK

Economic Summary

Economic turmoil is front page news in recent months, headlined by falling stock prices. Given financial market trends, coupled with declining industrial production and a clearly weakened manufacturing sector, many are wondering if the next recession is just around the corner. The answer is a strong “probably not,” even as the prospect cannot be ruled out completely. The reason is twofold. First, the vast majority of non-manufacturing measures and indicators remain clearly in expansion territory. In particular, strong job gains are now being followed by accelerating wage growth. Second, the manufacturing weakness so far remains confined to energy, mining and related sectors like metals and the states that rely upon such industries. Certainly the overall decline in industrial production is concerning, however there is yet to be widespread pain, which is typically seen in recessions.

Oregon continues to see full-throttle rates of growth. Job gains are outpacing the typical state, as are wages for Oregon workers. The state’s average wage today, while still lower than the nation’s, is at its highest relative point since the mills closed in the early 1980s. Furthermore, these wage increases are not confined to certain industries or regions of the state. Rather, wage gains are seen statewide and across all major industries. Encouragingly, Oregon’s improving economy is pulling workers into the labor market, as the participation rate is increasing off its recessionary lows. While much of the decline in labor force participation is demographic, some is certainly attributable to the business cycle and job opportunities. Overall, much of Oregon’s advantage in expansion, vis-à-vis the nation, is attributable to the state’s industrial structure and net migration flows.

U.S. Economy

Following recent years where every economic indicator remained well into expansion territory, recent months have brought deterioration to a few key measures. Lead by stock market declines, along with manufacturing weakness, more analysts and economists are wondering if the next recession is coming sooner than they expected just a few months ago. At the least, many are increasing their risk of recession estimates. The consensus among the Wall Street Journal’s Economic Forecasting Survey of a recession in the next 12 months has risen from 10 percent over the summer to 17 percent in January, which of course still remains a low probability.

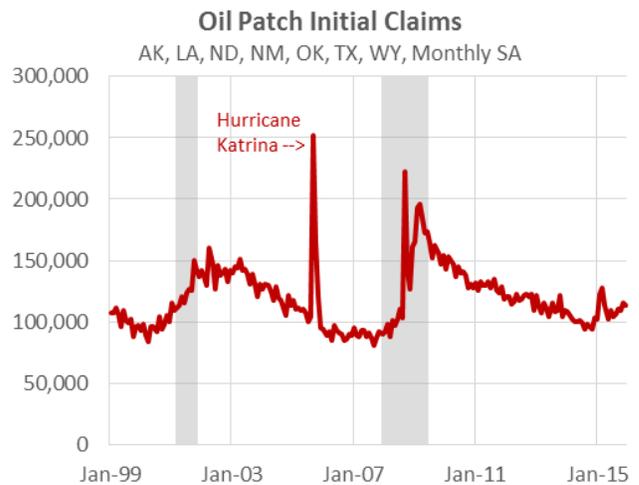
As of early 2016, the U.S. economy is not in recession based on a wide variety of economic indicators, from the ongoing strength in the labor market, where increasing wage gains are supportive of a strong consumer and an increasing savings rate as well, to continued GDP growth. Furthermore, two of the best leading indicators currently show no real signs of concern. Initial claims for unemployment insurance remain near their record lows reached back in October. It is true claims have risen modestly from those record lows, but not yet to a worrisome level.

Even within the so-called Oil Patch – the group of states which rely upon oil and gas the most – initial claims remain surprisingly low. Given the fall in oil prices, declining rig counts and pullback in new investment, it is within these states where the largest economic and employment



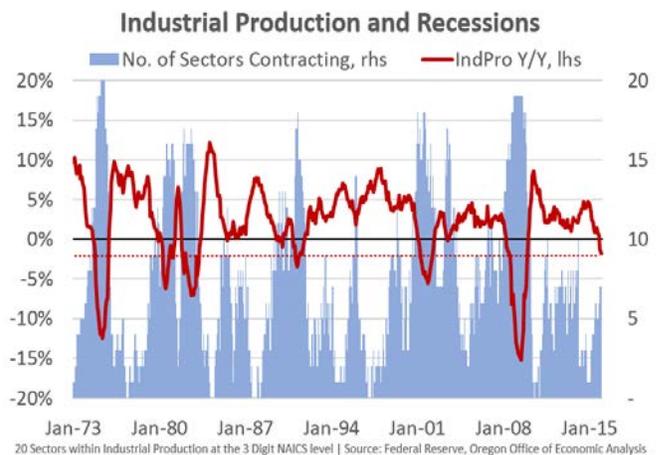
impacts are felt. While initial claims in the Oil Patch are higher than a year ago, they remain on par with claim activity in 2013.

The yield curve, another good leading indicator remains solidly in expansion territory. This refers to the differences in interest rates on 10 year government bonds and 3 month government bonds. The key aspect from a leading indicator perspective is whether or not the yield curve inverts, or when long-term interest rates are lower than short-term rates. When this occurs, it is a cause for concern as financial markets are indicating that short-term rates are too high relative to the economy and effectively prices in a recession into the longer term outlook. While long-term interest rates have not risen since the Federal Reserve increased short-term rates in December, thus flattening the yield curve, it has yet to invert. In fact, a flattening of the yield curve is typical during an economic expansion.



What is driving the most concern among economists and forecasters is the decline in industrial production across the country. In December 2015, industrial output was nearly 2 percent lower than a year before. The cause for concern is that manufacturing is typically a canary in the coal mine of the overall economy, and is very pro-cyclical. Furthermore, in the past 50 years, every time that industrial production has declined by 2 percent over the past year, the U.S. economy has already been in recession. It is no longer a leading indicator as this size of a decline, the indication came six or twelve months prior. Clearly, this is very worrisome to state the obvious.

However, the manufacturing pain is not widespread today. Only 7 of the 20 subsectors within industrial production are registering year-over-year declines. In each of the past 6 recessions, declines were seen in more than three-quarters of the subsectors. What makes a recession is when economic activity declines across a wide range of industries and locations in the U.S. Today, even the worst performing sector (manufacturing) is seeing growth in a majority of its components. It is the magnitude of the decline within oil and gas, mining, metals and machinery that is weighing on the overall industrial production numbers.



All told, three of the four main economic variables the National Bureau of Economic Research uses to officially date recessions in the U.S. all point to a continued expansion – employment, personal income and manufacturing and trade sales. The fourth – industrial production – is worrisome, yet the weakness is concentrated in just a few manufacturing subsectors today. Should the manufacturing declines spread to more industries and/or more state economies begin to falter, then the U.S. expansion will be at risk.

Today, nearly all signs point toward further growth. Most encouragingly is the meaningful increase in wage gains across the U.S. While wage growth is still lower than in past expansions, it is accelerating over the past year. As the labor market continues to improve, businesses much compete more on price to attract and retain the best workers. Rising wages are one indication this is occurring.

Additionally, a tighter labor market is resulting in increased hiring rates for the unemployed and even those not currently in the labor force. Over the past year and a half, the share of individuals who did not have a job, nor were actively looking for work, yet found a job the following month, increased considerably. Such trends generally appear the closer an economy is to full employment. As the number of unemployed decreases, businesses must cast a wider net to find and fill some positions, including potential hires that may not have been looking in the first place. Given the right opportunity, such workers move directly from not in the labor force to being employed, bypassing the unemployment stage of looking for work. While the U.S. economy is not yet fully healthy today, considerable improvement has been made in recent years and the pace of improvement remains strong.

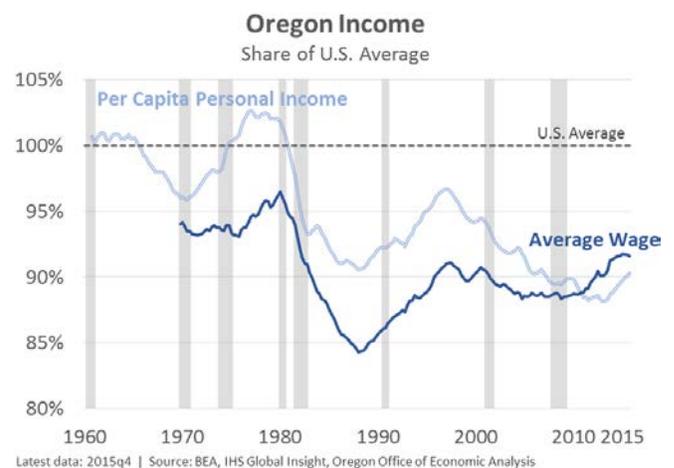


Oregon Economy

The pace of improvement in Oregon’s labor market continues to be full throttle. In fact, the gains in 2015 were the best in the past two decades. The state added more than 57,000 jobs, which translates into 3.3 percent growth over the year. In recent history, only the mid-1990s boom saw comparable gains. At that time, employment gains were similar, north of 50,000 per year, however growth rates were higher due to the smaller population and employment base. Given demographic trends, job growth north of 3 percent is as strong as can be expected.

Oregon has regained its traditional advantage relative to the nation, with job growth outpacing the typical state by more than one percentage point. 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.

More importantly, these improvements are now translating into stronger wage gains for the average Oregon worker. While Oregonian income and wages are below the typical state, average wages today in Oregon are at their highest relative point since the severe early 1980s recession when the timber industry restructured. Much of this improvement has come in the past 2-3 years when Oregon wage growth, much like job growth, has outstripped the average state.



The wage gains are due to broad-based increases across all major industries and all regions of the state. Wage growth is not due to compositional effects, such as the strong growth in high-wage technology jobs or that the Portland MSA has added the most jobs, where wages are higher than in rural Oregon. While both of those trends are happening, they have surprisingly little

impact on statewide average wages¹. This is certainly good news that the wage increases are broad-based and not isolated to certain industries or regions.

Overall, while there remains much room for improvement in average income levels in Oregon, it is important to remember that wages have not been this high, relatively, for more than a generation.

Labor Force Participation and Employment

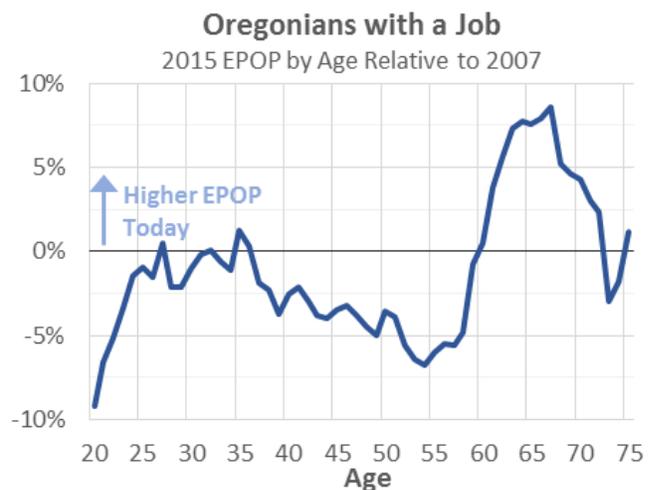
There is a three stage process for the labor market to return to normal, or at least normal dynamics. First jobs become more plentiful, then wages start to rise, and third individuals begin searching for jobs at higher rates. As such, Oregon’s labor force participation rate has increased from its recessionary lows reached in 2012 and 2013. While the majority of the decline in participation over the past 15 years is demographic – the aging Baby Boomers are entering their retirement years – some of the decline is due to the lackluster economy in recent years. Along with an improving economy will come labor force gains and some participation increases.

Even as participation rates and employment opportunities are rising, these gains are not evenly distributed across the economy or individuals. In fact, there are stark differences across generations and their labor market outcomes today.

The employment-population ratio, EPOP for short, measures the share of individuals for a certain age group that has a job. Those in their mid-20s through mid-30s have fully recovered in terms of their employment rate. That is, the share of 25-34 year olds with a job today is the same as back in 2007, prior to the start of the Great Recession.

Middle-age workers, however, have considerably lower employment rates today. This is certainly a cause for concern. To the extent that these lower employment rates reflect the impact of long-term unemployment, or industrial or geographic mismatches, these losses may be permanent, thus lowering the productive capacity of the regional economy. Middle-age individuals have seen a decline in their participation rates, and a corresponding increase in those saying they are injured, disabled and/or ill and also an increase in retirements. Both of these reasons for not being in the labor force possibly point toward a more permanent decline than other reasons given, such as enrolling in college, staying at home to take care of children and the like.

Finally, older individuals are working at higher rates than seen in the recent past. The share of Oregonians 60 years and older with a job is higher today than in 2007, or even back in 2000. This likely reflects two important trends. The first is the overall shift in the type of jobs in the economy today. There is considerably more office and office-type work today than in previous generations, thus making it physically easier to work longer. The second trend is less benign. Some individuals are working later in life for financial reasons such as inadequate savings or retirement accounts.



¹ See here for more: <http://oregoneconomicanalysis.com/2015/12/15/oregon-wage-gains/>

Manufacturing is Weakening

So far U.S. manufacturing indicators are considerably worse than anything seen in the Oregon specific data. While Oregon has few direct ties to the plunging oil, gas and related industries, the state is not immune to the global economic slowdown and strong U.S. dollar. Over the past three years, the Oregon Dollar – based on exchange rates with the state’s major trading partners – has appreciated 40 percent, with nearly half of that increase coming in the past year. A stronger dollar makes Oregon products more expensive to foreign buyers, and makes imports more affordable for Oregonians. These trends result in fewer exports, which lowers sales and activity for Oregon businesses and manufacturers, slowing overall economic growth.

Through the end of 2015, Oregon has not seen any manufacturing job losses and the average hours worked for manufacturing employees remains steady and strong at 40-41 hours per week. However, the stronger dollar is clearly weighing on exports. Agricultural and food exports are down 35 percent over the year, heavy manufacturing exports are down 14 percent and forestry and wood product exports are down 15 percent. These declines are seen in trading patterns with all of Oregon’s major export destination markets, particularly Canada and China which accounted for 37 percent of all Oregon exports in 2015.



One exception to declining exports are computer and electronic products. Oregon’s high-tech manufacturers are facing slower trends in their industry however the current technology cycle is mild compared to past cycles. Additionally, Oregon exports in this category are also more likely to be indicative of within firm shipments than broader industry trends.

While Oregon has yet to see manufacturing job losses, employment growth has slowed considerably, a likely result following the slowing demand and falling exports. The industry was averaging 2.5 percent job growth from the depths of the recession though last summer. In fact, through the first half of 2015 job growth has accelerated to nearly 4 percent, year-over-year. However in the past two quarters, growth has slowed to just 1 percent at an annual pace. Given the highly cyclical nature of the industry, strong dollar and slowing global economy, manufacturing losses cannot be ruled out moving forward. However such losses have yet to appear in the U.S. or Oregon employment data.

Special Report: Financial Market Turmoil and Oregon’s Economic Outlook

The recent financial market turmoil, should it persist, will impact the Oregon economy and state tax revenues. These impacts will be felt in a few different ways including capital gains, financial sector employment, local business investment and consumer spending more broadly.

Effect of Stock Prices on Oregon’s Taxable Capital Gains

Oregon’s personal income tax collections tied to realizations of capital gains are extremely volatile, with revenues subject to the sometimes unpredictable behavior of investors. Although housing wealth is playing a larger role in driving taxable capital gains during the current business cycle than in the past, earnings and losses in stock markets account for the lion’s share of movements in taxable capital gains in the typical year.

A 10% drop in stock prices will eventually lead to a 10%-15% decline in the amount of net capital gains reported on tax returns. This negative impact on personal income tax collections is often delayed for several months after investors pull their assets out of equity markets. During a sell-off, the volume of trades increases, and paper gains from past years become subject to tax. Afterward, taxable capital gains face considerable downward pressure, with paper earnings from past years having been tapped, and with losses being carried forward into future tax years.

Effect of Stock Prices on Earnings and Employment in Financial Service Industries

Given the nature of the regional economy, Oregon is relatively shielded from the adverse conditions facing many parts of the financial service industry. Unlike San Francisco, Chicago, and the financial centers of the Northeast, Oregon does not have much exposure to some of the hardest hit industry segments such as investment houses and large banks. Oregon's financial service industry is split roughly evenly between real estate firms, insurance providers, and regional banks. As a share of overall employment, Oregon is less concentrated in non-real estate activities than is the typical state.

Effect of Stock Prices on Local Business Investment

Oregon's largest employers have traditionally not relied very heavily on equity markets to generate capital for investments, which will help to mute the effect of stock price declines on the regional economy. However, falling stock prices threaten to hurt regional investment in other, less direct, ways.

Small banks may see their margins pinched. The flow of venture capital is also threatened by lower stock prices. When a risky investment bears fruit, venture capitalists reap the rewards by selling the successful business model, often through equity markets.

Also, when stock prices fall, purchasing existing businesses becomes less expensive relative to investing in new facilities and equipment. Not only can this slow the growth of Oregon's capital stock, but may also result in less demand for the many local firms that cater to corporate investors in other states and countries (e.g. technology producers, metal makers, machinery firms and transportation equipment producers).

Effect of Stock Prices on Consumer Spending

The drag posed by wealth losses among Oregon's households represents the largest threat to the regional economy resulting from stock price declines. The timing of the technology and housing bubbles could not have been worse for household balance sheets. Households in the baby boom population cohort were fooled by temporary wealth gains in the middle of their peak earning years, which was a time when they should have been saving more than ever. Federal Reserve research models have typically found that for each dollar of wealth lost, household spending is reduced by three to five cents.

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.

As our office has been discussing, or more accurately, warning over the past year, the pattern of unemployment rate changes does not likely reflect the overall pattern of growth in the Oregon economy. Since the last officially revised, or benchmarked, data in December 2014, Oregon’s unemployment rate has been on a roller coaster. First declining at a record pace to begin 2015, then rising throughout the summer and now once again declining to end the year. There is no question that Oregon’s labor market improved in 2015, leading to a lower unemployment rate than in prior years, however the upcoming annual revisions and benchmark in March will likely alter the path and show a steadier decline.



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 second half of 2015, Oregon’s have been strong for a couple years now. All measures of Oregon wages except one. Average hourly earnings has been growing near 0 percent in inflation-adjusted terms. Given the strength in the labor market overall, in terms of job growth and the other measures of wages, plus the fact the overall average hourly earnings series is still new – beginning in 2007 – our office’s position is that wage growth today in Oregon is strong.

The most recent job growth rankings, published by Arizona State University’s W.P. Carey School of Business², places Oregon 7th in the nation for job growth in December. Over the past year the state has added 48,100 jobs, or an increase of 2.7 percent. Using the Oregon Employment Department’s preliminary benchmarked employment data, it shows Oregon adding 53,500 jobs over the year for a 3 percent growth rate, which would rank 4th fastest. 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 revisions³.

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

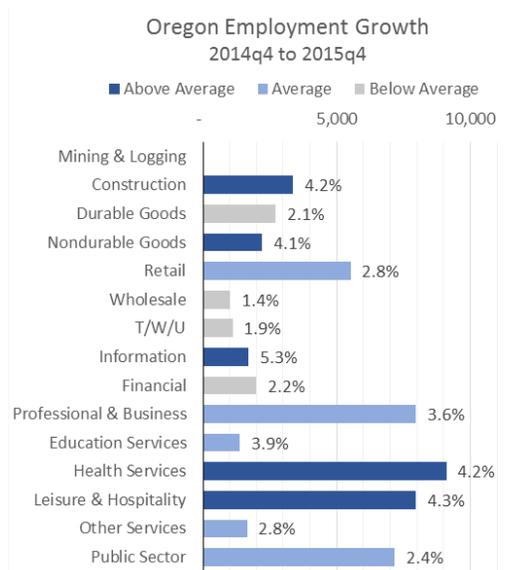
In the fourth quarter, total nonfarm employment increased 3.1 percent over the past year with the private sector growing at 3.3 percent and the public sector at 2.4 percent. These rates of growth, while slightly slower than over the summer months, are the best Oregon has experienced since 2006, or the height of the housing boom. The nearby graph illustrates the number of job gains by major industry by the length of the bar. The percentage increase these changes represent is noted as well. The bars are color coded by growth rate relative to total employment growth. Industries with dark blue colored bars are growing at rates much faster than total employment, light blue bars represent industries which are growing approximately in line with the average, while grey bar industries are growing at rates significantly less than the average.

As has been the case in the recovery to date, jobs in the large service sector have led growth in terms of outright job gains and above-average growth rates. These include jobs in professional and business services, health services, and leisure and hospitality industries. These three industries have gained 25,000 jobs in the past year and account for 46 percent of all job gains across the state. The good news is that this share is becoming smaller as other industries continue to strengthen.

