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# Oregon Economic and Revenue Forecast

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December 2019

Volume XXXIX, No. 4

*Release Date: November 20, 2019*

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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

### December 2019

The longest running U.S. economic expansion marches on. Growth has slowed in 2019 and downside risks remain elevated. However, a recession is not yet seen in the data. Importantly, the two primary causes for concern are either improving – the yield curve is no longer inverted – or at least not getting worse – the trade war escalation is on hold for the time being. That said, while slower growth this year was expected, the question is whether or not the composition of and factors behind the slowdown point to something more worrisome.

Nationwide economic growth has slowed to potential as business investment remains weak, but the consumer is strong. Of course consumption is not a leading indicator, but provided the labor market holds up, so too should spending. Here in Oregon, job growth has slowed to gains seen in our underlying population. For the eleventh year of expansion, such gains remain solid. To date, Oregon's slowdown is driven more by fewer hirings and a tight labor market, rather than an increase in layoffs. These dynamics, when combined with ongoing strong income growth keep the outlook intact. As confirmed by recently released Census data, current economic conditions in Oregon have rarely been better. The expansion endures even as risks remain elevated.

Oregon's General Fund tax collections continue to outstrip gains in the underlying economy so far in the 2019-21 biennium. The largest part of Oregon's General Fund, personal income tax collections, surged during the peak tax season and continued to post strong gains as extension filers submitted their tax returns in the fall. Both income tax payments net of refunds, as well as withholdings out of paychecks, have been posting growth rates above what economic gains would call for. Corporate tax collections have slowed a bit in recent months, but remain elevated above their typical size as well.

The primary forecasting challenge for the current biennium is to determine how much of the recently strong tax collections are due to temporary factors that will fade away in the months ahead. Even without the onset of recession, revenue growth is facing major headwinds during the current biennium. State & federal tax policies, a big kicker refund and slower economic growth will all weigh on General Fund revenues in the near term.

While there is a great deal of uncertainty about the staying power of recent revenue growth, the December forecast reflects a stable economic outlook, with the expected size of General Fund collections increasing slightly over what was expected at the Close of Session.

Going forward, the uncertain path of the nationwide economy will dominate the revenue outlook. Fortunately, Oregon is better positioned than ever before to weather a revenue downturn. Automatic deposits into the Rainy Day Fund and Education Stability Fund have added up over the decade-long economic expansion. When the projected ending balance for the current biennium is included, Oregon is expected to end the biennium with more than \$2.7 billion in reserves set aside, amounting to almost 13% of the two-year budget.

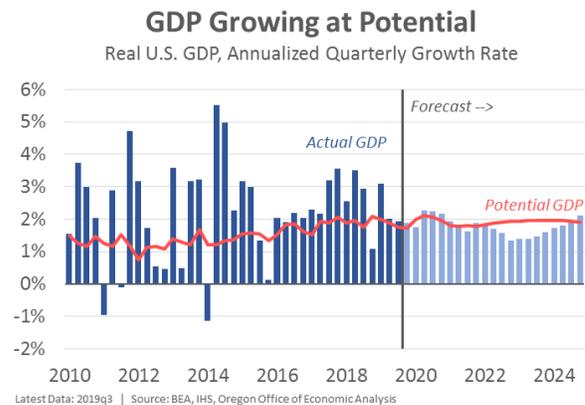
## ECONOMIC OUTLOOK

### *U.S. Economy*

The longest running U.S. economic expansion marches on. Growth has slowed in 2019 and downside risks remain elevated. However, a recession is not yet seen in the data. Importantly, the two primary causes for concern are either improving – the yield curve is no longer inverted – or at least not getting worse – the trade war escalation is on hold for the time being. That said, while slower growth this year was expected, the question is whether or not the composition of and factors behind the slowdown point to something more worrisome or if everything remains on track.

GDP growth in recent quarters has slowed to potential. Clearly this is not a bad place for the economy to be in the eleventh year of expansion. However the underlying composition of recent gains are likely unsustainable should it continue.

Overall, consumer spending is approximately two-thirds of U.S. GDP. Over the past year the consumer has accounted for 85% of the growth and in the past six months, the consumer has accounted for more than 100% of the growth. This means that all other segments of the economy, on net, have recently contracted.



There are a lot of moving parts, and volatility within components of growth is to be expected. That said, the very weak business investment and export readings raise concerns. Moody's Analytics goes so far as to say "the consumer is shouldering all the burden in preventing the slowing from turning into something worse." Looking forward the concern is that while the consumer will lead growth, as usual, it cannot be the only source of growth for the expansion to endure.