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 losses⁴ and where each industry stands today relative to pre-recession peak levels.

Currently, seven major industries are at all-time highs. Private sector education, health, and food manufacturing 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 employment and the public sector have surpassed their pre-recession levels and are at all-time highs. The six private sector industries at all-time highs account for 51 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 beginning to recover, although they still have much



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 2014. The QCEW is currently available through September 2015, thus the preliminary benchmark used here covers the October 2014 – September 2015 period.

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.

ground to make up. Transportation equipment manufacturing suffered the worst job cuts and is likely a structural decline due to the RV industry’s collapse⁵. 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 today, 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 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.

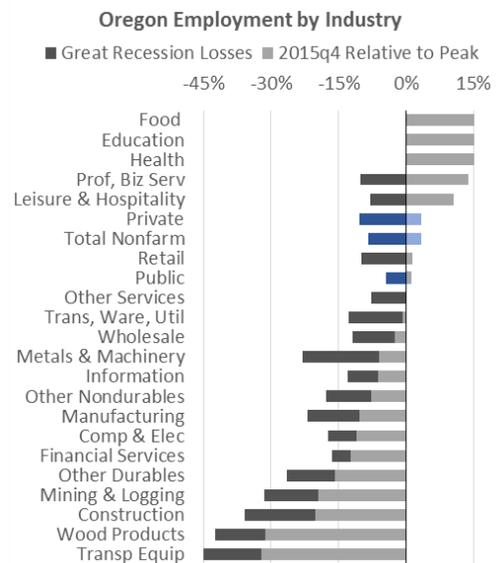
For additional information on the most recent quarter’s employment forecast errors, please refer to Table A.1 in Appendix A.

Leading Indicators

Both of the Oregon-specific composite leading indicators have become more of a mixed bag over the past year. Currently, our office’s Oregon Index of Leading Indicators (OILI) has essentially been flat for the past 12 months, while the University of Oregon’s Index of Economic Indicators recently turned up following nearly a year of being unchanged. Such composite leading indicator series are typically used as a green light-red light measure of the economy. They are not typically used to gauge the magnitude or strength of future economic trends, but rather whether growth is or is not expected in the coming 6-12 months.

Underlying the unchanged topline is a stark divergence between manufacturing, or goods producing, indicators and all other types. Specifically, the book-to-bill ratio for semiconductor equipment manufacturers, industrial production, manufacturing purchasing managers index, new orders for capital goods excluding aircraft, and the Oregon dollar are all negative. Additionally Oregon’s weight distance tax is slowing – possibly reflecting slowing economic activity more broadly. The one positive goods producing indicator is the average weekly hours worked for manufacturing employees in Oregon, which is holding strong at 40-41 hours per week. All told, the fact that nearly all goods producing indicators are pointing down is certainly a big worry.

However, many other indicators remain positive. In fact, labor market measures look exceptionally strong, as initial claims for unemployment are at or near record lows, temporary agency employment continues to grow and withholding tax receipts out of Oregonian paychecks remains very robust. Additionally, housing permits



⁵ <http://oregoneconomicanalysis.com/2012/07/10/rv-workers-and-reemployment/>

continue to increase and the number of new businesses forming in Oregon is on the rise again. These indicators paint a brighter picture of the economy today and moving forward.

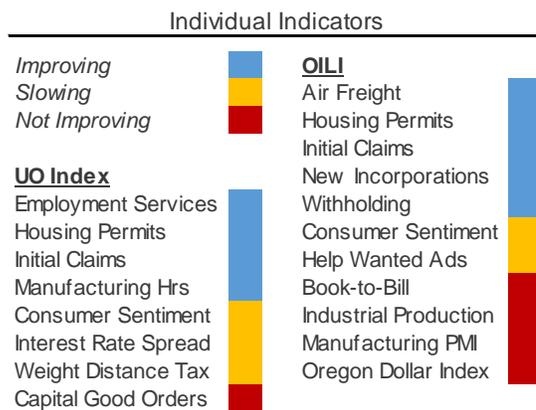
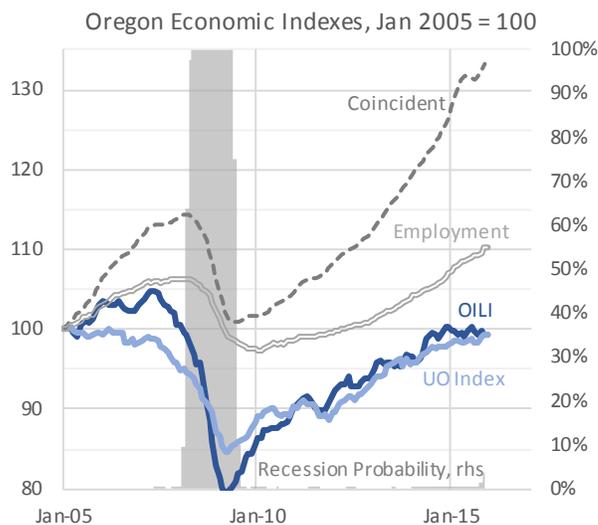
While Oregon’s composite leading indicators are not painting a clear green light today, they are also not signaling a recession is imminent either. The recent track record of Oregon’s leading indicators has been good. Both series flattened out in 2006 and began their decline in advance of the Great Recession. 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. Of course past experience provides no guarantee of future performance. However, the fact that neither series is clearly declining is overall a positive signal, at least relatively so.

Right now the U.S. economy is not in recession. University of Oregon professor Jeremy Piger has created a real time probability of recession⁶ model, and finds there is just a 3.8 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 17 percent. Hopefully Oregon’s leading indicators will give a signal in advance of the next recession, which neither is doing today.

Short-term Outlook

Job growth in Oregon continued to accelerate in recent months. 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 this growth to persist for another year before longer-run demographic trends weigh on growth rates. The general character of the forecast remains the same as in recent forecasts, albeit with one big difference. Job growth and labor related income remain nearly identical however non-wage income, particularly investment related is revised substantially lower due to the decline in asset markets.

Should this 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



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

entering their prime working years. The net effect is overall lower rates of labor force and economic growth, due to demographics.

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

Nevertheless, goods-producing industries, while smaller, have been growing at above-average rates. However, this is expected to change moving forward. Mining and logging and manufacturing employment is expected to grow at below-average rates in 2016 and 2017. While the continued strength in manufacturing jobs has been a pleasant surprise so far in recovery, the global economic weakness and strong Oregon dollar will weigh on growth. The baseline outlook does not call for outright manufacturing job losses, however that does remain a distinct possibility.



Among the goods-producing industries, only construction is expected to add jobs in 2016 and 2017 at an above-average pace. As the housing market continues its long, slow march back to normal, the industry will continue to need more workers.

Public sector employment at the local, county and state level for both education and non-education workers has recently begun growing in Oregon, as state and local revenues continue to grow along with an improving 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				
		2015:4	2016:1	2016:2	2016:3	2016:4	2015	2016	2017	2018	2019
Personal Income, Nominal	U.S.	3.8	3.5	3.7	4.6	5.1	4.5	4.2	5.2	5.2	5.0
% change	Oregon	5.5	5.3	6.0	6.4	6.9	5.8	5.8	6.7	6.5	5.7
Wages and Salaries, Nominal	U.S.	4.8	4.0	4.8	5.4	5.3	4.8	4.8	5.3	5.1	4.9
% change	Oregon	7.4	7.5	6.9	7.3	7.7	6.3	7.1	7.3	6.6	5.5
Population	U.S.	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
% change	Oregon	1.2	1.1	1.3	1.5	1.1	1.3	1.3	1.2	1.2	1.2
Housing Starts	U.S.	1.14	1.22	1.27	1.26	1.31	1.11	1.26	1.42	1.51	1.56
U.S. millions, Oregon thousands	Oregon	18.5	17.1	17.6	18.1	19.3	15.9	18.0	21.1	22.7	23.1
Unemployment Rate	U.S.	5.0	5.0	4.9	4.9	4.9	5.3	4.9	4.9	4.9	5.0
	Oregon	5.8	5.7	5.6	5.6	5.5	5.8	5.6	5.4	5.6	5.6
Total Nonfarm Employment	U.S.	1.9	1.9	1.4	1.4	1.3	2.1	1.7	1.3	1.2	1.0
% change	Oregon	3.0	3.0	2.3	2.6	2.8	3.3	2.7	2.6	2.0	1.3
Private Sector Employment	U.S.	2.2	2.1	1.6	1.6	1.5	2.4	1.9	1.4	1.2	1.1
% change	Oregon	3.1	2.9	2.4	2.9	3.0	3.5	2.8	2.8	2.2	1.3

Along with an improving labor market, stronger personal income gains will come. 2013 personal income is estimated to have increased by just 2.3 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. Continued strong growth is expected moving forward, along with a full throttle economic expansion, with income gains of 5.8 percent in 2015 and 2016.

As the economy continues to improve, household formation is increasing too, which will help drive up demand for new houses. Household formation has remained suppressed in recent years as individuals and families turned to rental markets and doubled up during the recession. As these individuals are now finding work in an improving economy, their desire to live on their own or away from their parents will lead to increased housing demand. Much of the increase in young Oregonians living at home can be attributed to higher college enrollments. As the Millennials continue to age beyond their early 20s, demand for housing (both rental and ownership) will increase further.

Housing starts in the fourth quarter totaled 18,500 at an annual pace. 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 about 18,000 in 2016 and 21,100 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:

- 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.
- Strength and durability of the housing market recovery. The housing market in recent years has underwent an unusual pattern of growing briskly (2012) to stalling out (2013) to recovering with moderate growth (2014.) How long this lasts and what strength of gains 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 2015 and 2016.

- 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.
- 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. The drought has reached Oregon as well and most eastern and/or southern counties are 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.
- Ongoing European debt problems and potential financial market contagion or instability. The European high debt, low growth, austerity cycle has continued, more or less, for the past four years. So long as Europe is able to continue to muddle through the process, the situation acts as a drag on domestic and global economic growth, however no more so than it already is. With that being said, the potential for another financial crisis unfortunately still looms large as a catastrophic scenario. Domestic credit markets are easing, but consumers and businesses still have difficulty getting loans. To the extent that credit markets take longer to come back to some sort of state of normalcy, the current recovery could be slower than projected or thrown off track. In such a scenario, Oregon will suffer the consequences along with the rest of the nation.
- Commodity price inflation. Prices for many major commodities are trending down, but remain atypically high from a historical perspective. Future commodity prices will be tied to growth. Should the global expansion pick up speed, a return to high rates of commodity inflation is possible. 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.

- **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.
- **Undoing the Federal Policy Used to Combat the Financial Crisis and Recession.** Bailouts, tax cuts, monetary quantitative easing, and other fiscal packages most likely prevented a more serious economic downturn. But the clean-up after the storm can have its own risks to the economy. Exit strategies will have to be carefully implemented to prevent premature tightening and choking off the recovery or acting too late to avoid an inflationary environment. All states, including Oregon, face the same risks.
- **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.

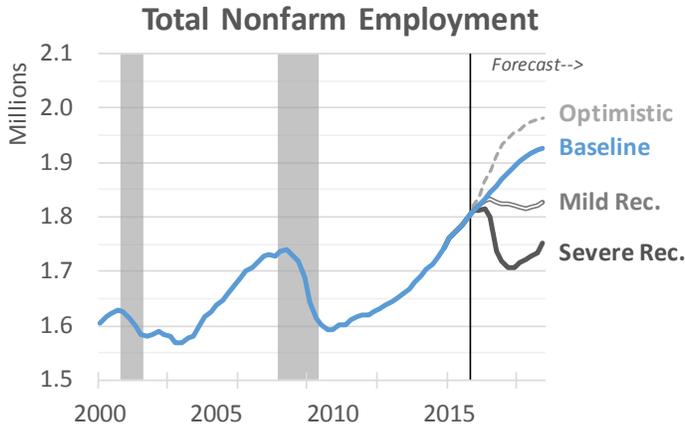
Alternative Scenarios

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 further away from the aftermath of the Great Recession and into a stronger cyclical expansion. The lackluster economic growth seen in the early stages of recovery, and the manufacturing weakness in 2015 recedes into the rearview mirror of history and the U.S. economy builds momentum throughout 2016. The economy is soon firing on all cylinders. Economic growth is above potential in 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 declines faster than under the baseline scenario as individuals are able to find employment more readily and income growth accelerates. 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 mid-2016 or about a year earlier than the baseline.

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



	2016	2017	2018	2019
Employment				
Baseline	2.7%	2.6%	2.0%	1.7%
Optimistic	4.1%	4.5%	1.9%	1.5%
Mild Recession	2.6%	0.0%	-0.4%	-0.1%
Severe Recession	1.7%	-5.1%	0.5%	1.3%
Personal Income				
Baseline	5.8%	6.7%	6.5%	6.2%
Optimistic	9.2%	8.6%	6.6%	6.1%
Mild Recession	5.6%	4.0%	4.6%	5.2%
Severe Recession	5.2%	-2.3%	5.5%	6.5%

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 2016. The housing market stalls (again), removing one driver of growth. The Fed’s tightening in late-2015 causes emerging market turmoil and capital flight. The U.S. dollar strengthens further, helping to choke off the manufacturing cycle. These factors are enough weight on the lackluster recovery that mid-2016 the economy slides back into recession. Job losses ensue in 2017, and while not severe – about 17,000 jobs in Oregon – it takes a toll on business income, housing starts and personal income. The unemployment rate returns to 8 percent. The net effect of the mild recession is an extended period of prolonged economic weakness, not unlike Japan’s so-called Lost Decade(s). Although inflation is expected to remain positive, a key difference.

Severe Recession Scenario: The economy is not able to reach escape velocity from the lackluster recovery to date, and with a newly stalled housing recovery removing one pillar of growth, increasing turmoil in domestic and international markets, and the Fed’s premature tightening in 2015, the economy is soon in 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 over 10 percent and more than 100,000 Oregonians lose their jobs in 2016-17. 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 4.8 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

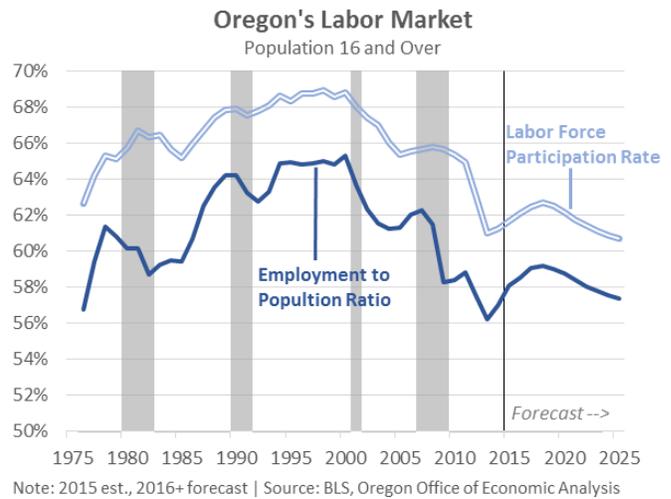
IHS Economics projects Oregon’s economy to fare well relative to the rest of the country in the coming years. The state’s Real Gross State Product is projected to be the fourth fastest among all states across the country in terms of growth with gains averaging 3.5 percent through 2020. Total employment is expected to be the ninth strongest among all states at an annualized 1.8 percent, while manufacturing employment will be the third

fastest in the country, also at 1.8 percent. Total personal income growth is expected to be 5.2 percent per year, the eighth fastest among all states, according to IHS Economics.

OEA is somewhat less bullish, but expects Oregon to 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 three recent trends show potentially worrisome signs.

First, the labor force participation rate has declined significantly during and after the Great Recession at both the national and state level. Second, since 2005, Oregon's labor force participation rate no longer exceeds the national rate as it had for the prior 30 years. Third, the number of Oregonians in the labor force overall is relatively flat since 2008. On the bright side, much of the recessionary-induced declines have been regained in 2014 and 2015. All three of these labor force signals are potentially worrisome when it comes to Oregon's dynamic labor supply. However, how much is attributable to the severe nature of the business cycle, from which one could reasonably expect a rebound, and how much is a fundamental shift in Oregon's economy is unknown at this time.



With that being said, our office's baseline outlook calls for some 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.

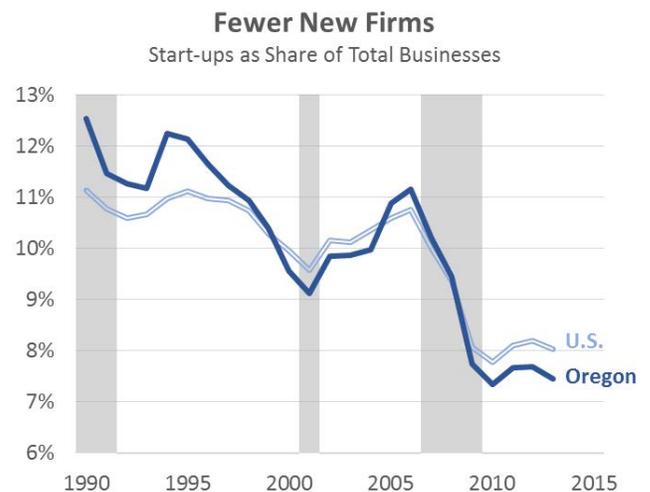
Oregon's industrial structure is very similar to the U.S. overall, even moreso than nearly all other states. Oregon's manufacturing industry is larger and weighted toward semiconductors and wood products, relative to the nation which is much more concentrated in transportation equipment (autos and aerospace). 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 than typical state are expected to perform well over the coming decade. These industries include management of companies, food and beverage manufacturing, published software along with gains in crop production and nurseries. The state's real challenges and opportunities will come in industries in which Oregon does not have a relatively large concentration (the orange bars in the graph). These industries, like consulting, computer system design, financial investment, and scientific R&D, are expected to grow quickly in the decade ahead. To the extent that Oregon is behind the curve, then the state may not fully realize these gains if they rely more on clusters and concentrations of similar firms that may already exist elsewhere in the country.



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

Another area of potential concern that may impact longer term economic growth is that of new business formation. Over the past year or two, the number of new business license applications with the Oregon Secretary of State have begun to grow again. However, these applications remain relatively low relative to historical standards. Similar trends are seen in data available from the U.S. Census Bureau and Bureau of Labor Statistics. These indicators of entrepreneurship, and business formation all show that the recessionary declines are over, but that not much progress has been made in terms of regaining lost ground.

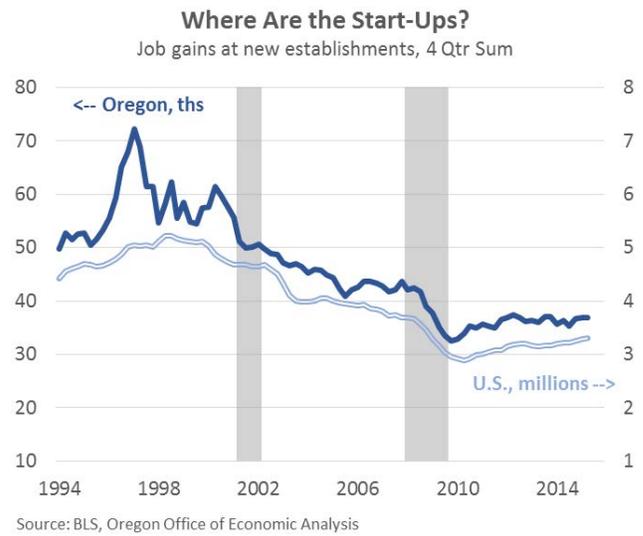


Source: Census Bureau, Oregon Office of Economic Analysis

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 2020. 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 a detailed look at Oregon’s per capita personal income entitled Why Oregon Trails the Nation⁸.



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

Oregon Regional Trends

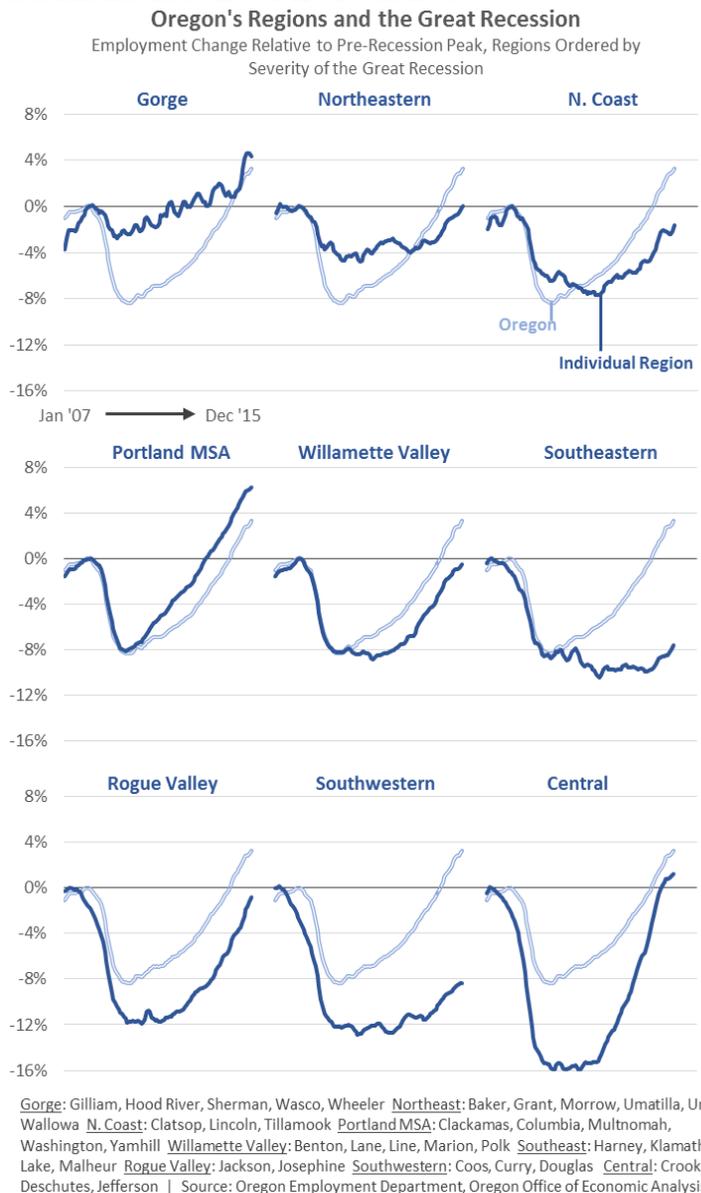
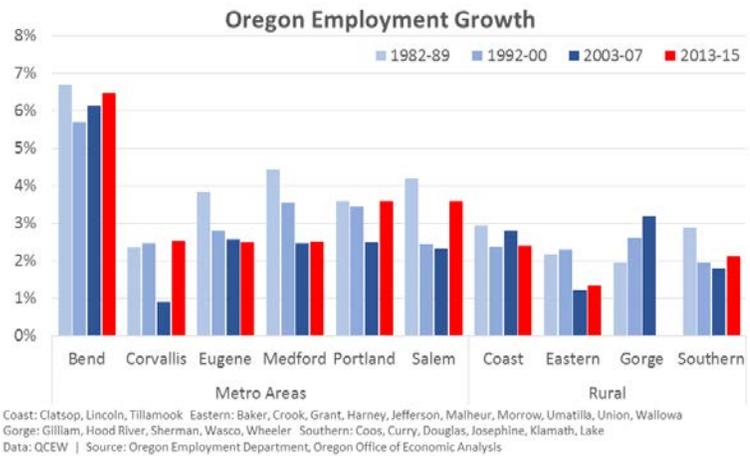
Oregon’s economy continues to grow at full-throttle rates. Over the past two years, these gains have spread across the entire state. Today, all regions within Oregon are not only adding jobs, but at rates comparable to past economic expansions⁹. In fact, Bend, Corvallis, Portland, Salem and the North Coast are adding jobs as fast as these regions ever have in the past 40 years.

While every region is currently growing briskly, their economic performances over the Great Recession do differ considerably. The second set of graphs compare regional employment trends. Note the geographic differences in the regions relative to the first graph above.

Today four regions – the Columbia River Gorge, Northeast Oregon, Portland Metro and Central Oregon – are at historic highs in terms of employment. Each has regained its recessionary losses and added additional jobs as well.

Three regions – the North Coast, Willamette Valley and Rogue Valley – have all nearly regained their lost jobs due to the Great Recession. At the current pace of growth, each region will reach historic levels of employment by late spring or early summer.

Finally, both the Southeastern and Southwestern regions of the state have yet to fully partake in the expansion. Both suffered double-digit job losses followed by a few years of no gains. Only in the past two years has job growth returned. Both regions today have approximately as many jobs as they did back in the early- to mid-1990s. Looking forward, both regions do have educational attainment that is approximately in-line with rural America at large, which should bode well.



⁹ The Columbia River Gorge is an exception. However this is largely a technical issue. The first graph uses QCEW data through Sept '15, while the second set of graphs uses CES data through Dec '15.

State Comparisons

Migration is for the young, particularly those in their root-setting years (25-34 years old). This time period is when most people settle down, begin their careers in earnest, get married, buy a house and have kids. This age group is vital for longer run economic growth. Once a regional economy is able to attract such workers, they rarely leave as migration rates decline considerably as an individual ages into mid-life. As such, it is important to track these young migrants and see where they move to and what potential skills they bring to the economy.

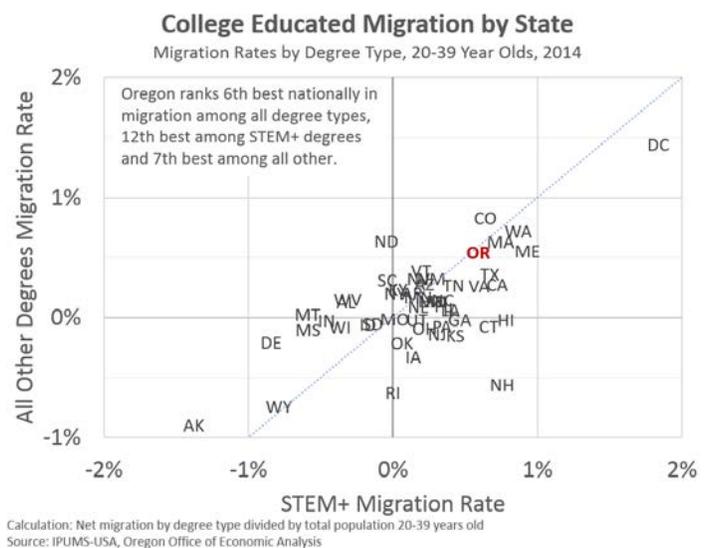
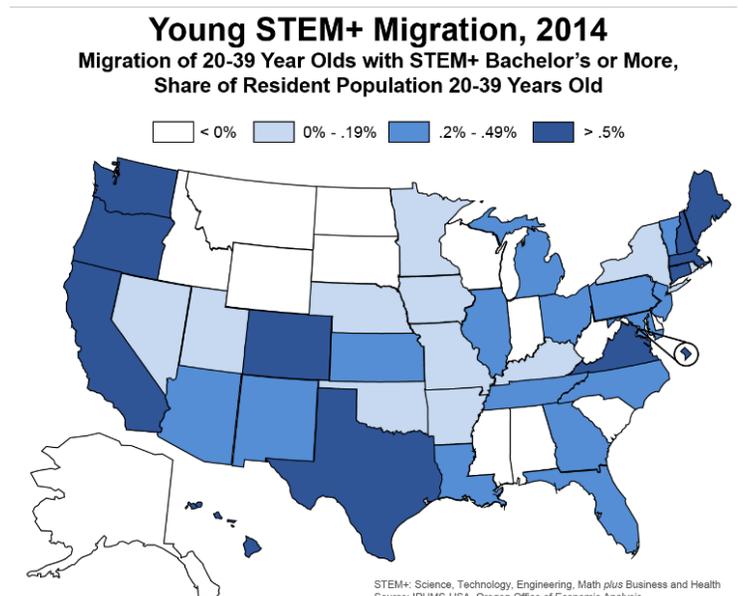
In a new research report¹⁰, our office examines where young college graduates move to in the U.S. and their primary field of study in college. The report essentially divides the graduates into two nearly equally sized groups. One group consists of STEM+ degrees, referring to science, technology, engineering, math *plus* business or health degrees. The second group was all other degrees – communication, education, liberal arts and the like.

A key reason for this is that college graduates have better labor market outcomes than those with less formal schooling. At each step along the educational attainment spectrum, an individual has a higher rate of labor force participation, a higher rate of being employed (and lower rate of unemployment) and higher average wages. STEM+ degree holders even more so than their college graduate counterparts in other fields.

This pattern is true when looking at the types of jobs individuals have at different levels of educational attainment. In particular, STEM+ graduates have the highest rate of being employed in degree jobs. This category includes all individual occupations that require at least a Bachelor's degree or more for an entry-level hire, according to the U.S. Bureau of Labor Statistics.

As a regional economy is able to attract both STEM+ and all other degree holders, it bodes well for future economic growth and the types of jobs being created and filled. Oregon, along with a handful of other states are national leaders in attracting young college graduates.

Of course a college degree is not the be all and end all of either economic development or job opportunities for residents. However the surest path to obtaining a high-wage job is a degree, particularly as middle-wage jobs become a smaller share of the labor market.



¹⁰ <http://oregoneconomicanalysis.com/2016/01/28/report-stem-trends-in-oregon/>

REVENUE OUTLOOK

Revenue Summary

Heading into the peak season for income tax collections, Oregon's General Fund revenues are posting healthy growth. In keeping with a strong labor market, personal income tax collections are expanding at nearly a double-digit annual rate.

While revenue growth has been strong thus far in the biennium, these gains have not come as a surprise. Expectations for growth in Oregon's General Fund revenues have remained virtually unchanged since the 2015-17 budget was drafted.

In contrast to the strong growth seen in personal income tax collections, corporate tax collections have started to contract in recent months.

Nationwide, corporate profits are falling, largely due to rapid

appreciation of the U.S. dollar. Even so, corporate tax collections remain large relative to historical norms.

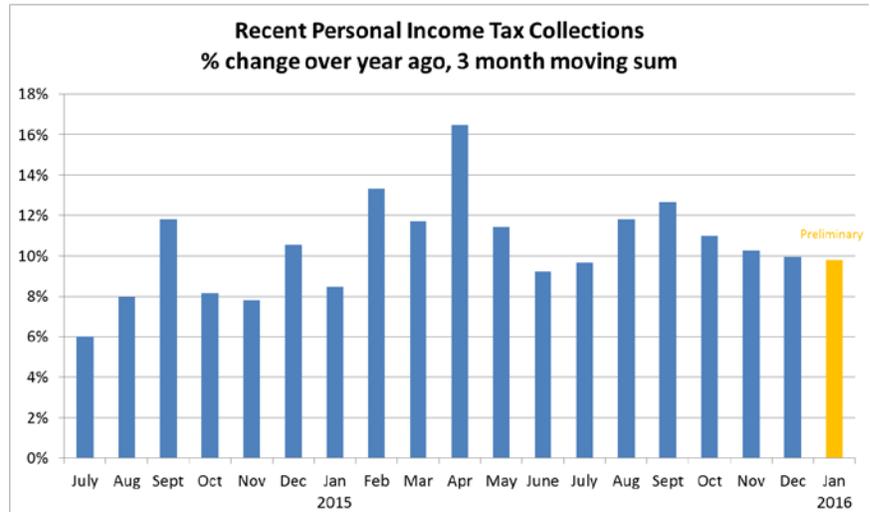
Corporate tax revenues¹² are expected to exceed the 2% kicker threshold by \$12.5 million, generating a kicker amount of \$34.3 million. In keeping with statute, this amount, should it be realized, will be dedicated to K-12 funding during the 2017-19 biennium.

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

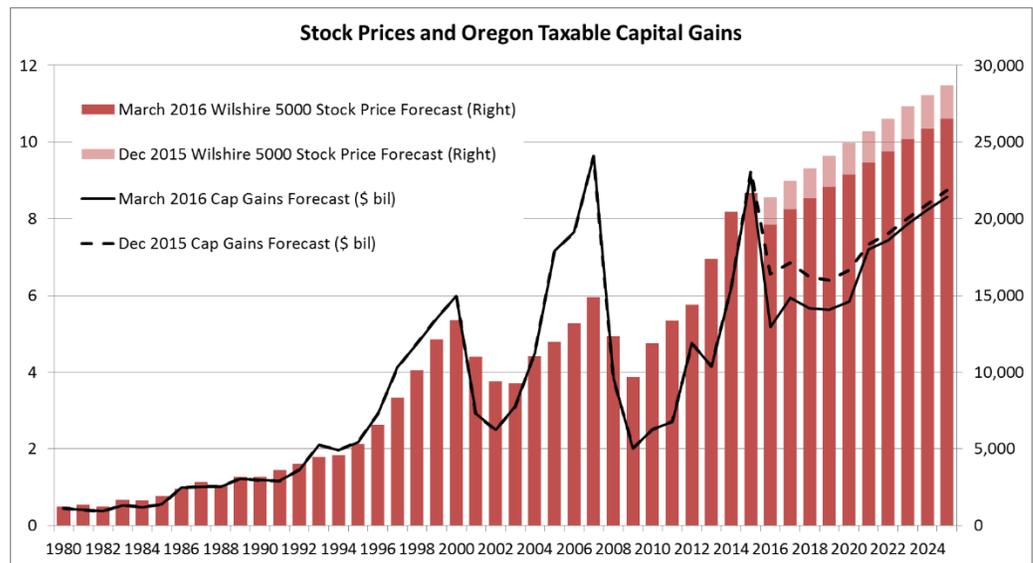
Although General Fund revenues have been tracking very close to expectations to date, sharp recent declines in equity prices and corporate profits have led to a reduction in the revenue forecast going forward. In particular, Oregon's budget depends heavily on personal income tax collections tied to realizations of capital gains and taxable dividends. These collections are extremely volatile, with revenues subject to the sometimes unpredictable behavior of investors.

Equity markets took a step backward soon after monetary policymakers began to raise interest rates this winter. The full negative impact of stock price declines on personal income tax collections will take time to be realized. During a sell-off, the volume of trade increases, and paper gains from past years become subject to tax. Afterward, taxable capital gains face considerable downward pressure, with paper earnings from past years having been tapped, and with losses being carried forward into future tax years.

At the level of price declines we have seen thus far (around 10% at the time of production), much of the pain will be felt during the 2017-19 biennium and beyond. For now, many investors are still taking in some profit when pulling their assets out. If prices decline further, income losses will become more significant. Taxable capital gains will be further supported in 2016 by realizations related to one-time events including the sale of many large local businesses.



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 \$18,006 million. This represents a decrease of \$23 million (0.1%) from the December 2015 forecast, and an increase of \$1.9 billion (11.8%) relative to the 2013-15 biennium. General Fund revenues for the 2015-17 biennium are now expected to come in \$8 million (0.0%) above the Close of Session forecast.

Personal Income Tax

Personal income tax collections were \$1,903 million during the second quarter of fiscal year 2016, \$102 million (5.7%) above the latest forecast. Compared to the year-ago level, total personal income tax collections grew by 9.9% relative to a forecast that called for 4.0% growth. Table B.8 in Appendix B presents a comparison of actual and projected personal income tax revenues for the October-December quarter. However, 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 \$123 million for the second quarter of fiscal year 2016, \$15 million above the December forecast. However, estimates of corporate taxes in January suggest that collections are now falling rapidly along with underlying corporate profits.

Corporate tax collections remain well above historical norms even after recent declines. Outside of energy production and mining, profitability remains strong in most industries. Also, recent law changes have supported collections, as has a decline in outstanding Business Energy Tax Credits.

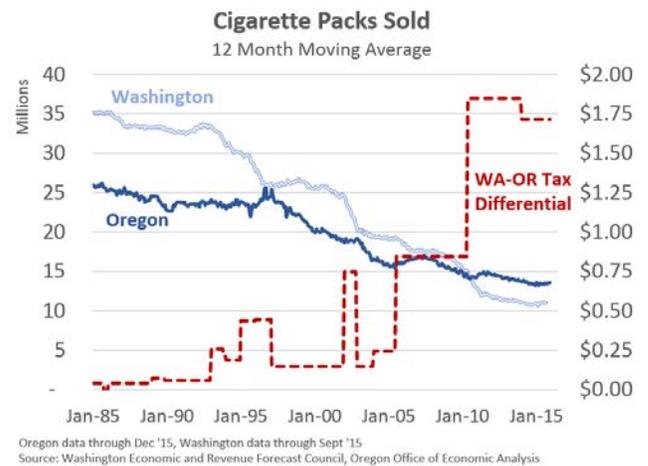
Corporate income tax collections for 2015-17 are now expected to end the biennium 3.1% higher than what was called for in the Close of Session forecast. This would generate a corporate kicker amount of \$34.3 million to be dedicated to K-12 education during the 2017-19 budget period.

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

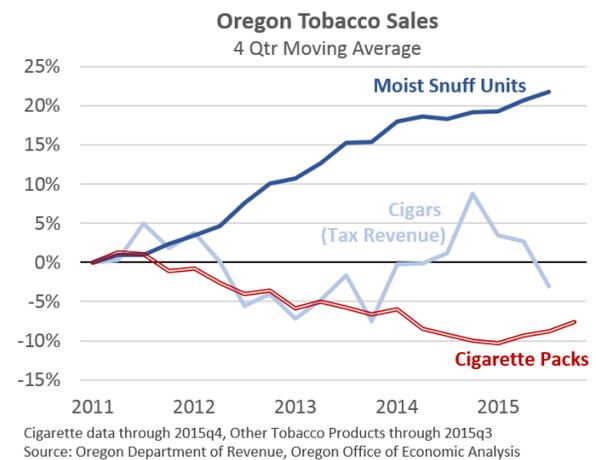
ones over this time period. However, packs sold in 2015 were 2.7 percent higher than in 2014, or nearly 360,000 more. The increase in sales has resulted in more tax revenue than expected. So far in the first six months of the 2015-17 biennium, actual cigarette tax revenue has exceeded forecast by nearly \$8 million, of which \$1.4 million is General Fund.

It can be difficult to know what exactly is driving higher cigarette sales, however three items stand out. First, 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.



Second, based on conversations among our office's counterparts around the country, this increase in cigarette sales is nationwide. The vast majority of states are seeing sales above their forecast, with many seeing outright increases like Oregon. This indicates the driver of growth is national in scope and not any particular local issue. Potential answers may be the increases in disposable income due to lower gas prices, or the overall improvement in the economy in recent years.

Third, the increases could be related to consumer behavior, changing tastes or preferences and e-cigarettes. The Wall Street Journal recently noted that consumers do not like e-cigarettes as much, sales have slowed, manufacturers and retailers have a backlog of inventory, and increased scrutiny from states have all impacted the industry. Along these lines, it is very plausible that some smokers switched to e-cigs in recent years, but did not like them, and have switched back to cigarettes, thus the uptick in sales following previous declines.



Other Sources of Revenue

Among other primary sources of revenue, estate taxes, video lottery sales and criminal fines have been coming in above expectations in recent months.

Table R.1**2015-17 General Fund Forecast Summary**

(Millions)	2015 COS Forecast	December 2015 Forecast	March 2016 Forecast	Change from Prior Forecast	Change from COS Forecast
Structural Revenues					
Personal Income Tax	\$15,713.5	\$15,712.4	\$15,692.1	-\$20.3	-\$21.4
Corporate Income Tax	\$1,100.0	\$1,134.7	\$1,134.3	-\$0.4	\$34.3
All Other Revenues	\$1,184.6	\$1,182.0	\$1,179.9	-\$2.1	-\$4.7
Gross GF Revenues	\$17,998.1	\$18,029.1	\$18,006.3	-\$22.8	\$8.3
Offsets and Transfers	-\$42.8	-\$43.0	-\$43.2	-\$0.2	-\$0.4
Administrative Actions ¹	-\$20.2	-\$20.2	-\$14.0	\$6.2	\$6.2
Legislative Actions	-\$158.9	-\$158.9	-\$158.3	\$0.6	\$0.6
Net Available Resources	\$18,309.1	\$18,283.6	\$18,319.6	\$36.0	\$10.5
Confidence Intervals					
67% Confidence	+/- 6.4%		\$1,144.9	\$16.86B to \$19.15B	
95% Confidence	+/- 12.7%		\$2,289.8	\$15.72B to \$20.30B	

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

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.