There are at least three primary channels in which a slowdown in the economy could occur: firms' demand side, firms' supply side, and labor supply or a full employment economy.

First, firms may be delaying or foregoing investment and hiring at a slower pace due to their actual level of sales. If businesses are seeing lower sales or slower growth in their orders, they may pull back. Similarly, rising businesses costs squeezing profit margins would have a similar impact on firm behavior. There are issues like rising labor costs and tariffs that are impacting profits. Slower global growth in addition to the trade war are hurting international sales. That said, steady growth in consumer spending, and inflation that remains tame overall, work in the opposite direction, indicating current economic conditions are not worsening considerably.

Second, concerns about the future state of the economy may have businesses delaying their investment and hiring decisions due to uncertainty. This could be due to general economic news like the spell of recession worries over the summer, the trade war, political uncertainty, or state or local policies that have firms taking a wait-and-see approach. Such conditions are harder to measure but business surveys have generally weakened in 2019, even as they remain at high levels historically. The pullback in capital spending this year points toward concerns or uncertainty over the future, however some of today's weaker numbers may reflect stronger figures last year when investment increased following the federal tax cuts. Last year's stronger growth may have impacted the timing of investment, while not raising the overall level much over a multiyear horizon.

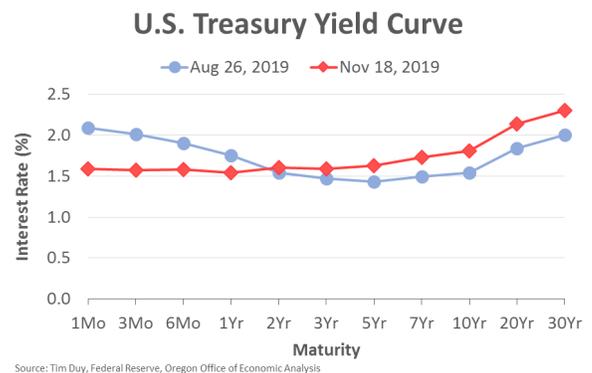
Third, the economy may be closer to full employment than some economists believe. If true, growth will necessarily slow as there remains very little underutilized resources that need to be put back to work. In this case, there is hardly any spare capacity for firms to hire or expand into. As such, the economy would transition down to sustainable rates of growth that are ultimately driven by workforce (demographics) and productivity trends. There is no question that the economy today is in better shape than it has been in quite some time, and it is beginning to run into more supply side constraints, so full employment cannot be entirely discounted as a major factor behind the slower economic growth.

All told, it is likely that all three channels are impacting the economy today, at least somewhat, and helping to contribute to slower growth. Looking forward each has different implications on the outlook. If current economic conditions deteriorate significantly then a recession is knocking on the door. If firms are wary of making investments or hiring workers because they are concerned about the future, the economy runs the risk of talking itself into recession. If enough firms or households pull back on spending and hiring at the same time, then it creates the forces behind the negative spiral that is a recession. While all that is missing from this scenario is some sort of event that coordinates the pessimism, it also implies there remains the opportunity for the concerns to be ameliorated before it is too late. The third channel that could be driving the slowdown is overall benign and something to be celebrated given economic history and the fact that full employment is rarely achieved and even rarer sustained. However it also does imply that slower growth is here to stay.

Speaking of policies impacting the economy or at least the outlook, the two most worrisome issues in 2019 appear to be on the mend. The trade war is no longer escalating and the situation may even be diffusing as a Phase 1 trade deal is currently being negotiated between China and the U.S. To be clear, slower global growth, a stronger U.S. dollar, and the trade war are going to continue to impact the economy. The overall outlook for manufacturing remains weak. Half of all U.S. states have lost manufacturing jobs in recent months. That said, from a growth accounting perspective, so long as the situation is not escalating or conditions deteriorating further, the international sector should shift from a drag to at least neutral in the year ahead, with risks balanced to the upside and downside.

More importantly from a policy perspective, the Federal Reserve has made three interest rate reductions so far in 2019. These cuts, characterized as insurance against slower domestic and international growth, are designed to support the economy and head off a recession.

The upshot is in recent months the yield curve has un-inverted. Long-term interest rates are once again higher than short-term rates. This indicates that monetary policy likely is no longer too restrictive relative to current economic conditions and future market expectations.