General Fund revenues are expected to total \$19,490 million in 2017-19 biennium, an increase of 8.2% percent from the prior period, and \$191 million below the December forecast. In the 2019-21 biennium, revenue growth is expected to reach 10.1%, followed by rates of around 9% to 10% in subsequent biennia. The slowdown in long-run revenue growth is largely due to the impact of demographic changes 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. Table B.2 in Appendix presents a more detailed look at the long-term General Fund revenue forecast.

Table R.2

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

Revenue Source	Forecast 2013-15		Forecast 2015-17		Forecast 2017-19		Forecast 2019-21		Forecast 2021-23		Forecast 2023-25	
	Biennium	% Chg	Biennium	% Chg	Biennium	% Chg	Biennium	% Chg	Biennium	% Chg	Biennium	% Chg
Personal Income Taxes	13,958.3	15.2%	15,692.1	12.4%	17,354.5	10.6%	19,242.9	10.9%	21,438.9	11.4%	23,468.2	9.5%
Corporate Income Taxes	1,116.5	26.3%	1,134.3	1.6%	1,058.2	-6.7%	1,046.1	-1.1%	1,077.9	3.0%	1,118.2	3.7%
All Others	1,030.2	-11.4%	1,179.9	14.5%	1,077.5	-8.7%	1,171.6	8.7%	1,251.7	6.8%	1,328.4	6.1%
Gross General Fund	16,105.0	13.7%	18,006.3	11.8%	19,490.3	8.2%	21,460.5	10.1%	23,768.6	10.8%	25,914.8	9.0%
<i>Offsets and Transfers</i>	<i>(74.5)</i>		<i>(43.2)</i>		<i>(71.7)</i>		<i>(73.1)</i>		<i>(73.1)</i>		<i>(73.8)</i>	
Net Revenue	16,030.5	13.3%	17,963.2	12.1%	19,418.6	8.1%	21,387.5	10.1%	23,695.4	10.8%	25,841.0	9.1%

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](#).

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 predicted¹¹.

TABLE R2b

March 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	177.85	188.98	201.77	213.79	225.73	237.24	247.37	260.54	272.60	285.29
% change	5.7%	6.3%	6.8%	6.0%	5.6%	5.1%	4.3%	5.3%	4.6%	4.7%
Taxes										
Personal Income	7,716	7,976	8,451	8,904	9,346	9,897	10,470	10,968	11,472	11,996
Corporate Excise & Income	596	538	535	523	521	525	534	544	553	565
Other General Fund	517	663	524	553	571	601	613	638	652	677
Total General Fund	8,829	9,177	9,510	9,980	10,437	11,023	11,617	12,151	12,677	13,238
% change	4.3%	3.9%	3.6%	4.9%	4.6%	5.6%	5.4%	4.6%	4.3%	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	177.9	184.4	192.1	205.7	219.7	232.8	244.6	258.3	270.6	284.9
% change	5.7%	3.7%	4.2%	7.1%	6.8%	6.0%	5.0%	5.6%	4.8%	5.3%
Taxes										
Personal Income	7,716	7,704	7,882	8,434	8,998	9,639	10,305	10,824	11,339	11,947
<i>Deviation from baseline</i>		-272	-568	-470	-348	-258	-165	-145	-133	-49
Corporate Excise & Income	596	512	484	483	493	505	522	535	545	563
<i>Deviation from baseline</i>		-26	-51	-39	-28	-20	-12	-10	-8	-2
Other General Fund	517	663	524	553	571	601	613	638	652	677
Total General Fund	8,829	8,879	8,891	9,470	10,062	10,746	11,440	11,997	12,536	13,187
% change	4.3%	0.6%	0.1%	6.5%	6.2%	6.8%	6.5%	4.9%	4.5%	5.2%
<i>Deviation from baseline</i>		-298	-620	-510	-376	-277	-177	-154	-141	-51
<i>Biennial Deviation</i>		-298	-1,129		-653		-332		-193	
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	177.9	172.2	182.1	197.8	213.9	229.2	243.3	256.9	269.2	282.5
% change	5.7%	-3.2%	5.8%	8.6%	8.1%	7.2%	6.1%	5.6%	4.8%	4.9%
Taxes										
Personal Income	7,716	6,986	7,299	7,973	8,659	9,428	10,229	10,744	11,255	11,794
<i>Deviation from baseline</i>		-990	-1,152	-931	-687	-469	-242	-225	-217	-203
Corporate Excise & Income	596	443	431	445	466	489	516	529	540	552
<i>Deviation from baseline</i>		-95	-104	-78	-55	-36	-18	-15	-14	-13
Other General Fund	517	663	524	553	571	601	613	638	652	677
Total General Fund	8,829	8,091	8,254	8,971	9,696	10,518	11,358	11,911	12,446	13,022
% change	4.3%	-8.4%	2.0%	8.7%	8.1%	8.5%	8.0%	4.9%	4.5%	4.6%
<i>Deviation from baseline</i>		-1,086	-1,256	-1,009	-741	-505	-260	-240	-231	-216
<i>Biennial Deviation</i>		-1,086	-2,264		-1,246		-500		-447	

¹¹ The methodology for computing alternative scenarios has been changed to reflect recent work done by the Legislative Revenue Office. Assumptions: Recessions begin in 2016 and return to baseline income by 2023. The moderate recession scenario assumes personal income growth will be reduced by one-half relative to the baseline in 2016 and 2017. The severe recession scenario assumes personal income will decline in 2016 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.

Lottery Earnings

Revenues and available resources from Lottery games and programs are projected to total \$1,1214.5 million for 2015-17 BN, an increase of \$24.8 million from the December outlook and \$58.6 million above the Close of Session forecast (5%.) The most recent upward revision is primarily due to better-than-expected sales. Over the past three months, actual sales have been above forecast by \$16.3 million, in transfers or net proceeds. Approximately \$9 million of this is due to the record setting Powerball jackpot of \$1.5 billion, which brought along with it record sales in the state. The remaining \$8.4 million increase in the outlook is due to strong sales expectations moving forward.

Overall, video lottery dominates total lottery earnings, accounting for approximately 85 percent of all lottery transfers in the past three years. Over the past decade, video lottery has underwent three distinct phases and in the past year and a half entered into a fourth.

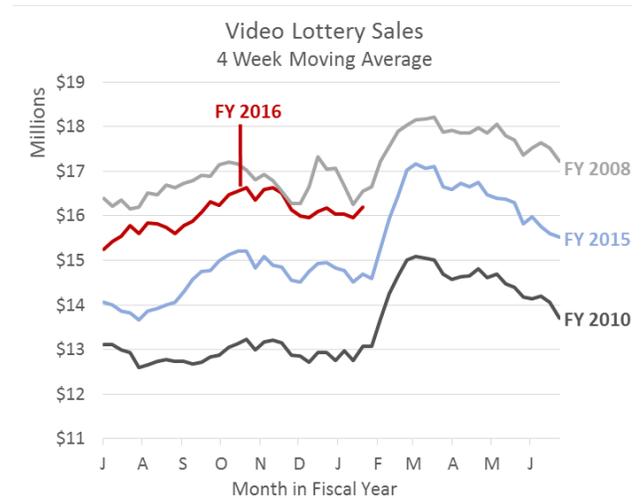
The first, during the housing boom era, followed the implementation of line games back in 2005. Not only was video lottery new to the marketplace and experienced somewhat of a novelty factor intrigue from consumers, it also coincided with an economic expansion. Growth in the early years of line games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

Last year (FY2015) marked a new phase in Oregon video lottery history with the capital replacement plan. During the past year and throughout this biennium, Lottery will replace the 12,000 existing video lottery terminals throughout the state, some of which will be nine years old when they are replaced. Due to advancements in technology, like a lot of industries, the current machines are becoming obsolete in the marketplace. This replacement plan is expected to cost approximately \$215 million over four years, of which Lottery will self-fund \$85 million. The remaining \$130 million will be deducted from Lottery earnings prior to being transferred for general revenue purposes. The biennial impact of the replacement plan was \$71.2 million in 2013-15, and \$59.2 million in 2015-17, or about 5 percent of revenues available to transfer.

In terms of the new video lottery terminals, the baseline outlook has assumed that older machines would be replaced on a regular basis, given the wear and tear on the machines over time and as technology improves. Clearly this has not been the case, and may be one contributing factor to slow sales growth in recent years. As such, the baseline forecast had been taking more of a wait and see approach to the new machines in terms of



the longer-run sales outlook. However, 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. The second wave – one more new terminal in each retailer – is partially complete today.

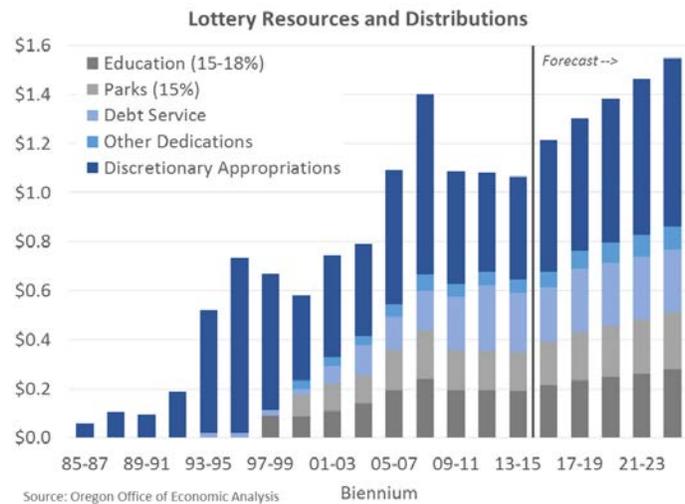
Not only are these trends and impacts seen in the statewide sales figures, they are nearly uniform across the state by region, albeit with different timing as the new terminals were installed at different times depending upon the location. Even in some of Oregon’s hardest hit counties, those that have yet to full partake in the economic recovery, growth in video lottery sales was roughly 10 percent over the year following the roll-out of the new terminals.

While sales remain strong, expectations are not for double digit growth forever. Growth will slow moving forward. Exactly how strong and how long the initial sales bump lasts are still open ended questions at this time.

Another issue to watch is the fact that nearly all other gaming markets are seeing gains over the past year as well. Given this near-universal increase, albeit to varying degrees, it suggests a broader factor influencing sales, such as low gasoline prices. While consumers have saved much of their gas price savings in the past year, it appears one place they are spending more is on a very discretionary item: gaming.

Given that for much of the past 6 years consumers have remained cautious with their disposable income, the broader gaming industry has seen relatively flat sales (see our report *Betting the Minimum*¹²), the industry is extremely competitive and the uptick in sales recently is the first real signs of life in years, the current forecast builds in a largely one-time novelty factor increase in Oregon video lottery sales.

Such an outlook does leave room for both upside and downside risks. Should the combination of a stronger economy and the new terminals unlock permanently higher sales over a longer period, instead of one-time novelty factor bump, then the forecast will need to be revised up. Possibly considerably so. However, sales growth has been lackluster to disappointing across the country until just the past 6-12 months.



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

¹² <http://oregoneconomicanalysis.com/2014/10/09/betting-the-minimum-gaming-in-the-u-s-and-state-revenues/>

Budgetary Reserves

The state currently administers two general reserve accounts, the Oregon Rainy Day Fund¹³ (ORDF) and the Education Stability Fund¹⁴ (ESF). This section updates balances and recalculates the outlook for these funds based on the September revenue forecast.

As of this forecast, the two reserve funds currently total a combined \$469.9 million. Additionally there is a projected General Fund ending balance for this biennium of \$319 million, bringing effective reserves to nearly \$790 million, or about 4.4 percent of current biennium’s revenue.

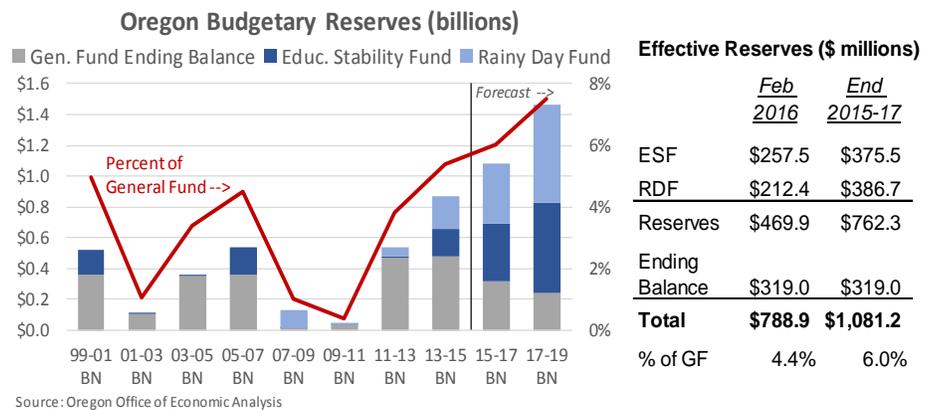
The forecast for the ORDF includes two deposits for this biennium. The first, \$158.3 million, is related to the General Fund ending balance from last biennium (2013-15) and the second, \$10.5 million, due to the increased corporate taxes from Measure 67. This bring the projected ORDF ending balance at the end of 2015-17 to \$386.7 million.

The forecast calls for \$191.9 million in deposits into the ESF in 2015-17 based on the current Lottery forecast. This would bring the ESF balance to \$375.5 million at the end of the current biennium.

Together, the ORDF and ESF are projected to have a combined balance of \$762.3 million at the close of the 2015-17 biennium.

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. (This figure is based on a one standard deviation change in revenues. Larger reserves would be needed to insure against a more severe recession.) 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.



¹³ 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.

¹⁴ 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.

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 has dropped further to 20th between 2010 and 2014 lagging behind all of the neighboring states. 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, Oregon's population increased at a slow pace in the recent past. However, Oregon's population growth in 2014 rebounded nicely and ranked 13th fastest in the nation. Based on the current forecast, Oregon's population will reach 4.35 million in the year 2022 with an annual rate of growth of 1.17 percent between 2014 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 will increase gradually and will reach 79 percent by the end of 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 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 2014-2022. 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 3.9 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 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. 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 will dissipate. An unprecedented fast pace of growth of population in this age group begins as the baby-boom generation starts to mature into 75-84 age group. The oldest elderly (aged 85+) will continue to grow at a moderately 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 1.5 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 1.5 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 and 2011-2013 postcensal totals from the

Population Research Center, Portland State University. The numbers of births and deaths through 2013 are from Oregon's Center for Health Statistics.

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 2014 and 2022 is expected to remain in the range of 36,600 to 39,300, averaging 37,200 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 is expected a gradual recovery in the future. 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. As Oregon's economy gets better, net migration and population growth will increase. However, 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.

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Table A.1 – Employment Forecast Tracking

Total Nonfarm Employment, 4th quarter 2015

(Employment in thousands, Annualized Percent Change)

	Preliminary Estimate		Forecast		Forecast Error		Y/Y Change
	level	% ch	level	% ch	level	%	% ch
Total Nonfarm	1,797.0	3.0	1,791.0	2.5	5.9	0.3	3.1
Total Private	1,492.7	3.1	1,487.1	2.6	5.6	0.4	3.3
Mining and Logging	7.6	4.3	7.8	5.4	(0.1)	(1.9)	(1.1)
Construction	83.9	7.3	82.8	3.2	1.1	1.3	4.2
Manufacturing	186.7	1.0	186.4	0.5	0.2	0.1	2.7
Durable Goods	130.6	0.4	130.6	0.3	0.0	0.0	2.1
Wood Product	22.8	5.0	22.8	3.1	(0.1)	(0.3)	3.0
Metals and Machinery	36.9	0.4	37.0	0.7	(0.1)	(0.3)	1.8
Computer and Electronic Product	37.4	(1.2)	37.2	(0.6)	0.2	0.6	1.8
Transportation Equipment	12.5	(3.0)	12.5	(5.5)	0.0	0.2	3.8
Other Durable Goods	20.9	0.7	21.0	1.6	(0.1)	(0.2)	1.3
Nondurable Goods	56.1	2.5	55.9	0.9	0.2	0.4	4.1
Food	28.0	1.0	28.1	0.4	(0.1)	(0.2)	2.4
Other Nondurable Goods	28.1	4.0	27.8	1.5	0.3	1.0	5.9
Trade, Transportation & Utilities	337.0	1.4	338.3	2.1	(1.3)	(0.4)	2.3
Retail Trade	204.1	1.6	204.6	2.6	(0.5)	(0.2)	2.8
Wholesale Trade	73.9	0.8	74.2	1.2	(0.3)	(0.4)	1.4
Transportation, Warehousing & Utilities	59.0	1.3	59.5	1.5	(0.5)	(0.9)	1.9
Information	33.9	1.6	33.4	2.3	0.5	1.5	5.3
Financial Activities	94.7	3.3	94.0	2.5	0.7	0.8	2.2
Professional & Business Services	231.9	5.2	230.7	4.2	1.3	0.5	3.6
Educational & Health Services	262.2	3.8	260.0	2.5	2.1	0.8	4.2
Educational Services	36.1	5.3	35.1	0.8	0.9	2.6	3.9
Health Services	226.1	3.5	224.9	2.8	1.2	0.5	4.2
Leisure and Hospitality	193.6	3.1	193.3	3.7	0.3	0.2	4.3
Other Services	61.2	3.2	60.5	1.8	0.8	1.3	2.8
Government	304.3	2.7	303.9	2.2	0.3	0.1	2.4
Federal	27.8	0.7	27.9	(0.4)	(0.1)	(0.5)	0.4
State	87.2	(1.8)	88.7	2.1	(1.5)	(1.7)	2.0
State Education	33.5	5.1	32.6	(3.1)	0.9	2.8	2.5
Local	189.3	5.1	187.3	2.6	2.0	1.1	2.9
Local Education	97.9	3.1	97.3	2.9	0.6	0.6	2.7