Recent action by the Fed, where it cuts interest rates following a yield curve inversion but the overall flow of economic data remained healthy, is an historical outlier. Typically the Fed continues to raise interest rates at this point in the business cycle as it is increasingly worried about inflation. Today's continued low levels of inflation have allowed the Fed to focus more on its maximum employment part of its mandate rather than the price stability portion.

**Bottom Line:** The U.S. economy remains in expansion and the baseline outlook calls for continued, albeit slower, growth. While recession risks remain elevated, they appear to be abating somewhat. The typical catalysts for

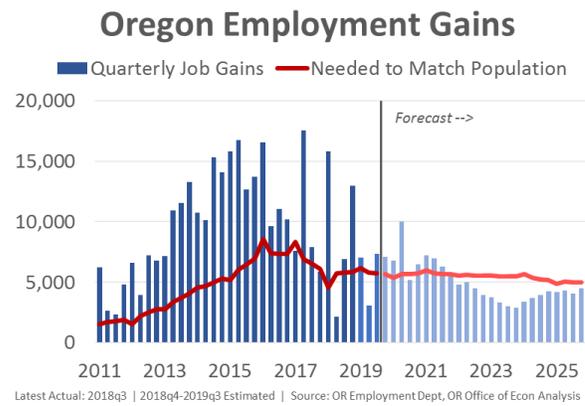
recession are not rearing their heads but the slowdown in business investment and hiring is problematic. The Federal Reserve’s insurance cuts are designed to engineer a soft landing for the economy and head off further weakness. The U.S. consumer remains strong, but consumption is not a leading indicator. Should the labor market falter or income growth weaken, the outlook would be revised down. Time will tell whether this is the top of the cycle or 2019 just hit a rough patch. It’s important to remember that the U.S. does not know what the eleventh year of an economic expansion looks like as we have never experienced one. The expansion has now entered into uncharted and choppy waters.

**Oregon Economy**

Oregon continues to see healthy rates of growth when it comes to employment, income, and GDP. However the state is no longer significantly outpacing the nation like it was a couple years ago. While the big picture remains the same, recent Oregon data is somewhat of a mixed bag.

As expected, statewide employment continues to transition down to more sustainable rates, however it has come in below forecast so far in 2019. On the other hand, personal income growth is outstripping expectations, which feeds more directly into stronger consumer spending and higher public sector tax collections.

Much like the U.S., the local economy is growing roughly at its potential. The slowdown in jobs means Oregon is adding approximately 2,000 per month so far in 2019 when underlying demographics suggest the state needs around 1,900 or so to hold the unemployment rate steady. For

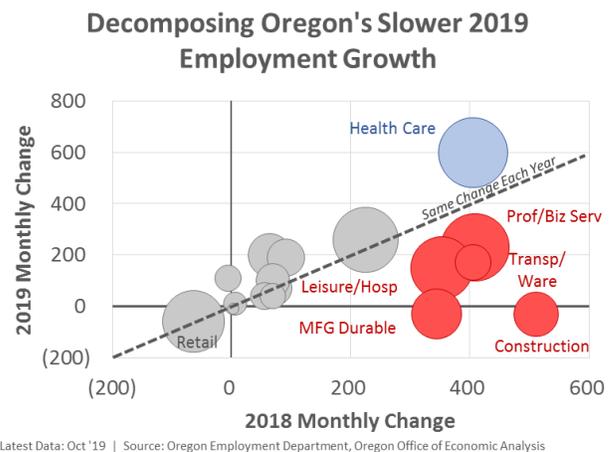


uncharted waters and the eleventh year of the expansion, growth remains solid. The question is whether or not there is information to be learned by the composition of the slowdown and possible underlying factors.

First, it should be noted that most sectors in Oregon are adding jobs at about the same pace this year as last year. The slowdown is really being driven by a handful of industries. Some of these industries experiencing slower gains in 2019 can likely be attributed to known factors, while others less so.

Durable goods manufacturing is the first place to look for impacts of the trade war and weakening global growth. Slower gains, or even losses this year are seen across all subsectors from wood products to semiconductors, metals to machinery. The one subsector holding up best is transportation equipment.

Transportation and warehousing are slower this year in part due to large openings and job gains a year ago. 2019 growth remains healthy when compared to history and another large facility in the mid-Willamette Valley is currently ramping up its workforce.



Construction employment has really boomed in recent years, even as underlying measures of construction activity has increased at a slower pace. This year’s slowdown in construction employment was expected, and may reflect a realignment of jobs with the actual volume of work.

On the other hand, it is harder to pinpoint the slowdowns in leisure and hospitality, and professional and business services on any specific factor. Within leisure and hospitality, the entertainment, recreation, and accommodation subsectors continue to see healthy gains. The slowdown is driven entirely by restaurants. Consumer spending remains solid and local policies like the rising minimum wage impact industries beyond just restaurants of course, so the slowing remains an issue to watch.

Within professional and business services, the slowdown is across all three major subsectors: technical services, management of companies, and administrative and waste services. Given the breadth of the slowing, it may point more toward labor supply issues – ability to find workers – than industry-specific issues.

Second, the slowdown is seen in *net* employment gains which are the end result of many different decisions businesses and workers make. So far, available data paint a complicated picture but one that points toward fewer net hires rather than more layoffs.

Oregon businesses are advertising job openings less frequently in the past year, as measured by both online help wanted ads and the Oregon Employment Department’s job vacancy survey. This is one indication that local firms are looking to hire less than a year or two ago. However it is an open question as to whether firms are hiring less because they are seeing weaker sales or because the labor market is tight and finding workers is difficult.

Along these lines, the available labor supply is growing more slowly due to both the inflows and outflows of the labor market.

As the business cycle matures and job growth slows, in-migration tapers as well. Oregon’s population is increasing, but at a slower pace than in years past. The influx of new, working-age residents is smaller this year than last and will be even smaller in the years ahead. Preliminary population estimates for 2019 indicate that in-migration may have slowed a bit more than expected, indicating labor supply increased less than expected as well. While annual estimates are difficult, we know one year from now the official 2020 Census population estimates will be available, providing a solid anchoring point for our office’s demographic research and forecast.

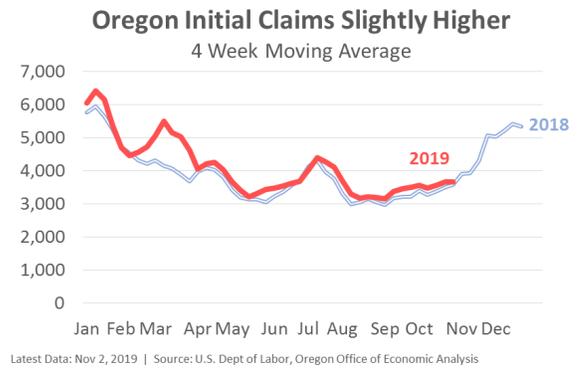
In addition to the inflows into the workforce being smaller, it looks like the outflows into retirement are larger in 2019 than expected. Retirements appear to have spiked. The household survey indicates retirements are running some 7,000 or so higher than what would be expected based upon demographics and the aging population alone. To put the 7,000 increase in perspective, that is equivalent to three or four months of employment growth. This means even if firms hired replacements, the higher level of retirements could certainly impact *net* employment gains across the state.

While hiring and labor supply are clearly impacting Oregon’s slower job growth this year, crucially it does not appear that firms are laying off significantly more workers than in recent years. Initial claims for unemployment insurance remain the best or at least one of the best leading indicators available.

Locally, initial claims are running a few percentage points higher than a year ago, but they typically jump 10-20% higher in the year leading up to a recession. Oregon claims do not meet that threshold, or at least not yet. Additionally, initial claims at the national level are running even with or lower than last year.



That said, at least one measure of layoffs is higher in recent months. The number of Worker Adjustment and Retraining Notification Act (WARN) notices and the affected number of jobs is rising. The challenge is figuring out whether these public notices impact the topline economic data. At least in Oregon, it does not appear that WARN notices are a leading indicator, or have not been historically. Additionally, WARN notices do not account for any more than a small percentage of overall labor market flows. That said, we know there are always firms opening or closing, expanding or contracting. What matters is whether the good news outweighs the bad or vice versa.



It is possible that the elevated WARN notices are simply indicative of a few firm-specific issues. However they may also reflect broader, economic problems just now coming to the forefront. Some of these notices will result in layoffs during the holidays or early next year, meaning the impacted workers have yet to file any claims for unemployment insurance.