Table A.2 – Short-Term Oregon Economic Summary

	Quarterly					Annual					
	2015:4	2016:1	2016:2	2016:3	2016:4	2014	2015	2016	2017	2018	2019
Personal Income (\$ billions)											
Nominal Personal Income	176.6	178.9	181.6	184.4	187.5	163.7	173.1	183.1	195.3	207.9	219.7
% change	5.5	5.3	6.0	6.4	6.9	5.7	5.8	5.8	6.7	6.5	5.7
Real Personal Income (base year=2005)	160.9	163.1	164.9	166.3	168.2	150.0	158.2	165.7	173.3	180.6	187.0
% change	5.4	5.7	4.4	3.5	4.6	4.2	5.4	4.7	4.6	4.2	3.5
Nominal Wages and Salaries	92.7	94.4	96.0	97.7	99.5	85.1	90.4	96.9	104.0	110.9	117.0
% change	7.4	7.5	6.9	7.3	7.7	6.1	6.3	7.1	7.3	6.6	5.5
Other Indicators											
Per Capita Income (\$1,000)	43.7	44.2	44.7	45.2	45.8	41.2	43.0	45.0	47.4	49.9	52.1
% change	4.3	4.1	4.7	4.8	5.7	4.5	4.4	4.5	5.4	5.2	4.5
Average Wage rate (\$1,000)	51.0	51.6	52.1	52.7	53.3	48.9	50.3	52.4	54.8	57.2	59.6
% change	4.3	4.1	4.4	4.4	4.7	3.3	2.9	4.2	4.6	4.5	4.1
Population (Millions)	4.0	4.1	4.1	4.1	4.1	3.97	4.02	4.07	4.12	4.17	4.22
% change	1.2	1.1	1.3	1.5	1.1	1.1	1.3	1.3	1.2	1.2	1.2
Housing Starts (Thousands)	18.5	17.1	17.6	18.1	19.3	15.6	15.9	18.0	21.1	22.7	23.1
% change	70.0	(27.6)	12.2	13.3	26.8	9.3	2.0	13.4	17.2	7.4	1.8
Unemployment Rate	5.8	5.7	5.6	5.6	5.5	7.0	5.8	5.6	5.4	5.6	5.6
Point Change	(0.3)	(0.1)	(0.1)	0.0	(0.1)	(0.8)	(1.2)	(0.2)	(0.2)	0.1	0.0
Employment (Thousands)											
Total Nonfarm	1,797.0	1,810.5	1,820.8	1,832.7	1,845.3	1,721.4	1,778.7	1,827.3	1,874.6	1,912.6	1,937.8
% change	3.0	3.0	2.3	2.6	2.8	2.8	3.3	2.7	2.6	2.0	1.3
Private Nonfarm	1,492.7	1,503.3	1,512.2	1,523.0	1,534.4	1,427.5	1,477.3	1,518.2	1,560.9	1,594.7	1,616.0
% change	3.1	2.9	2.4	2.9	3.0	3.0	3.5	2.8	2.8	2.2	1.3
Construction	83.9	84.9	85.5	86.1	87.0	80.1	82.7	85.9	88.2	89.7	90.2
% change	7.3	5.0	2.9	2.9	4.2	8.0	3.2	3.9	2.7	1.6	0.6
Manufacturing	186.7	187.4	187.6	187.8	188.4	179.4	185.7	187.8	189.9	192.0	193.2
% change	1.0	1.5	0.5	0.4	1.3	2.5	3.6	1.1	1.1	1.1	0.6
Durable Manufacturing	130.6	131.0	131.1	131.1	131.5	126.1	130.1	131.2	132.6	134.2	134.7
% change	0.4	1.2	0.5	(0.0)	1.1	2.3	3.2	0.8	1.1	1.2	0.4
Wood Product Manufacturing	22.8	22.9	22.8	22.9	23.0	22.0	22.5	22.9	23.2	23.6	23.5
% change	5.0	1.3	(0.1)	1.2	1.2	4.0	2.4	1.7	1.1	2.1	(0.6)
High Tech Manufacturing	37.4	37.5	37.4	37.1	37.2	36.5	37.5	37.3	37.6	37.9	37.8
% change	(1.2)	0.6	(0.9)	(2.9)	1.1	(0.4)	2.7	(0.4)	0.7	0.8	(0.3)
Transportation Equipment	12.5	12.5	12.6	12.6	12.7	11.5	12.4	12.6	12.8	13.0	13.0
% change	(3.0)	1.4	1.6	1.3	1.9	5.7	8.4	1.4	1.7	1.7	(0.1)
Nondurable Manufacturing	56.1	56.4	56.5	56.7	56.9	53.3	55.6	56.6	57.3	57.8	58.5
% change	2.5	2.2	0.5	1.3	1.8	2.9	4.4	1.8	1.2	0.8	1.3
Private nonmanufacturing	1,306.0	1,315.9	1,324.6	1,335.2	1,346.0	1,248.1	1,291.6	1,330.4	1,371.0	1,402.7	1,422.8
% change	3.4	3.1	2.7	3.2	3.3	3.1	3.5	3.0	3.0	2.3	1.4
Retail Trade	204.1	205.7	206.8	208.2	209.5	196.3	202.6	207.6	212.7	216.7	220.1
% change	1.6	3.2	2.2	2.6	2.7	2.4	3.2	2.5	2.5	1.9	1.6
Wholesale Trade	73.9	74.5	74.9	75.4	76.1	72.4	73.5	75.2	77.1	78.0	78.8
% change	0.8	3.4	2.1	2.7	3.7	1.3	1.4	2.4	2.4	1.2	1.0
Information	33.9	34.0	34.2	34.4	34.6	32.1	33.3	34.3	35.1	35.8	36.6
% change	1.6	1.2	2.3	2.3	2.3	(0.4)	3.7	2.9	2.3	2.1	2.2
Professional and Business Services	231.9	235.1	236.7	239.6	242.8	219.7	228.9	238.6	252.6	265.7	270.3
% change	5.2	5.6	2.8	5.0	5.3	4.9	4.2	4.2	5.9	5.2	1.7
Health Services	226.1	227.5	228.8	230.1	231.2	213.9	222.8	229.4	233.7	237.9	241.6
% change	3.5	2.5	2.4	2.3	1.9	2.5	4.2	2.9	1.9	1.8	1.6
Leisure and Hospitality	193.6	195.2	197.3	199.4	201.1	182.9	191.3	198.3	204.6	208.0	211.5
% change	3.1	3.4	4.4	4.3	3.5	3.6	4.6	3.6	3.2	1.7	1.7
Government	304.3	307.2	308.6	309.7	310.9	293.9	301.4	309.1	313.7	317.9	321.8
% change	2.7	3.9	1.8	1.5	1.5	1.8	2.5	2.6	1.5	1.3	1.2

Table A.3 – Oregon Economic Forecast Change

Oregon Forecast Change (Current vs. Last)

	Quarterly					Annual					
	2015:4	2016:1	2016:2	2016:3	2016:4	2014	2015	2016	2017	2018	2019
Personal Income (\$ billions)											
Nominal Personal Income	176.6	178.9	181.6	184.4	187.5	163.7	173.1	183.1	195.3	207.9	219.7
% change	(0.2)	(0.5)	(0.5)	(0.7)	(0.8)	0.0	0.0	(0.6)	(1.0)	(0.9)	(0.9)
Real Personal Income (base year=2005)	160.9	163.1	164.9	166.3	168.2	150.0	158.2	165.7	173.3	180.6	187.0
% change	(0.4)	(0.0)	0.0	(0.4)	(0.5)	0.0	(0.0)	(0.2)	(0.6)	(0.5)	(0.5)
Nominal Wages and Salaries	92.7	94.4	96.0	97.7	99.5	85.1	90.4	96.9	104.0	110.9	117.0
% change	0.4	0.3	0.1	(0.1)	(0.1)	0.0	0.3	0.1	(0.1)	(0.0)	(0.0)
Other Indicators											
Per Capita Income (\$1,000)	43.7	44.2	44.7	45.2	45.8	41.2	43.0	45.0	47.4	49.9	52.1
% change	(0.2)	(0.5)	(0.5)	(0.7)	(0.8)	0.0	0.0	(0.6)	(1.0)	(0.9)	(0.9)
Average Wage rate (\$1,000)	51.0	51.6	52.1	52.7	53.3	48.9	50.3	52.4	54.8	57.2	59.6
% change	0.1	(0.1)	(0.1)	(0.2)	(0.1)	(0.0)	0.2	(0.1)	(0.0)	0.0	0.1
Population (Millions)	4.04	4.05	4.06	4.1	4.1	3.97	4.02	4.07	4.12	4.17	4.22
% 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)	18.5	17.1	17.6	18.1	19.3	15.6	15.9	18.0	21.1	22.7	23.1
% change	2.9	(7.8)	(6.8)	(5.2)	(5.1)	(0.1)	1.1	(6.2)	(2.1)	(0.5)	0.1
Unemployment Rate	5.8	5.7	5.6	5.6	5.5	7.0	5.8	5.6	5.4	5.6	5.6
Point Change	(0.2)	(0.2)	(0.2)	(0.1)	(0.1)	0.0	(0.0)	(0.2)	0.0	0.0	0.0
Employment (Thousands)											
Total Nonfarm	1,797.0	1,810.5	1,820.8	1,832.7	1,845.3	1,721.4	1,778.7	1,827.3	1,874.6	1,912.6	1,937.8
% change	0.3	0.4	0.3	0.1	0.0	0.0	0.2	0.2	(0.1)	(0.1)	(0.1)
Private Nonfarm	1,492.7	1,503.3	1,512.2	1,523.0	1,534.4	1,427.5	1,477.3	1,518.2	1,560.9	1,594.7	1,616.0
% change	0.4	0.3	0.2	0.0	(0.1)	0.0	0.2	0.1	(0.2)	(0.2)	(0.2)
Construction	83.9	84.9	85.5	86.1	87.0	80.1	82.7	85.9	88.2	89.7	90.2
% change	1.3	1.5	0.9	0.6	0.9	0.0	0.4	1.0	0.5	0.5	0.5
Manufacturing	186.7	187.4	187.6	187.8	188.4	179.4	185.7	187.8	189.9	192.0	193.2
% change	0.1	0.2	0.2	(0.0)	(0.1)	0.0	0.0	0.1	(0.3)	(0.3)	(0.3)
Durable Manufacturing	130.6	131.0	131.1	131.1	131.5	126.1	130.1	131.2	132.6	134.2	134.7
% change	0.0	0.1	0.1	(0.2)	(0.4)	(0.0)	(0.0)	(0.1)	(0.7)	(0.5)	(0.4)
Wood Product Manufacturing	22.8	22.9	22.8	22.9	23.0	22.0	22.5	22.9	23.2	23.6	23.5
% change	(0.3)	(0.2)	(0.1)	(0.6)	(0.7)	(0.0)	(0.3)	(0.4)	(1.4)	(1.3)	(0.7)
High Tech Manufacturing	37.4	37.5	37.4	37.1	37.2	36.5	37.5	37.3	37.6	37.9	37.8
% change	0.6	1.0	1.0	0.5	0.0	0.0	0.3	0.6	(0.0)	1.3	1.3
Transportation Equipment	12.5	12.5	12.6	12.6	12.7	11.5	12.4	12.6	12.8	13.0	13.0
% change	0.2	(0.4)	0.6	0.4	0.6	(0.0)	(0.1)	0.3	1.1	1.5	2.2
Nondurable Manufacturing	56.1	56.4	56.5	56.7	56.9	53.3	55.6	56.6	57.3	57.8	58.5
% change	0.4	0.6	0.5	0.6	0.7	0.0	0.1	0.6	0.7	0.2	(0.2)
Private nonmanufacturing	1,306.0	1,315.9	1,324.6	1,335.2	1,346.0	1,248.1	1,291.6	1,330.4	1,371.0	1,402.7	1,422.8
% change	0.4	0.3	0.2	0.0	(0.1)	0.0	0.2	0.1	(0.2)	(0.2)	(0.2)
Retail Trade	204.1	205.7	206.8	208.2	209.5	196.3	202.6	207.6	212.7	216.7	220.1
% change	(0.2)	(0.1)	(0.4)	(0.5)	(0.6)	0.0	(0.0)	(0.4)	(0.7)	(1.2)	(1.2)
Wholesale Trade	73.9	74.5	74.9	75.4	76.1	72.4	73.5	75.2	77.1	78.0	78.8
% change	(0.4)	(0.1)	0.1	0.2	0.2	(0.0)	(0.2)	0.1	0.2	(0.2)	(0.1)
Information	33.9	34.0	34.2	34.4	34.6	32.1	33.3	34.3	35.1	35.8	36.6
% change	1.5	1.2	1.3	1.3	1.3	(0.0)	1.0	1.3	1.0	0.7	1.1
Professional and Business Services	231.9	235.1	236.7	239.6	242.8	219.7	228.9	238.6	252.6	265.7	270.3
% change	0.5	0.8	0.2	(0.2)	(0.5)	0.0	0.3	0.0	(0.5)	0.0	0.2
Health Services	226.1	227.5	228.8	230.1	231.2	213.9	222.8	229.4	233.7	237.9	241.6
% change	0.5	0.5	0.6	0.4	0.3	(0.0)	0.2	0.5	0.2	0.7	0.9
Leisure and Hospitality	193.6	195.2	197.3	199.4	201.1	182.9	191.3	198.3	204.6	208.0	211.5
% change	0.2	(0.2)	(0.2)	(0.3)	(0.7)	0.0	0.1	(0.4)	(0.8)	(1.1)	(1.2)
Government	304.3	307.2	308.6	309.7	310.9	293.9	301.4	309.1	313.7	317.9	321.8
% change	0.1	0.6	0.6	0.6	0.6	(0.0)	0.0	0.6	0.6	0.6	0.5

Table A.4 – Annual Economic Forecast

Mar 2016 - Personal Income

(Billions of Current Dollars)

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Total Personal Income*												
Oregon	145.1	152.4	154.9	163.7	173.1	183.1	195.3	207.9	219.7	231.5	243.0	254.7
% Ch	5.6	5.0	1.6	5.7	5.8	5.8	6.7	6.5	5.7	5.4	4.9	4.8
U.S.	13,254.5	13,915.1	14,068.4	14,694.2	15,359.7	15,998.1	16,825.4	17,707.3	18,590.8	19,505.3	20,424.1	21,374.7
% Ch	6.2	5.0	1.1	4.4	4.5	4.2	5.2	5.2	5.0	4.9	4.7	4.7
Wage and Salary												
Oregon	74.0	77.2	80.1	85.1	90.4	96.9	104.0	110.9	117.0	123.2	129.2	135.5
% Ch	4.3	4.2	3.9	6.1	6.3	7.1	7.3	6.6	5.5	5.3	4.9	4.8
U.S.	6,633.2	6,930.3	7,114.4	7,477.8	7,839.8	8,220.0	8,656.2	9,101.4	9,549.6	10,022.7	10,500.8	10,989.8
% Ch	4.0	4.5	2.7	5.1	4.8	4.8	5.3	5.1	4.9	5.0	4.8	4.7
Other Labor Income												
Oregon	18.2	19.7	20.1	19.8	20.6	21.7	23.0	24.3	25.7	27.0	28.2	29.5
% Ch	2.4	8.5	2.0	(1.6)	3.9	5.4	6.1	5.9	5.6	5.1	4.5	4.4
U.S.	1,142.0	1,165.3	1,197.8	1,224.0	1,264.3	1,313.8	1,374.6	1,427.2	1,481.1	1,535.3	1,588.3	1,643.0
% Ch	2.5	2.0	2.8	2.2	3.3	3.9	4.6	3.8	3.8	3.7	3.5	3.4
Nonfarm Proprietor's Income												
Oregon	10.1	10.7	11.1	11.8	12.3	13.2	14.1	15.0	15.8	16.7	17.6	18.5
% Ch	3.2	6.0	3.3	5.9	5.0	6.5	7.3	6.0	5.6	5.7	5.4	5.1
U.S.	1,068.1	1,179.8	1,196.3	1,268.5	1,327.4	1,382.2	1,456.4	1,514.8	1,574.4	1,651.8	1,730.9	1,812.5
% Ch	8.2	10.5	1.4	6.0	4.6	4.1	5.4	4.0	3.9	4.9	4.8	4.7
Dividend, Interest and Rent												
Oregon	27.9	30.3	30.1	31.4	32.7	34.1	36.5	39.3	42.0	44.4	46.8	48.8
% Ch	10.7	8.5	(0.4)	4.2	4.1	4.4	6.9	7.7	6.7	5.8	5.3	4.4
U.S.	2,399.2	2,649.1	2,623.8	2,728.4	2,839.8	2,909.6	3,067.2	3,291.4	3,498.4	3,680.4	3,850.7	4,024.4
% Ch	12.0	10.4	(1.0)	4.0	4.1	2.5	5.4	7.3	6.3	5.2	4.6	4.5
Transfer Payments												
Oregon	29.7	29.7	30.8	33.5	35.8	37.6	39.4	41.5	43.7	45.9	48.1	50.7
% Ch	1.5	(0.0)	3.7	8.8	6.9	4.8	4.9	5.3	5.2	5.1	4.9	5.3
U.S.	2,274.3	2,329.2	2,406.1	2,538.3	2,645.9	2,772.3	2,888.5	3,018.7	3,176.8	3,349.8	3,522.5	3,708.2
% Ch	1.7	2.4	3.3	5.5	4.2	4.8	4.2	4.5	5.2	5.4	5.2	5.3
Contributions for Social Security												
Oregon	11.6	12.1	14.2	14.9	15.7	16.9	18.1	19.3	20.4	21.6	22.8	24.0
% Ch	(7.5)	4.8	16.9	5.4	5.4	7.3	7.1	6.5	6.2	5.8	5.6	5.1
U.S.	423.9	437.2	579.4	611.8	637.1	666.3	703.0	742.1	785.5	829.5	874.3	920.6
% Ch	(17.6)	3.1	32.5	5.6	4.1	4.6	5.5	5.6	5.8	5.6	5.4	5.3
Residence Adjustment												
Oregon	(3.4)	(3.6)	(3.6)	(3.6)	(3.8)	(3.9)	(4.1)	(4.2)	(4.3)	(4.4)	(4.4)	(4.5)
% Ch	9.3	4.7	0.6	0.0	5.6	3.1	3.4	2.8	2.0	2.1	2.0	1.8
Farm Proprietor's Income												
Oregon	0.1	0.5	0.4	0.7	0.8	0.5	0.4	0.4	0.3	0.3	0.3	0.2
% Ch	(416.4)	269.3	(24.7)	86.0	13.6	(29.7)	(16.9)	(12.8)	(13.5)	(9.9)	(3.4)	(15.6)
Per Capita Income (Thousands of \$)												
Oregon	37.6	39.2	39.4	41.2	43.0	45.0	47.4	49.9	52.1	54.3	56.3	58.4
% Ch	5.1	4.3	0.7	4.5	4.4	4.5	5.4	5.2	4.5	4.2	3.8	3.6
U.S.	42.4	44.2	44.4	46.0	47.7	49.3	51.4	53.7	55.9	58.2	60.5	62.8
% Ch	5.4	4.2	0.4	3.7	3.7	3.3	4.3	4.4	4.2	4.1	3.9	3.9

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

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

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Total Nonfarm												
Oregon	1,619.8	1,640.0	1,674.1	1,721.4	1,778.7	1,827.3	1,874.6	1,912.6	1,937.8	1,960.4	1,977.5	1,997.1
% Ch	1.1	1.2	2.1	2.8	3.3	2.7	2.6	2.0	1.3	1.2	0.9	1.0
U.S.	131.8	134.1	136.4	139.0	141.9	144.3	146.2	147.9	149.4	151.0	152.2	153.3
% Ch	1.2	1.7	1.7	1.9	2.1	1.7	1.3	1.2	1.0	1.1	0.8	0.7
Private Nonfarm												
Oregon	1,324.8	1,349.0	1,385.3	1,427.5	1,477.3	1,518.2	1,560.9	1,594.7	1,616.0	1,633.3	1,648.3	1,664.3
% Ch	1.8	1.8	2.7	3.0	3.5	2.8	2.8	2.2	1.3	1.1	0.9	1.0
U.S.	109.8	112.2	114.5	117.2	120.0	122.3	124.0	125.5	126.8	128.1	129.3	130.3
% Ch	1.8	2.2	2.1	2.3	2.4	1.9	1.4	1.2	1.1	1.0	0.9	0.8
Mining and Logging												
Oregon	7.0	7.2	7.6	7.7	7.7	7.8	8.0	8.2	8.2	8.3	8.4	8.4
% Ch	4.6	3.2	4.8	2.0	(0.2)	1.6	2.6	1.7	0.8	0.7	0.9	0.7
U.S.	0.8	0.8	0.9	0.9	0.8	0.7	0.8	0.8	0.8	0.8	0.9	0.9
% Ch	11.8	7.6	1.8	3.8	(6.6)	(11.1)	2.4	4.3	3.2	2.8	2.7	2.8
Construction												
Oregon	68.6	69.9	74.1	80.1	82.7	85.9	88.2	89.7	90.2	90.7	91.3	92.3
% Ch	1.4	1.8	6.1	8.0	3.2	3.9	2.7	1.6	0.6	0.5	0.7	1.2
U.S.	5.5	5.6	5.9	6.1	6.4	6.8	7.1	7.4	7.6	7.8	7.9	8.0
% Ch	0.2	2.1	3.7	4.8	4.2	5.6	5.1	3.6	2.9	2.5	2.0	1.7
Manufacturing												
Oregon	168.1	171.9	175.0	179.4	185.7	187.8	189.9	192.0	193.2	194.5	196.5	198.1
% Ch	2.6	2.2	1.8	2.5	3.6	1.1	1.1	1.1	0.6	0.7	1.0	0.8
U.S.	11.7	11.9	12.0	12.2	12.3	12.3	12.4	12.5	12.6	12.7	12.8	12.9
% Ch	1.7	1.7	0.8	1.4	1.1	(0.1)	0.9	0.9	1.0	0.8	0.7	0.2
Durable Manufacturing												
Oregon	118.6	121.6	123.2	126.1	130.1	131.2	132.6	134.2	134.7	135.3	136.6	137.7
% Ch	3.2	2.5	1.3	2.3	3.2	0.8	1.1	1.2	0.4	0.4	1.0	0.8
U.S.	7.3	7.5	7.5	7.7	7.8	7.8	7.8	7.9	8.0	8.1	8.2	8.2
% Ch	2.9	2.7	1.0	1.8	1.4	(0.4)	1.1	1.3	1.0	0.8	1.0	0.4
Wood Products												
Oregon	19.3	19.8	21.1	22.0	22.5	22.9	23.2	23.6	23.5	23.5	23.9	24.2
% Ch	(3.7)	2.6	7.0	4.0	2.4	1.7	1.1	2.1	(0.6)	(0.0)	1.6	1.5
U.S.	0.3	0.3	0.4	0.4	0.4	0.4	0.4	0.5	0.5	0.5	0.5	0.5
% Ch	(1.5)	0.7	4.2	5.3	2.1	4.9	7.7	6.2	2.8	3.5	3.1	2.2
Metal and Machinery												
Oregon	33.3	34.7	35.4	35.9	36.9	37.3	37.6	38.0	38.4	39.0	39.7	40.1
% Ch	6.9	4.2	2.0	1.5	2.5	1.1	1.0	1.0	1.2	1.5	1.7	1.2
U.S.	2.8	2.9	2.9	3.0	3.0	2.9	2.9	3.0	3.0	3.1	3.1	3.2
% Ch	5.7	4.2	0.7	1.8	0.1	(2.6)	0.3	1.3	2.2	1.7	1.9	1.6
Computer and Electronic Products												
Oregon	36.4	37.0	36.6	36.5	37.5	37.3	37.6	37.9	37.8	37.7	37.8	37.9
% Ch	4.1	1.6	(1.0)	(0.4)	2.7	(0.4)	0.7	0.8	(0.3)	(0.1)	0.0	0.4
U.S.	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.2	1.2
% Ch	0.8	(1.3)	(2.2)	(1.4)	0.5	0.5	3.6	2.6	1.1	0.8	0.7	0.8
Transportation Equipment												
Oregon	10.7	11.1	10.9	11.5	12.4	12.6	12.8	13.0	13.0	12.9	12.9	12.8
% Ch	5.2	3.4	(2.3)	5.7	8.4	1.4	1.7	1.7	(0.1)	(1.3)	0.3	(1.0)
U.S.	1.4	1.5	1.5	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.5
% Ch	3.6	5.8	3.3	3.6	3.1	0.7	(0.1)	(1.0)	(1.6)	(1.0)	(0.8)	(2.9)
Other Durables												
Oregon	18.9	19.1	19.2	20.2	20.9	21.1	21.4	21.6	21.9	22.2	22.4	22.7
% Ch	1.6	1.0	0.8	5.4	3.1	1.0	1.3	1.3	1.4	1.0	1.1	1.2
U.S.	2.0	2.0	2.0	2.1	2.1	2.2	2.2	2.3	2.3	2.3	2.3	2.4
% Ch	0.0	0.7	1.6	2.3	2.3	1.3	2.8	2.2	0.9	1.0	1.2	0.8
Nondurable Manufacturing												
Oregon	49.5	50.3	51.8	53.3	55.6	56.6	57.3	57.8	58.5	59.2	59.9	60.4
% Ch	1.2	1.5	3.0	2.9	4.4	1.8	1.2	0.8	1.3	1.2	1.0	0.9
U.S.	4.5	4.5	4.5	4.5	4.5	4.6	4.6	4.6	4.6	4.7	4.7	4.7
% Ch	(0.3)	0.1	0.3	0.7	0.7	0.4	0.4	0.3	0.9	0.6	0.2	(0.3)
Food Manufacturing												
Oregon	24.2	24.8	25.9	26.9	27.9	28.3	28.9	29.1	29.6	29.9	30.2	30.5
% Ch	1.8	2.4	4.3	4.0	3.6	1.6	1.8	0.9	1.4	1.2	1.0	1.0
U.S.	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.6	1.6	1.6	1.6	1.7
% Ch	0.5	0.7	0.3	0.5	0.8	1.2	2.2	1.4	1.9	1.8	1.6	1.2
Other Nondurable												
Oregon	25.3	25.4	25.9	26.3	27.7	28.3	28.5	28.6	29.0	29.3	29.6	29.9
% Ch	0.7	0.5	1.7	1.8	5.3	2.0	0.6	0.7	1.2	1.1	1.1	0.8
U.S.	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
% Ch	(0.6)	(0.2)	0.3	0.8	0.5	(0.3)	(0.3)	0.2	0.5	(0.2)	(0.7)	(1.1)
Trade, Transportation, and Utilities												
Oregon	305.9	310.0	318.0	325.6	334.9	342.5	351.3	357.8	363.0	366.6	369.2	371.2
% Ch	1.2	1.3	2.6	2.4	2.9	2.3	2.6	1.8	1.5	1.0	0.7	0.6
U.S.	25.1	25.5	25.9	26.4	26.9	27.3	27.5	27.7	27.8	27.8	27.9	27.8
% Ch	1.7	1.6	1.5	2.0	2.0	1.4	0.8	0.6	0.4	0.2	0.1	(0.1)

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

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Retail Trade												
Oregon	184.8	187.1	191.6	196.3	202.6	207.6	212.7	216.7	220.1	222.2	224.0	225.7
% Ch	0.9	1.2	2.4	2.4	3.2	2.5	2.5	1.9	1.6	1.0	0.8	0.8
U.S.	14.7	14.8	15.1	15.4	15.7	15.9	15.9	15.8	15.8	15.8	15.7	15.7
% Ch	1.5	1.1	1.6	1.9	2.0	1.4	(0.2)	(0.3)	(0.1)	(0.1)	(0.2)	(0.4)
Wholesale Trade												
Oregon	67.7	68.8	71.5	72.4	73.5	75.2	77.1	78.0	78.8	79.7	80.2	80.5
% Ch	1.0	1.6	3.9	1.3	1.4	2.4	2.4	1.2	1.0	1.1	0.7	0.4
U.S.	5.5	5.7	5.7	5.8	5.9	6.0	6.1	6.2	6.3	6.3	6.4	6.4
% Ch	1.7	2.2	1.2	1.6	1.5	1.4	1.7	1.5	1.3	1.0	0.7	0.6
Transportation and Warehousing, and Utilities												
Oregon	53.4	54.1	54.9	56.9	58.8	59.7	61.6	63.1	64.2	64.8	64.9	65.0
% Ch	2.3	1.3	1.5	3.6	3.4	1.4	3.2	2.4	1.8	0.9	0.3	0.0
U.S.	4.9	5.0	5.0	5.2	5.3	5.4	5.6	5.7	5.7	5.8	5.8	5.8
% Ch	2.3	2.3	1.6	2.8	2.8	1.4	2.8	2.2	0.8	0.5	0.2	0.1
Information												
Oregon	31.7	32.1	32.3	32.1	33.3	34.3	35.1	35.8	36.6	36.9	37.2	37.5
% Ch	(0.1)	1.5	0.4	(0.4)	3.7	2.9	2.3	2.1	2.2	0.8	0.7	0.7
U.S.	2.7	2.7	2.7	2.7	2.8	2.8	2.8	2.9	2.9	2.9	3.0	3.1
% Ch	(1.3)	0.1	1.2	1.3	1.8	0.9	0.1	1.3	1.8	1.2	2.2	1.9
Financial Activities												
Oregon	91.7	90.5	91.6	92.4	93.8	96.1	97.9	98.5	98.7	99.0	99.1	99.2
% Ch	(1.6)	(1.3)	1.2	0.9	1.6	2.5	1.8	0.6	0.2	0.3	0.1	0.1
U.S.	7.7	7.8	7.9	8.0	8.1	8.2	8.1	8.0	8.0	7.9	8.0	8.0
% Ch	0.0	1.1	1.3	1.2	1.9	0.9	(1.0)	(1.3)	(0.8)	(0.1)	0.2	0.2
Professional and Business Services												
Oregon	195.2	202.1	209.4	219.7	228.9	238.6	252.6	265.7	270.3	275.5	279.7	284.8
% Ch	3.5	3.6	3.6	4.9	4.2	4.2	5.9	5.2	1.7	1.9	1.5	1.8
U.S.	17.3	17.9	18.5	19.1	19.7	20.4	21.1	21.6	22.0	22.6	23.0	23.5
% Ch	3.6	3.5	3.3	3.1	3.4	3.2	3.6	2.5	1.8	2.4	2.0	2.2
Education and Health Services												
Oregon	234.2	237.8	242.7	248.5	258.4	265.2	269.9	274.5	278.6	282.0	285.3	289.1
% Ch	2.3	1.6	2.0	2.4	4.0	2.6	1.8	1.7	1.5	1.2	1.2	1.3
U.S.	20.2	20.7	21.1	21.5	22.1	22.7	22.9	23.2	23.5	23.8	24.0	24.2
% Ch	1.7	2.3	1.9	1.8	2.7	2.7	1.2	1.2	1.4	1.0	1.0	0.9
Educational Services												
Oregon	32.9	33.6	34.1	34.6	35.6	35.8	36.1	36.6	37.0	37.4	37.6	37.9
% Ch	3.4	2.0	1.5	1.6	2.7	0.5	1.1	1.3	1.1	1.0	0.6	0.8
U.S.	3.3	3.3	3.4	3.4	3.5	3.5	3.4	3.4	3.4	3.3	3.3	3.2
% Ch	3.1	2.8	0.4	1.9	1.4	0.2	(1.9)	(0.5)	(0.7)	(1.0)	(1.3)	(2.0)
Health Care and Social Assistance												
Oregon	201.2	204.3	208.6	213.9	222.8	229.4	233.7	237.9	241.6	244.6	247.7	251.2
% Ch	2.1	1.5	2.1	2.5	4.2	2.9	1.9	1.8	1.6	1.2	1.3	1.4
U.S.	17.0	17.4	17.7	18.1	18.6	19.2	19.5	19.8	20.2	20.4	20.7	21.0
% Ch	1.5	2.2	2.2	1.8	3.0	3.2	1.8	1.4	1.8	1.4	1.3	1.3
Leisure and Hospitality												
Oregon	165.6	170.1	176.6	182.9	191.3	198.3	204.6	208.0	211.5	213.6	215.0	216.3
% Ch	2.0	2.7	3.8	3.6	4.6	3.6	3.2	1.7	1.7	1.0	0.6	0.6
U.S.	13.4	13.8	14.3	14.7	15.2	15.5	15.6	15.9	16.0	16.2	16.3	16.4
% Ch	2.4	3.2	3.5	3.2	3.0	2.0	1.1	1.4	1.2	0.9	0.9	0.5
Other Services												
Oregon	56.8	57.3	58.0	59.1	60.5	61.8	63.3	64.6	65.6	66.1	66.7	67.3
% Ch	0.4	0.9	1.2	1.8	2.5	2.1	2.4	2.1	1.5	0.9	0.8	0.9
U.S.	5.4	5.4	5.5	5.6	5.6	5.7	5.6	5.6	5.5	5.5	5.5	5.5
% Ch	0.6	1.3	1.0	1.6	1.2	0.3	(1.3)	(0.3)	(0.4)	(0.2)	(0.2)	(0.4)
Government												
Oregon	295.0	291.0	288.8	293.9	301.4	309.1	313.7	317.9	321.8	327.1	329.2	332.9
% Ch	(1.6)	(1.4)	(0.7)	1.8	2.5	2.6	1.5	1.3	1.2	1.7	0.6	1.1
U.S.	22.1	21.9	21.8	21.9	21.9	22.0	22.2	22.4	22.6	22.9	22.8	23.0
% Ch	(1.8)	(0.8)	(0.3)	0.0	0.4	0.4	0.6	1.1	0.9	1.2	(0.2)	0.5
Federal Government												
Oregon	28.8	28.1	27.5	27.4	27.7	27.8	27.7	27.5	27.3	28.9	27.3	27.2
% Ch	(5.7)	(2.5)	(1.9)	(0.3)	1.0	0.4	(0.6)	(0.5)	(0.6)	5.6	(5.5)	(0.3)
U.S.	2.9	2.8	2.8	2.7	2.7	2.7	2.7	2.6	2.6	2.7	2.6	2.6
% Ch	(3.9)	(1.3)	(1.8)	(1.6)	0.3	(0.5)	(1.5)	(1.5)	(1.3)	4.9	(5.6)	(0.6)
State Government, Oregon												
State Total	80.6	80.1	81.0	84.1	87.4	89.0	90.7	92.1	93.3	94.3	95.2	96.1
% Ch	1.0	(0.6)	1.2	3.7	3.9	1.9	1.9	1.6	1.3	1.1	1.0	1.0
State Education	31.1	31.8	32.0	32.5	33.1	33.1	33.2	33.4	33.6	33.7	33.9	34.0
% Ch	4.6	2.1	0.7	1.4	1.9	(0.0)	0.5	0.5	0.5	0.5	0.5	0.3
Local Government, Oregon												
Local Total	185.6	182.8	180.3	182.4	186.3	192.3	195.4	198.3	201.2	204.0	206.7	209.5
% Ch	(2.1)	(1.5)	(1.4)	1.2	2.1	3.2	1.6	1.5	1.5	1.4	1.3	1.4
Local Education	97.0	95.1	93.6	94.6	96.6	99.7	101.7	103.3	104.5	105.7	106.9	108.2
% Ch	(3.3)	(1.9)	(1.6)	1.1	2.1	3.3	2.0	1.5	1.2	1.1	1.2	1.2

Mar 2016 - Other Economic Indicators

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
GDP (Bil of 2009 \$),												
Chain Weight (in billions of \$)	15,020.6	15,354.6	15,583.3	15,961.7	16,346.8	16,780.6	17,274.5	17,728.6	18,160.0	18,600.2	19,001.4	19,410.7
% Ch	1.6	2.2	1.5	2.4	2.4	2.7	2.9	2.6	2.4	2.4	2.2	2.2
Price and Wage Indicators												
GDP Implicit Price Deflator,												
Chain Weight U.S., 2009=100	103.3	105.2	106.9	108.7	109.8	111.7	113.9	116.2	118.6	121.1	123.7	126.3
% Ch	2.1	1.8	1.6	1.6	1.0	1.7	1.9	2.0	2.0	2.1	2.2	2.2
Personal Consumption Deflator,												
Chain Weight U.S., 2009=100	104.1	106.1	107.6	109.1	109.4	110.5	112.7	115.1	117.5	120.0	122.6	125.4
% Ch	2.5	1.9	1.4	1.4	0.3	1.0	2.0	2.1	2.1	2.1	2.2	2.3
CPI, Urban Consumers,												
1982-84=100												
Portland-Salem, OR-WA	224.6	229.8	235.5	241.2	243.2	246.6	252.4	258.6	264.5	270.5	277.1	283.9
% Ch	2.9	2.3	2.5	2.4	0.8	1.4	2.4	2.4	2.3	2.3	2.4	2.5
U.S.	224.9	229.6	233.0	236.7	237.0	239.9	246.0	252.6	259.1	265.5	272.4	279.8
% Ch	3.1	2.1	1.5	1.6	0.1	1.2	2.6	2.7	2.5	2.5	2.6	2.7
Oregon Average Wage												
Rate (Thous \$)	45.2	46.5	47.3	48.9	50.3	52.4	54.8	57.2	59.6	62.0	64.5	66.9
% Ch	3.2	3.0	1.6	3.3	2.9	4.2	4.6	4.5	4.1	4.1	4.0	3.8
U.S. Average Wage												
Wage Rate (Thous \$)	50.3	51.7	52.2	53.8	55.2	57.0	59.2	61.5	63.9	66.4	69.0	71.7
% Ch	2.8	2.7	0.9	3.1	2.7	3.1	4.0	3.9	3.8	3.9	4.0	3.9
Housing Indicators												
FHFA Oregon Housing Price Index												
1980 Q1=100	347.6	346.2	371.2	404.4	440.8	471.9	491.8	509.1	526.2	543.7	561.9	579.8
% Ch	(6.9)	(0.4)	7.2	8.9	9.0	7.0	4.2	3.5	3.4	3.3	3.3	3.2
FHFA National Housing Price Index												
1980 Q1=100	312.3	312.0	324.9	346.2	370.8	382.6	394.2	403.5	412.9	424.4	436.9	453.5
% Ch	(3.7)	(0.1)	4.1	6.6	7.1	3.2	3.0	2.4	2.3	2.8	3.0	3.8
Housing Starts												
Oregon (Thous)	8.0	10.8	14.3	15.6	15.9	18.0	21.1	22.7	23.1	23.5	23.8	23.6
% Ch	5.3	35.5	31.5	9.3	2.0	13.4	17.2	7.4	1.8	1.8	1.1	(0.6)
U.S. (Millions)	0.6	0.8	0.9	1.0	1.1	1.3	1.4	1.5	1.6	1.6	1.6	1.6
% Ch	4.5	28.1	18.4	7.8	10.9	14.0	12.2	6.3	3.3	2.5	0.5	0.2
Other Indicators												
Unemployment Rate (%)												
Oregon	9.4	8.8	7.8	7.0	5.8	5.6	5.4	5.6	5.6	5.5	5.4	5.5
Point Change	(1.1)	(0.7)	(1.0)	(0.8)	(1.2)	(0.2)	(0.2)	0.1	0.0	(0.2)	(0.0)	0.0
U.S.	8.9	8.1	7.4	6.2	5.3	4.9	4.9	4.9	5.0	5.0	5.0	5.1
Point Change	(0.7)	(0.9)	(0.7)	(1.2)	(0.9)	(0.4)	(0.1)	0.0	0.1	(0.0)	0.0	0.1
Industrial Production Index												
U.S, 2002 = 100	97.2	100.0	101.9	105.7	107.1	107.8	111.0	114.3	117.3	120.5	123.1	125.6
% Ch	3.0	2.8	1.9	3.7	1.3	0.6	3.0	2.9	2.6	2.8	2.1	2.0
Prime Rate (Percent)	3.3	3.3	3.3	3.3	3.3	3.9	4.9	5.9	6.3	6.3	6.3	6.3
% Ch	0.0	0.0	0.0	0.0	0.3	20.0	25.6	20.2	5.9	0.0	0.0	0.0
Population (Millions)												
Oregon	3.86	3.89	3.93	3.97	4.02	4.07	4.12	4.17	4.22	4.27	4.31	4.36
% Ch	0.6	0.7	0.9	1.1	1.3	1.3	1.2	1.2	1.2	1.1	1.1	1.1
U.S.	312.5	314.8	317.1	319.5	321.9	324.5	327.1	329.8	332.4	335.0	337.6	340.2
% Ch	0.8	0.7	0.7	0.7	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
Timber Harvest (Mil Bd Ft)												
Oregon	3,649.0	3,749.0	4,199.0	4,126.0	4,200.0	4,838.1	4,843.5	4,823.1	4,824.3	4,816.3	4,799.4	4,809.3
% Ch	13.1	2.7	12.0	(1.7)	1.8	15.2	0.1	(0.4)	0.0	(0.2)	(0.4)	0.2

APPENDIX B: REVENUE FORECAST DETAIL

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Table B.1 General Fund Revenue Statement

Table B.1

General Fund Revenue Statement -- 2015-17

	Estimate at COS 2015	Forecasts Dated: 12/1/2015			Forecasts Dated: 3/1/2016			Difference	
		2015-16	2016-17	Total 2015-17	2015-16	2016-17	Total 2015-17	03/1/2016 Less 12/1/2015	03/1/2016 Less COS
Taxes									
Personal Income Taxes	15,713,459,000	7,646,463,000	8,065,935,000	15,712,398,000	7,716,024,000	7,976,070,000	15,692,094,000	(20,304,000)	(21,365,000)
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	581,072,000	553,589,000	1,134,661,000	596,261,000	538,026,000	1,134,287,000	(374,000)	34,280,000
Rainy Day Fund Transfer (Minimum Tax)	(10,114,000)	(5,117,000)	(5,204,000)	(10,321,000)	(5,650,000)	(4,864,000)	(10,514,000)	(193,000)	(400,000)
Insurance Taxes	118,885,000	56,225,000	59,325,000	115,550,000	57,188,000	59,788,000	116,976,000	1,426,000	(1,909,000)
Estate Taxes	217,126,000	108,064,000	109,062,000	217,126,000	110,564,000	109,062,000	219,626,000	2,500,000	2,500,000
Cigarette Taxes	65,029,000	35,299,000	32,820,000	68,119,000	35,914,000	33,058,000	68,972,000	853,000	3,943,000
Other Tobacco Products Taxes	63,819,000	30,639,000	31,718,000	62,357,000	30,489,000	31,718,000	62,207,000	(150,000)	(1,612,000)
Other Taxes	1,736,000	868,000	868,000	1,736,000	868,000	868,000	1,736,000	0	0
Fines and Fees									
State Court Fees	125,978,000	60,893,000	61,079,000	121,972,000	56,807,000	59,164,000	115,971,000	(6,001,000)	(10,007,000)
Secretary of State Fees	61,627,000	31,672,000	31,923,000	63,595,000	31,672,000	31,923,000	63,595,000	0	1,968,000
Criminal Fines & Assessments	60,419,000	27,736,000	32,779,000	60,515,000	30,008,000	35,464,000	65,472,000	4,957,000	5,053,000
Securities Fees	21,859,000	11,477,000	11,480,000	22,957,000	12,702,000	12,050,000	24,752,000	1,795,000	2,893,000
Central Service Charges									
	8,152,000	4,076,000	4,076,000	8,152,000	4,076,000	4,076,000	8,152,000	0	0
Liquor Apportionment									
	273,519,000	133,972,000	139,547,000	273,519,000	130,358,000	135,679,000	266,037,000	(7,482,000)	(7,482,000)
Interest Earnings									
	14,943,000	6,974,000	7,969,000	14,943,000	6,974,000	7,969,000	14,943,000	0	0
Miscellaneous Revenues									
	12,409,960	6,105,000	6,305,000	12,410,000	6,105,000	6,305,000	12,410,000	0	40
One-time Transfers									
	139,088,000	3,000,000	136,088,000	139,088,000	3,000,000	136,088,000	139,088,000	0	0
Gross General Fund Revenues									
	17,998,055,960	8,744,535,000	9,284,563,000	18,029,098,000	8,829,010,000	9,177,308,000	18,006,318,000	(22,780,000)	8,262,040
Offsets and Transfers	(42,777,000)	(21,430,000)	(21,533,000)	(42,963,000)	(21,963,000)	(21,193,000)	(43,156,000)	(193,000)	(379,000)
Net General Fund Revenues									
	17,955,278,960	8,723,105,000	9,263,030,000	17,986,135,000	8,807,047,000	9,156,115,000	17,963,162,000	(22,973,000)	7,883,040
Plus Beginning Balance									
	532,887,537			476,601,537			528,792,871	52,191,334	(4,094,666)
Less Anticipated Administrative Actions*									
	(20,200,000)			(20,200,000)			(14,018,000)	6,182,000	6,182,000
Less Legislatively Adopted Actions**									
	(158,894,706)			(158,894,706)			(158,328,302)	566,404	566,404
Available Resources									
	18,309,071,791			18,283,641,831			18,319,608,569	35,966,738	10,536,778
Appropriations									
	17,984,668,302			17,984,668,302			18,000,635,574	15,967,272	15,967,272
Projected Expenditures									
	17,984,668,302			17,984,668,302			18,000,635,574	15,967,272	15,967,272
Estimated Ending Balance									
	324,403,489			298,973,529			318,972,995	19,999,466	(5,430,494)