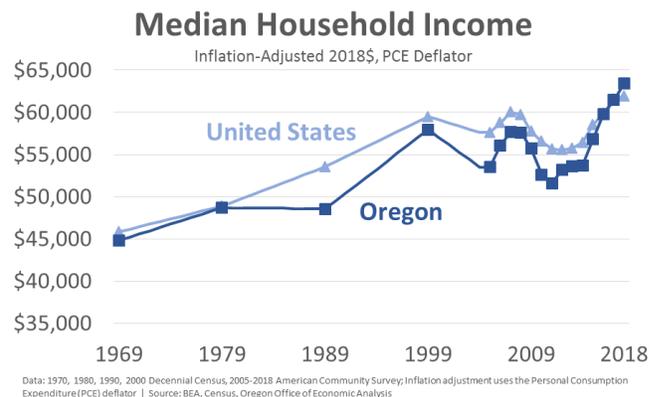
That said, until initial claims increase significantly, the labor market should continue to grow. One reason is that initial claims incorporate two different behaviors. The most obvious being firm layoffs. It is hard to have a recession and all that ensues without firms laying off workers, incomes dropping and businesses and consumers pull back out of fear and uncertainty. The second behavioral factor included in initial claims are workers' response to being laid off. If an individual is able to quickly land another job, or at least believes she is able to land another job in short order, she may not take the time to file a claim and wait for the check. So initial claims are important not just due to firm behavior but also how workers respond in terms of their own job prospects.

**Bottom Line:** All told, regardless of known or unknown factors, the slower job growth in Oregon is an issue our office will continue to monitor. For now the expansion remains intact and outlook largely unchanged. One primary reason is the slowing in Oregon to date points more toward an economy running into labor supply constraints than anything more problematic. The two major national drags are improving or at least appear to not be getting worse. And encouragingly, the slowdown is not as apparent in the Oregon income figures which are coming in above expectations. Of course these circumstances could and will change, but for now Oregon is expected to continue to see healthy rates of growth in the year ahead.

*Latest Census Data Shows Oregon's Strong Economy*

While Oregon is transitioning down from peak job growth rates a couple years ago, the tighter labor market is driving higher incomes as Oregonians work more hours and at higher wages. The latest Census data reveals just how strong Oregon's economy is and how these economic gains are reaching all corners and populations of the state. As is always the case, Census data is lagged and backward looking. That said it is important to take stock of socioeconomic conditions and right now the data is highly encouraging.

In 2018, Oregon's median household income grew the second fastest across all states, with only Idaho seeing stronger gains. This now puts the typical Oregonian household's income 2.4 percent higher than their

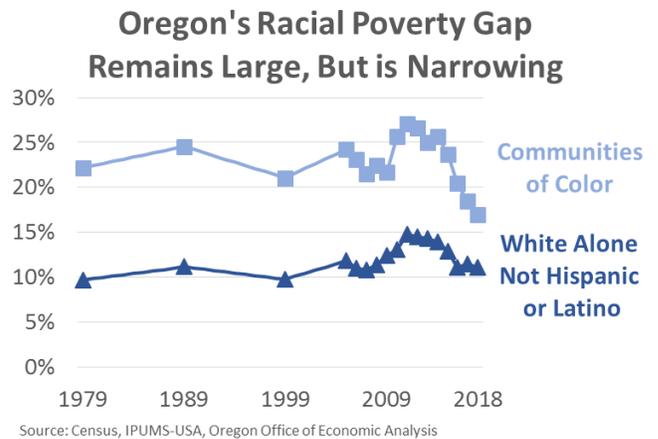


national counterparts. This marks the first time in more than 50 years this is true. One has to go back to the 1960 Census to find a time when median incomes in Oregon were higher than national figures.

Furthermore, incomes today on an inflation-adjusted basis are at all-time highs. These gains are experienced across the spectrum as both high- and low-income Oregon households are above their pre-recession peaks. Over the past few years, income growth has been strongest in the lowest quintile of households, or those with incomes of less than \$27,000 per year. Of course these households were the hardest hit during the recession and had further ground to regain. The good news is that ground has been regained, even if such household still struggle to make ends meet.

With stronger income gains among the bottom part of the distribution, Oregon’s poverty rate continues to decline. At 12.6% statewide, Oregon’s poverty rate is now half a percentage point below the U.S. which stands at 13.1%. Oregon’s poverty rate is now lower than it has been since 2000, and the state’s relative position vis a vis the nation is nearly back to the differences seen at that time as well.

Decomposing the poverty rate shows the current economic expansion really is reaching all corners and populations. Census has changed the way it surveys and defines racial and ethnic groups over the decades. That said, poverty rates among Oregon’s communities of color are at multi-decade lows, if not historic lows. A racial gap remains, as White, Not Hispanic or Latino Oregonians (and Americans) experience lower poverty rates overall. However the racial gap is narrowing as the expansion continues.