Table B.2 General Fund Revenue Forecast by Fiscal Year

General Fund Revenue Forecast												
(\$Millions)												
Fiscal Years	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25
	Fiscal Year											
Taxes												
Personal Income	6,628.0	7,330.3	7,716.0	7,976.1	8,450.7	8,903.8	9,345.5	9,897.3	10,470.5	10,968.5	11,472.0	11,996.2
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	596.3	538.0	535.4	522.8	521.1	525.0	533.6	544.4	553.4	564.8
Offsets and Transfers	(6.9)	(5.4)	(5.7)	(4.9)	(19.2)	(19.8)	(20.1)	(20.2)	(20.1)	(20.2)	(18.5)	(22.4)
Insurance	59.8	61.3	57.2	59.8	62.1	64.5	66.5	68.5	70.2	72.1	74.0	76.0
Estate	85.5	111.0	110.6	109.1	112.1	119.3	123.8	128.6	133.9	137.6	141.6	145.6
Cigarette	36.1	37.2	35.9	33.1	31.4	29.5	28.0	26.4	25.0	23.6	22.2	20.9
Other Tobacco Products	30.2	29.9	30.5	31.7	32.6	33.6	34.6	35.6	36.6	37.7	38.7	39.9
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	131.2	138.6	134.3	141.2	137.6	144.6	139.0	146.0	141.3	148.0
Charges for Services	3.6	5.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1
Liquor Apportionment	120.8	125.9	130.4	135.7	125.6	133.2	141.2	149.7	158.7	168.2	178.2	188.9
Interest Earnings	4.2	4.8	7.0	8.0	11.8	17.5	24.4	32.7	35.0	38.0	40.0	42.0
Others	50.8	5.7	9.1	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	8,829.0	9,177.3	9,510.3	9,980.0	10,437.3	11,023.2	11,617.4	12,151.2	12,677.0	13,237.8
Net General Fund	7,612.1	8,418.3	8,807.0	9,156.1	9,474.7	9,943.8	10,400.8	10,986.6	11,580.9	12,114.5	12,642.0	13,199.0
Biennial Totals												
	2013-15	Percent	2015-17	Percent	2017-19	Percent	2019-21	Percent	2021-23	Percent	2023-25	Percent
	Biennium	Change										
Taxes												
Personal Income	13,958.3	15.2%	15,692.1	12.4%	17,354.5	10.6%	19,242.9	10.9%	21,438.9	11.4%	23,468.2	9.5%
Corporate Excise & Income	1,116.5	26.3%	1,134.3	1.6%	1,058.2	-6.7%	1,046.1	-1.1%	1,077.9	3.0%	1,118.2	3.7%
Insurance	121.0	22.2%	117.0	-3.3%	126.5	8.2%	135.0	6.7%	142.2	5.4%	149.9	5.4%
Estate Taxes	196.5	-3.5%	219.6	11.8%	231.4	5.3%	252.4	9.1%	271.4	7.5%	287.1	5.8%
Cigarette	73.3	-1.8%	69.0	-5.9%	60.9	-11.7%	54.4	-10.7%	48.7	-10.6%	43.1	-11.4%
Other Tobacco Products	60.1	3.2%	62.2	3.5%	66.2	6.5%	70.1	5.9%	74.2	5.9%	78.6	5.9%
Other Taxes	2.0	-15.9%	1.7	-14.1%	1.7	-3.5%	1.6	-2.4%	1.6	-0.6%	1.6	0.0%
Other Revenues												
Licenses and Fees	256.4	-7.1%	269.8	5.2%	275.6	2.2%	282.1	2.4%	284.9	1.0%	289.3	1.5%
Charges for Services	8.7	-24.7%	8.2	-6.6%	8.2	0.0%	8.2	0.0%	8.2	0.0%	8.2	0.0%
Liquor Apportionment	246.7	5.9%	266.0	7.8%	258.8	-2.7%	290.9	12.4%	326.8	12.4%	367.1	12.3%
Interest Earnings	9.0	-44.1%	14.9	65.9%	29.3	95.9%	57.1	95.1%	73.0	27.8%	82.0	12.3%
Others	56.5	-70.0%	151.5	168.4%	19.0	-87.4%	19.8	4.1%	20.6	4.0%	21.4	3.9%
Gross General Fund	16,105.0	13.7%	18,006.3	11.8%	19,490.3	8.2%	21,460.5	10.1%	23,768.6	10.8%	25,914.8	9.0%
Net General Fund	16,030.5	13.3%	17,963.2	12.1%	19,418.6	8.1%	21,387.5	10.1%	23,695.4	10.8%	25,841.0	9.1%

Table B.3 Summary of 2015 Legislative Session Adjustments

	Biennia				Revenue Impact Statement
	15-17	17-19	19-21	21-23	
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
<i>Tax Credits - HB 2171</i>	-\$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
<i>Tax Credits - HB 2171</i>	\$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									
										March 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									
	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	1,714,189	1,592,793	6,502,708	1,651,204	1,751,140	1,835,466	1,695,369	6,933,179
%CHYA	6.6%	7.9%	8.8%	5.8%	7.3%	6.4%	6.5%	7.1%	6.4%	6.6%
EST. PAYMENTS	309,470	141,009	451,754	405,788	1,308,021	313,048	290,833	340,219	421,946	1,366,046
%CHYA	16.9%	-40.3%	47.8%	1.2%	8.3%	1.2%	106.3%	-24.7%	4.0%	4.4%
FINAL PAYMENTS ¹	99,618	321,345	(25,455)	927,767	1,323,276	84,671	115,014	126,565	894,236	1,220,485
%CHYA	7.5%	122.8%	-116.3%	8.5%	6.0%	-15.0%	-64.2%	-597.2%	-3.6%	-7.8%
REFUNDS	85,113	203,981	679,135	510,501	1,478,729	92,860	237,594	707,717	546,719	1,584,890
%CHYA	-15.5%	17.6%	30.5%	36.1%	26.4%	9.1%	16.5%	4.2%	7.1%	7.2%
OTHER	(163,398)	-	-	224,147	60,749	(224,147)	-	-	265,396	41,250
TOTAL	1,712,094	1,902,583	1,461,352	2,639,995	7,716,024	1,731,917	1,919,393	1,594,532	2,730,228	7,976,070
%CHYA	11.7%	9.9%	-3.7%	3.5%	5.3%	1.2%	0.9%	9.1%	3.4%	3.4%
	2017:3	2017:4	2018:1	2018:2	FY 2018	2018:3	2018:4	2019:1	2019:2	FY 2019
WITHHOLDING	1,757,552	1,863,924	1,951,522	1,802,217	7,375,215	1,868,334	1,981,410	2,052,467	1,891,853	7,794,064
%CHYA	6.4%	6.4%	6.3%	6.3%	6.4%	6.3%	6.3%	5.2%	5.0%	5.7%
EST. PAYMENTS	325,513	302,413	354,155	446,412	1,428,493	344,387	319,948	374,548	469,490	1,508,373
%CHYA	4.0%	4.0%	4.1%	5.8%	4.6%	5.8%	5.8%	5.8%	5.2%	5.6%
FINAL PAYMENTS ¹	86,206	116,310	132,846	1,013,200	1,348,562	90,865	122,986	137,286	1,084,503	1,435,641
%CHYA	1.8%	1.1%	5.0%	13.3%	10.5%	5.4%	5.7%	3.3%	7.0%	6.5%
REFUNDS	94,828	246,628	754,468	609,522	1,705,446	101,438	263,699	822,922	664,891	1,852,950
%CHYA	2.1%	3.8%	6.6%	11.5%	7.6%	7.0%	6.9%	9.1%	9.1%	8.6%
OTHER	(265,396)	-	-	269,253	3,856	(269,253)	-	-	287,947	18,694
TOTAL	1,809,047	2,036,020	1,684,055	2,921,559	8,450,680	1,932,896	2,160,646	1,741,379	3,068,902	8,903,823
%CHYA	4.5%	6.1%	5.6%	7.0%	6.0%	6.8%	6.1%	3.4%	5.0%	5.4%
	2019:3	2019:4	2020:1	2020:2	FY 2020	2020:3	2020:4	2021:1	2021:2	FY 2021
WITHHOLDING	1,961,419	2,080,124	2,159,018	1,990,775	8,191,337	2,063,948	2,188,859	2,267,355	2,089,928	8,610,089
%CHYA	5.0%	5.0%	5.2%	5.2%	5.1%	5.2%	5.2%	5.0%	5.0%	5.1%
EST. PAYMENTS	365,191	339,489	397,080	500,090	1,601,850	386,484	359,270	420,308	530,517	1,696,579
%CHYA	6.0%	6.1%	6.0%	6.5%	6.2%	5.8%	5.8%	5.8%	6.1%	5.9%
FINAL PAYMENTS ¹	97,693	130,801	152,079	1,123,075	1,503,649	101,027	135,324	158,458	1,134,052	1,528,862
%CHYA	7.5%	6.4%	10.8%	3.6%	4.7%	3.4%	3.5%	4.2%	1.0%	1.7%
REFUNDS	110,337	287,146	827,525	663,017	1,888,026	115,448	299,522	861,865	690,845	1,967,680
%CHYA	8.8%	8.9%	0.6%	-0.3%	1.9%	4.6%	4.3%	4.1%	4.2%	4.2%
OTHER	(287,947)	-	-	224,661	(63,286)	(224,661)	-	-	254,143	29,482
TOTAL	2,026,020	2,263,268	1,880,652	3,175,584	9,345,524	2,211,349	2,383,930	1,984,256	3,317,795	9,897,331
%CHYA	4.8%	4.7%	8.0%	3.5%	5.0%	9.1%	5.3%	5.5%	4.5%	5.9%
	2021:3	2021:4	2022:1	2022:2	FY 2022	2022:3	2022:4	2023:1	2023:2	FY 2023
WITHHOLDING	2,166,778	2,297,911	2,376,289	2,189,676	9,030,653	2,270,224	2,407,617	2,486,005	2,290,163	9,454,009
%CHYA	5.0%	5.0%	4.8%	4.8%	4.9%	4.8%	4.8%	4.6%	4.6%	4.7%
EST. PAYMENTS	406,957	378,077	442,620	555,244	1,782,899	428,347	397,950	465,727	581,323	1,873,347
%CHYA	5.3%	5.2%	5.3%	4.7%	5.1%	5.3%	5.3%	5.2%	4.7%	5.1%
FINAL PAYMENTS ¹	105,510	141,442	161,750	1,213,869	1,622,572	107,979	146,705	165,725	1,261,345	1,681,754
%CHYA	4.4%	4.5%	2.1%	7.0%	6.1%	2.3%	3.7%	2.5%	3.9%	3.6%
REFUNDS	120,347	311,811	879,939	705,510	2,017,607	123,236	318,404	915,194	734,085	2,090,920
%CHYA	4.2%	4.1%	2.1%	2.1%	2.5%	2.4%	2.1%	4.0%	4.1%	3.6%
OTHER	(254,143)	-	-	306,086	51,943	(306,086)	-	-	356,360	50,274
TOTAL	2,304,754	2,505,619	2,100,719	3,559,366	10,470,459	2,377,228	2,633,867	2,202,263	3,755,105	10,968,463
%CHYA	4.2%	5.1%	5.9%	7.3%	5.8%	3.1%	5.1%	4.8%	5.5%	4.8%
	2023:3	2023:4	2024:1	2024:2	FY 2023	2024:3	2024:4	2025:1	2025:2	FY 2025
WITHHOLDING	2,374,435	2,518,133	2,602,377	2,397,739	9,892,684	2,485,953	2,636,401	2,723,116	2,508,739	10,354,209
%CHYA	4.6%	4.6%	4.7%	4.7%	4.6%	4.7%	4.7%	4.6%	4.6%	4.7%
EST. PAYMENTS	448,466	416,640	487,623	609,064	1,961,793	469,867	436,523	510,924	638,744	2,056,057
%CHYA	4.7%	4.7%	4.7%	4.8%	4.7%	4.8%	4.8%	4.8%	4.9%	4.8%
FINAL PAYMENTS ¹	117,168	157,492	177,554	1,321,350	1,773,564	118,554	160,669	181,476	1,374,058	1,834,758
%CHYA	8.5%	7.4%	7.1%	4.8%	5.5%	1.2%	2.0%	2.2%	4.0%	3.5%
REFUNDS	127,856	330,732	945,545	758,592	2,162,725	131,986	341,302	980,007	786,439	2,239,734
%CHYA	3.7%	3.9%	3.3%	3.3%	3.4%	3.2%	3.2%	3.6%	3.7%	3.6%
OTHER	(356,360)	-	-	363,047	6,687	(363,047)	-	-	354,001	(9,046)
TOTAL	2,455,853	2,761,534	2,322,009	3,932,607	11,472,003	2,579,341	2,892,291	2,435,509	4,089,103	11,996,244
%CHYA	3.3%	4.8%	5.4%	4.7%	4.6%	5.0%	4.7%	4.9%	4.0%	4.6%

Note: "Other" includes July withholding accrued to June.

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									
										March 2016
	FY									FY
	2007:3	2007:4	2008:1	2008:2	2008	2008:3	2008:4	2009:1	2009:2	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%
	FY									FY
	2009:3	2009:4	2010:1	2010:2	2010	2010:3	2010:4	2011:1	2011:2	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%
	FY									FY
	2011:3	2011:4	2012:1	2012:2	2012	2012:3	2012:4	2013:1	2013:2	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%
	FY									FY
	2013:3	2013:4	2014:1	2014:2	2014	2014:3	2014:4	2015:1	2015:2	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									March 2016
	FY									FY
	2015:3	2015:4	2016:1	2016:2	2016	2016:3	2016:4	2017:1	2017:2	2017
ADVANCE PAYMENTS	173,329	220,326	109,218	185,843	688,716	170,108	160,130	110,251	185,930	626,419
%CHYA	-10.3%	6.9%	2.4%	1.2%	-0.1%	-1.9%	-27.3%	0.9%	0.0%	-9.0%
FINAL PAYMENTS	67,305	59,752	28,482	90,629	246,167	36,742	39,704	33,319	110,180	219,945
%CHYA	133.6%	-18.8%	-50.3%	26.9%	6.5%	-45.4%	-33.6%	17.0%	21.6%	-10.7%
REFUNDS	42,388	156,984	53,518	85,731	338,622	73,132	85,030	58,346	91,831	308,338
%CHYA	-15.1%	1.0%	-8.3%	143.8%	13.3%	72.5%	-45.8%	9.0%	7.1%	-8.9%
TOTAL	198,245	123,094	84,181	190,741	596,261	133,719	114,804	85,225	204,279	538,026
%CHYA	15.2%	-0.9%	-20.3%	-13.2%	-4.1%	-32.5%	-6.7%	1.2%	7.1%	-9.8%
	FY									FY
	2017:3	2017:4	2018:1	2018:2	2018	2018:3	2018:4	2019:1	2019:2	2019
ADVANCE PAYMENTS	171,568	162,047	111,603	187,248	632,467	172,073	162,198	112,378	188,186	634,835
%CHYA	0.9%	1.2%	1.2%	0.7%	1.0%	0.3%	0.1%	0.7%	0.5%	0.4%
FINAL PAYMENTS	38,776	46,645	36,404	110,726	232,552	37,454	51,880	38,509	111,412	239,255
%CHYA	5.5%	17.5%	9.3%	0.5%	5.7%	-3.4%	11.2%	5.8%	0.6%	2.9%
REFUNDS	76,174	93,452	62,770	97,211	329,607	78,858	102,277	67,108	103,010	351,253
%CHYA	4.2%	9.9%	7.6%	5.9%	6.9%	3.5%	9.4%	6.9%	6.0%	6.6%
TOTAL	134,171	115,240	85,237	200,764	535,412	130,669	111,801	83,779	196,588	522,836
%CHYA	0.3%	0.4%	0.0%	-1.7%	-0.5%	-2.6%	-3.0%	-1.7%	-2.1%	-2.3%
	FY									FY
	2019:3	2019:4	2020:1	2020:2	2020	2020:3	2020:4	2021:1	2021:2	2021
ADVANCE PAYMENTS	173,355	164,102	113,955	191,095	642,507	175,914	166,607	116,062	194,734	653,316
%CHYA	0.7%	1.2%	1.4%	1.5%	1.2%	1.5%	1.5%	1.8%	1.9%	1.7%
FINAL PAYMENTS	37,613	58,768	41,783	115,683	253,847	38,706	65,779	45,227	120,694	270,406
%CHYA	0.4%	13.3%	8.5%	3.8%	6.1%	2.9%	11.9%	8.2%	4.3%	6.5%
REFUNDS	82,229	111,631	71,919	109,436	375,215	85,653	120,836	76,592	115,691	398,771
%CHYA	4.3%	9.1%	7.2%	6.2%	6.8%	4.2%	8.2%	6.5%	5.7%	6.3%
TOTAL	128,739	111,239	83,819	197,342	521,139	128,967	111,550	84,697	199,737	524,951
%CHYA	-1.5%	-0.5%	0.0%	0.4%	-0.3%	0.2%	0.3%	1.0%	1.2%	0.7%
	FY									FY
	2021:3	2021:4	2022:1	2022:2	2022	2022:3	2022:4	2023:1	2023:2	2023
ADVANCE PAYMENTS	179,227	169,877	118,567	198,842	666,512	183,228	173,581	121,207	203,067	681,082
%CHYA	1.9%	2.0%	2.2%	2.1%	2.0%	2.2%	2.2%	2.2%	2.1%	2.2%
FINAL PAYMENTS	40,749	73,869	49,375	126,928	290,920	43,364	81,925	53,360	132,966	311,615
%CHYA	5.3%	12.3%	9.2%	5.2%	7.6%	6.4%	10.9%	8.1%	4.8%	7.1%
REFUNDS	89,407	130,550	81,581	122,325	423,863	93,221	140,043	86,365	128,691	448,320
%CHYA	4.4%	8.0%	6.5%	5.7%	6.3%	4.3%	7.3%	5.9%	5.2%	5.8%
TOTAL	130,569	113,196	86,360	203,444	533,569	133,370	115,463	88,202	207,342	544,377
%CHYA	1.2%	1.5%	2.0%	1.9%	1.6%	2.1%	2.0%	2.1%	1.9%	2.0%
	FY									FY
	2023:3	2023:4	2024:1	2024:2	2024	2024:3	2024:4	2025:1	2025:2	2025
ADVANCE PAYMENTS	186,937	176,999	123,164	205,768	692,869	188,886	178,344	124,149	207,631	699,010
%CHYA	2.0%	2.0%	1.6%	1.3%	1.7%	1.0%	0.8%	0.8%	0.9%	0.9%
FINAL PAYMENTS	45,535	89,900	71,975	159,261	366,672	60,391	129,223	88,434	183,018	461,065
%CHYA	5.0%	9.7%	34.9%	19.8%	17.7%	32.6%	43.7%	22.9%	14.9%	25.7%
REFUNDS	96,837	149,581	105,553	154,157	506,127	111,171	187,996	121,182	174,945	595,294
%CHYA	3.9%	6.8%	22.2%	19.8%	12.9%	14.8%	25.7%	14.8%	13.5%	17.6%
TOTAL	135,636	117,318	89,586	210,873	553,413	138,106	119,570	91,401	215,705	564,781
%CHYA	1.7%	1.6%	1.6%	1.7%	1.7%	1.8%	1.9%	2.0%	2.3%	2.1%

Table B.6 Cigarette and Tobacco Tax Distribution

TABLE B.6											March 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	35.914	137.066	5.563	18.741	197.284	10.831	208.115	30.489	23.524	2.616	56.629	
2016-17	33.058	128.837	5.139	21.037	188.072	10.278	198.350	31.718	24.472	2.722	58.912	
2015-17 Biennium	68.973	265.903	10.702	39.778	385.356	21.109	406.465	62.208	47.996	5.338	115.542	
2017-18	31.381	122.302	4.878	20.620	179.181	9.757	188.938	32.638	25.182	2.801	60.621	
2018-19	28.007	115.094	4.591	20.135	167.827	9.182	177.009	33.585	25.912	2.882	62.379	
2017-19 Biennium	59.388	237.396	9.469	40.755	347.008	18.939	365.947	66.223	51.094	5.683	123.000	
2019-20	28.007	109.150	4.354	19.096	160.606	8.708	169.314	34.559	26.664	2.965	64.188	
2020-21	26.403	102.898	4.104	18.002	151.407	8.209	159.616	35.561	27.437	3.051	66.049	
2019-21 Biennium	54.409	212.048	8.458	37.097	312.013	16.916	328.930	70.120	54.100	6.017	130.237	
2021-22	25.016	97.494	3.889	17.056	143.456	7.778	151.233	36.592	28.233	3.140	67.965	
2022-23	23.637	92.118	3.674	16.116	135.545	7.349	142.894	37.653	29.051	3.231	69.936	
2021-23 Biennium	48.653	189.613	7.563	33.172	279.001	15.127	294.127	74.246	57.284	6.371	137.900	
2023-24	22.218	86.591	3.454	15.149	127.412	6.908	134.320	38.745	29.894	3.325	71.964	
2024-25	20.885	81.396	3.247	14.240	119.768	6.493	126.261	39.869	30.761	3.421	74.051	
2023-25 Biennium	43.104	167.987	6.701	29.389	247.180	13.401	260.581	78.614	60.654	6.746	146.015	

* 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 Reduction 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									March 2016
Liquor Apportionment and Revenue Distribution to Local Governments (Millions of \$)									
	Liquor Apportionment Distribution								Cigarette Tax Distribution²
	Total Liquor Revenue Available	General Fund (56%)	Mental Health¹	Oregon Wine Board	City Revenue			Counties	
					Revenue Sharing	Regular	Total		
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	228.906	130.358	8.818	0.308	28.452	40.646	69.098	20.323	10.831
2016-17	238.249	135.679	9.178	0.321	29.613	42.305	71.918	21.152	10.278
2015-17 Biennium	467.154	266.038	17.997	0.629	58.065	82.950	141.016	41.475	21.109
2017-18	233.074	125.601	9.417	0.332	31.094	44.420	75.514	22.210	9.757
2018-19	245.786	133.170	9.662	0.344	32.649	46.641	79.290	23.320	9.182
2017-19 Biennium	478.861	258.772	19.079	0.677	63.743	91.061	154.804	45.530	18.939
2019-20	259.195	141.185	9.913	0.357	34.281	48.973	83.254	24.487	8.708
2020-21	273.338	149.670	10.171	0.370	35.995	51.422	87.417	25.711	8.209
2019-21 Biennium	532.533	290.855	20.084	0.726	70.276	100.395	170.671	50.197	16.916
2021-22	288.256	158.654	10.435	0.383	37.795	53.993	91.788	26.996	7.778
2022-23	303.992	168.166	10.706	0.397	39.685	56.692	96.377	28.346	7.349
2021-23 Biennium	592.248	326.820	21.141	0.779	77.480	110.685	188.165	55.343	15.127
2023-24	320.591	178.235	10.985	0.411	41.669	59.527	101.196	29.764	6.908
2024-25	338.099	188.896	11.270	0.426	43.752	62.503	106.256	31.252	6.493
2023-25 Biennium	658.690	367.131	22.255	0.837	85.421	122.030	207.452	61.015	13.401

¹ Mental Health Alcoholism and Drug Services Account, per ORS 471.810² For details on cigarette revenues see TABLE B.6 on previous page

Table B.8 Track Record for the December 2015 Forecast

Table B.8 Track Record for the December 2015 Forecast*

(Quarter ending December 31, 2015)

Personal Income Tax				Forecast Comparison		Year/Year Change	
(Millions of dollars)	Actual Revenues*	Latest Forecast	Percent Difference	Prior Year	Percent Change		
Withholding	\$1,644.2	\$1,631.9	0.8%	\$1,523.5	7.9%		
Dollar difference		\$12.3		\$120.8			
Estimated Payments	\$141.0	\$249.3	-43.4%	\$236.3	-40.3%		
Dollar difference		-\$108.3		-\$95.3			
Final Payments	\$321.3	\$104.9	206.4%	\$144.2	122.8%		
Dollar difference		\$216.5		\$177.1			
Refunds	-\$204.0	-\$185.9	9.7%	-\$173.5	17.6%		
Dollar difference		-\$18.1		-\$30.5			
Total Personal Income Tax	\$1,902.6	\$1,800.2	5.7%	\$1,730.5	9.9%		
Dollar difference		\$102.4		\$172.1			
Corporate Income Tax*				Forecast Comparison		Year/Year Change	
(Millions of dollars)	Actual Revenues	Latest Forecast	Percent Difference	Prior Year	Percent Change		
Advanced Payments	\$220.3	\$167.6	31.4%	\$206.1	6.9%		
Dollar difference		\$52.7		\$14.2			
Final Payments	\$59.8	\$31.3	91.1%	\$73.6	-18.8%		
Dollar difference		\$28.5		-\$13.8			
Refunds	-\$157.0	-\$90.6	73.3%	-\$155.4	1.0%		
Dollar difference		-\$66.4		-\$1.5			
Total Corporate Income Tax	\$123.1	\$108.3	13.7%	\$124.2	-0.9%		
Dollar difference		\$14.8		-\$1.1			
Total Income Tax				Forecast Comparison		Year/Year Change	
(Millions of dollars)	Actual Revenues	Latest Forecast	Percent Difference	Prior Year	Percent Change		
Corporate and Personal Tax	\$2,025.7	\$1,908.5	6.1%	\$1,854.7	9.2%		
Dollar difference		\$117.2		\$171.0			

* A new processing system for the personal income tax program was brought online at the end of November. Financial reporting has yet to match past norms.

Table B.9 Summary of Lottery Resources

TABLE B.9 Summary of Lottery Resources											Mar 2016 Forecast	
(in millions of dollars)	2015-17			2017-19		2019-21		2021-23		2023-25		
	Current Forecast	Change from Dec-15	Change from COS 2015	Current Forecast	Change from Dec-15							
LOTTERY EARNINGS												
Traditional Lottery	128.405	13.236	10.601	123.818	5.213	123.173	5.212	122.392	4.722	122.395	4.703	
Video Lottery	1,115.374	11.442	44.722	1,176.930	18.609	1,260.359	19.601	1,337.878	11.084	1,423.421	5.827	
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	1,184.579	24.679	55.323	1,300.748	23.822	1,383.532	24.813	1,460.270	15.806	1,545.816	10.530	
ECONOMIC DEVELOPMENT FUND												
Beginning Balance	20.500	0.000	1.181	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
Transfers from Lottery	1,184.579	24.679	55.323	1,300.748	23.822	1,383.532	24.813	1,460.270	15.806	1,545.816	10.530	
Other Resources ¹	9.425	0.134	2.085	2.000	0.000	2.000	0.000	2.000	0.000	2.000	0.000	
Total Available Resources	1,214.504	24.813	58.589	1,302.748	23.822	1,385.532	24.813	1,462.270	15.806	1,547.816	10.530	
ALLOCATION OF RESOURCES												
County Economic Development	39.084	0.000	0.000	45.194	0.715	49.154	0.764	53.515	0.443	56.937	0.233	
Education Stability Fund ²	213.224	4.442	9.958	234.135	4.288	249.036	4.466	262.849	2.845	278.247	1.895	
Parks and Natural Resources Fund ³	177.687	3.702	8.298	195.112	3.573	207.530	3.722	219.041	2.371	231.872	1.579	
HECC Collegiate Athletic & Scholarships ⁴	8.240	0.000	0.000	13.007	0.238	13.835	0.248	14.603	0.158	15.458	0.105	
Gambling Addiction ⁴	11.293	0.000	0.000	13.007	0.238	13.835	0.248	14.603	0.158	15.458	0.105	
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	704.779	0.000	0.000	258.600	0.000	258.600	0.000	258.600	0.000	258.600	0.000	
Total Distributions	1,158.171	8.144	18.257	762.704	9.052	795.638	9.449	826.858	5.975	860.220	3.92	
Ending Balance/Discretionary Resources	56.333	16.669	40.333	540.044	14.769	589.894	15.364	635.413	9.830	687.595	6.611	

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

Mar 2016

Rainy Day Fund

(Millions)	2013-15	2015-17	2017-19	2019-21	2021-23	2023-25
Beginning Balance	\$61.9	\$211.8	\$386.5	\$634.2	\$921.4	\$1,249.1
Interest Earnings	\$1.3	\$6.3	\$27.1	\$52.6	\$74.0	\$98.5
Deposits ¹	\$148.7	\$168.6	\$220.6	\$234.6	\$253.7	\$277.3
Triggered Withdrawals	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
Ending Balance²	\$211.8	\$386.7	\$634.2	\$921.4	\$1,249.1	\$1,624.9

Education Stability Fund³

(Millions)	2013-15	2015-17	2017-19	2019-21	2021-23	2023-25
Beginning Balance	\$7.4	\$179.4	\$375.5	\$586.3	\$810.4	\$957.7
Interest Earnings ⁴	\$1.0	\$5.6	\$26.6	\$49.3	\$64.6	\$73.3
Deposits ⁵	\$171.9	\$191.9	\$210.7	\$224.1	\$147.3	\$92.1
Distributions	\$1.0	\$5.6	\$26.6	\$49.3	\$64.6	\$73.3
Oregon Education Fund	\$0.7	\$0.1	\$0.0	\$0.0	\$0.0	\$0.0
Oregon Opportunity Grant	\$0.2	\$5.5	\$26.6	\$49.3	\$64.6	\$73.3
Withdrawals	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
Ending Balance	\$179.4	\$375.5	\$586.3	\$810.4	\$957.7	\$1,049.8

Total Reserves

(Millions)	2013-15	2015-17	2017-19	2019-21	2021-23	2023-25
Ending Balances	\$391.2	\$762.2	\$1,220.4	\$1,731.8	\$2,206.8	\$2,674.7
Percent of General Fund Revenues	2.4%	4.2%	6.3%	8.1%	9.3%	10.4%

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.

APPENDIX C: POPULATION FORECASTS BY AGE AND SEX

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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		Births		Deaths		Natural Increase	Net Migration	
		Number	Percent	Number	Rate/1000	Number	Rate/1000		Number	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	4,013,800	51,090	1.29	45,753	11.47	34,940	8.76	10,813	40,276	10.10
2010-2015		176,500		226,447		167,317		59,129	117,370	
2016	4,064,200	50,400	1.26	46,200	11.44	35,665	8.83	10,535	39,865	9.87
2017	4,114,200	49,999	1.23	46,618	11.40	36,218	8.86	10,401	39,599	9.68
2018	4,163,200	49,000	1.19	46,964	11.35	36,768	8.88	10,195	38,805	9.38
2019	4,211,400	48,199	1.16	47,295	11.29	37,320	8.91	9,975	38,224	9.13
2020	4,259,700	48,300	1.15	47,623	11.24	37,934	8.96	9,689	38,611	9.12
2015-2020		245,900		234,701		183,905		50,796	195,104	
2021	4,308,000	48,300	1.13	47,902	11.18	38,640	9.02	9,262	39,038	9.11
2022	4,356,200	48,200	1.12	48,157	11.12	39,399	9.09	8,758	39,442	9.10
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		422,399		461,148		351,223		109,925	312,474	31,247
2012-2022		472,465		466,929		364,020		102,908	369,556	36,956

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 1980-14: Oregon Center for Health Statistics.

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

Age	2000			2001			2002			2003			2004			2005		
	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	122,255	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	121,211	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	133,019	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	137,340	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	55,428	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
Age	2006			2007			2008			2009			2010			2011		
	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	259,589	134,019	127,039	261,058	133,094	126,245	259,339	131,126	124,540	255,676	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	127,827	256,606	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	129,417	123,759	248,677	133,522	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	140,039	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	30,743	43,011	73,372	30,391	42,764	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
Age	2012			2013			2014			2015			2016			2017		
	Male	Female	Total															
0-4	119,516	113,359	232,875	118,293	111,850	230,142	117,878	111,497	229,375	118,103	111,581	229,684	118,987	112,263	231,250	119,981	113,317	233,298
5-9	122,733	116,900	239,634	124,024	117,953	241,977	123,740	118,043	242,782	125,497	118,316	243,813	125,229	117,852	243,080	124,618	116,784	241,403
10-14	123,603	118,287	241,890	123,386	118,206	241,592	123,400	118,466	241,872	122,972	118,324	241,296	123,630	118,425	242,055	125,234	120,133	245,367
15-19	127,517	120,587	248,104	126,643	119,875	246,518	126,855	119,977	246,832	127,725	120,625	248,349	127,985	121,329	249,314	128,176	121,233	249,408
20-24	132,853	128,787	261,640	135,293	130,705	266,098	136,756	132,101	268,857	137,285	132,645	269,930	136,714	131,582	268,297	136,246	130,979	267,226
25-29	132,463	129,927	262,390	132,508	130,403	262,911	134,597	132,898	267,496	137,936	137,029	274,964	142,545	142,577	285,122	146,752	147,124	293,875
30-34	135,689	133,329	269,018	137,321	135,074	272,395	139,946	137,422	277,368	141,510	138,697	280,208	143,299	140,166	283,465	144,295	141,360	285,656
35-39	126,018	122,275	248,293	126,683	124,338	251,022	130,863	126,524	257,427	134,478	129,804	264,282	137,845	132,941	270,786	141,380	136,451	277,830
40-44	130,795	126,620	257,415	131,483	127,467	258,950	131,052	126,702	257,753	130,033	125,297	255,330	128,705	124,063	252,768	129,395	125,028	254,423
45-49	125,434	124,976	250,410	123,864	122,179	246,043	124,312	121,476	245,788	127,056	123,541	250,597	130,934	126,591	257,525	133,406	128,356	261,762
50-54	133,445	139,197	272,643	132,080	137,545	269,625	131,567	136,343	267,910	129,980	133,563	263,543	127,646	130,297	257,943	125,882	127,041	252,923
55-59	134,403	143,058	277,461	134,376	142,746	277,1												

Table C.3 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	4,013,800	51,090	1.29%
2016	4,064,200	50,400	1.26%
2017	4,114,200	49,999	1.23%
2018	4,163,200	49,000	1.19%
2019	4,211,400	48,199	1.16%
2020	4,259,700	48,300	1.15%
2021	4,308,000	48,300	1.13%
2022	4,356,200	48,200	1.12%

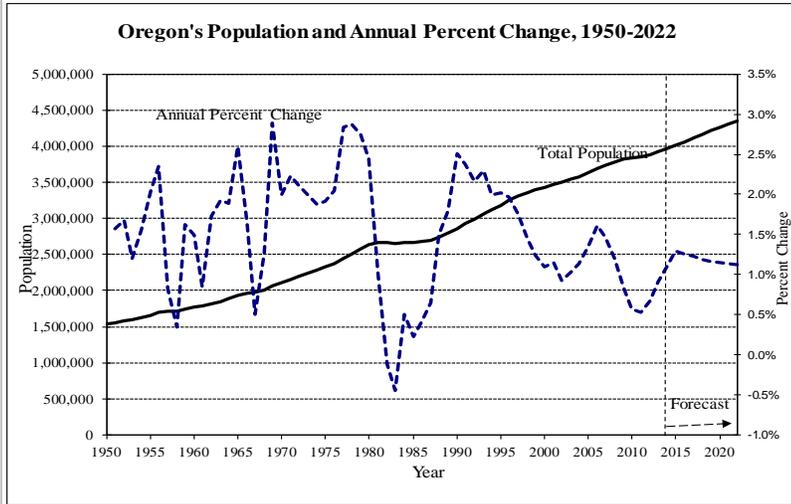


Table C.4 Children: Ages 0-4

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

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

Year (July 1)	% Change from previous decade/yr.			% Change from previous decade/yr.			% Change from previous decade/yr.		
	Population	Number	Percent	Population	Number	Percent	Population	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	229,684	309	0.13%	633,277	1,502	0.24%	370,111	1,543	0.42%
2016	231,250	1,566	0.68%	634,129	852	0.13%	368,617	-1,494	-0.40%
2017	233,298	2,048	0.89%	635,529	1,400	0.22%	367,874	-743	-0.20%
2018	235,225	1,927	0.83%	635,548	19	0.00%	368,797	923	0.25%
2019	236,898	1,673	0.71%	636,405	856	0.13%	369,695	899	0.24%
2020	238,644	1,746	0.74%	638,461	2,056	0.32%	369,574	-121	-0.03%
2021	240,470	1,826	0.77%	640,296	1,835	0.29%	369,905	331	0.09%
2022	242,164	1,694	0.70%	641,653	1,357	0.21%	370,561	656	0.18%

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

Year (July 1)	% Change from previous decade/yr.			% Change from previous decade/yr.			% Change from previous decade/yr.		
	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	678,934	9,917	1.48%	1,074,785	14,741	1.39%	1,059,736	6,265	0.59%
2016	688,388	9,455	1.39%	1,092,141	17,356	1.61%	1,065,800	6,063	0.57%
2017	696,849	8,460	1.23%	1,111,784	19,643	1.80%	1,065,614	-185	-0.02%
2018	703,948	7,100	1.02%	1,132,171	20,386	1.83%	1,062,026	-3,588	-0.34%
2019	712,004	8,056	1.14%	1,152,165	19,994	1.77%	1,057,733	-4,293	-0.40%
2020	717,426	5,422	0.76%	1,169,788	17,623	1.53%	1,055,538	-2,195	-0.21%
2021	724,026	6,600	0.92%	1,187,829	18,040	1.54%	1,054,254	-1,284	-0.12%
2022	730,567	6,541	0.90%	1,205,678	17,850	1.50%	1,053,592	-663	-0.06%

Table C.10 Elderly Population by Age Group

Year (July 1)	%Change from previous decade/yr.							
	Ages 65+		Ages 65-74		Ages 75-84		Ages 85+	
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	646,206	4.31%	384,855	5.79%	177,243	2.83%	84,108	0.94%
2016	672,263	4.03%	404,384	5.07%	182,862	3.17%	85,018	1.08%
2017	700,099	4.14%	423,956	4.84%	190,422	4.13%	85,722	0.83%
2018	729,433	4.19%	441,674	4.18%	201,486	5.81%	86,273	0.64%
2019	758,503	3.99%	459,056	3.94%	212,784	5.61%	86,663	0.45%
2020	787,694	3.85%	476,851	3.88%	223,000	4.80%	87,843	1.36%
2021	815,245	3.50%	493,857	3.57%	232,107	4.08%	89,281	1.64%
2022	842,551	3.35%	500,549	1.36%	250,856	8.08%	91,146	2.09%