### ***Oregon’s Labor Market***

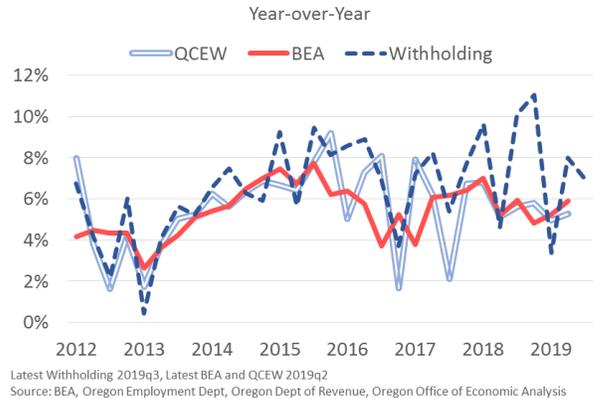
The Office of Economic Analysis examines four main sources for jobs data: the monthly payroll employment survey, the monthly household survey, monthly withholding tax receipts and the quarterly census of employment and wages. Right now all four measures of the labor market are improving. Jobs are being added, albeit at a slower rate. Wages are rising, both in aggregate and for each worker. The unemployment rate is holding steady and remains under what would historically be considered full employment for Oregon, although the share of prime working-age Oregonians without a job indicates there is some room for further improvement.



Importantly, wages in Oregon remain strong, although different measures of wages have diverged a bit in recent years. The good news is that after three years of revisions, the wages as reported by the BEA and from the payroll records (QCEW) are once again telling the same story.

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

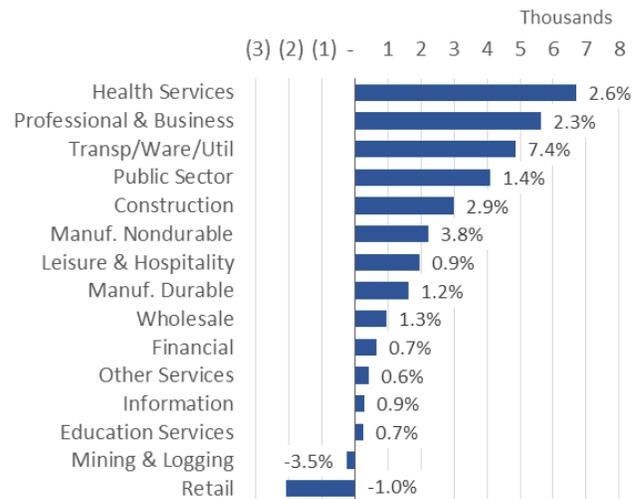
### Total Oregon Wage Growth



Overall, getting a handle of the health of Oregon’s labor market is being somewhat complicated by technical issues within the underlying payroll jobs data. For this reason the employment data in our office’s forecast is adjusted for two important technical purposes: seasonality at the detailed industry level and the upcoming benchmark revisions<sup>1</sup>. Specifically, our office uses the benchmarked, or revised employment data through 2018q3 and imputes the 2018q4 through 2019q3 employment data based upon the available preliminary Oregon estimates, national data, and our office’s economic forecast model. As such, for this quarterly forecast, the first pure forecast period is 2019q4.

### Oregon Employment Growth

Growth Over Past Year, 2018q3 to 2019q3



In the third quarter, total nonfarm employment increased 1.6 percent over the past year. Growth was led by the private sector at 1.6 percent, while the public sector increased 1.4 percent. These rates of growth are a clear step down from the full-throttle

<sup>1</sup> Each year the U.S. Bureau of Labor Statistics revise the employment data – a process known as benchmarking. The current establishment survey (CES), also known as the monthly payroll survey, is benchmarked against the quarterly census of employment and wages (QCEW), a series that contains all employees covered by unemployment insurance. The monthly CES is based on a sample of firms, whereas the QCEW contains approximately 96 percent of all employees, or nearly a complete count of employment in Oregon. The greatest benefit of the CES is the timeliness – monthly employment estimates are available with only a one month lag – and these estimates are reasonably accurate. However the further removed from the latest benchmark, the larger the errors. The QCEW is less timely as the data is released approximately 3-4 months following the end of the quarter. The greatest benefit of the QCEW is that is a near 100 percent count of statewide employment. For these reasons, the CES is usually used to discuss recent monthly employment trends, however once a year the data is revised to match the historical QCEW employment trends. The last month of official benchmark data is September 2018. The QCEW is currently available through June 2019, thus the preliminary benchmark used here covers the October 2018 – June 2019 period.

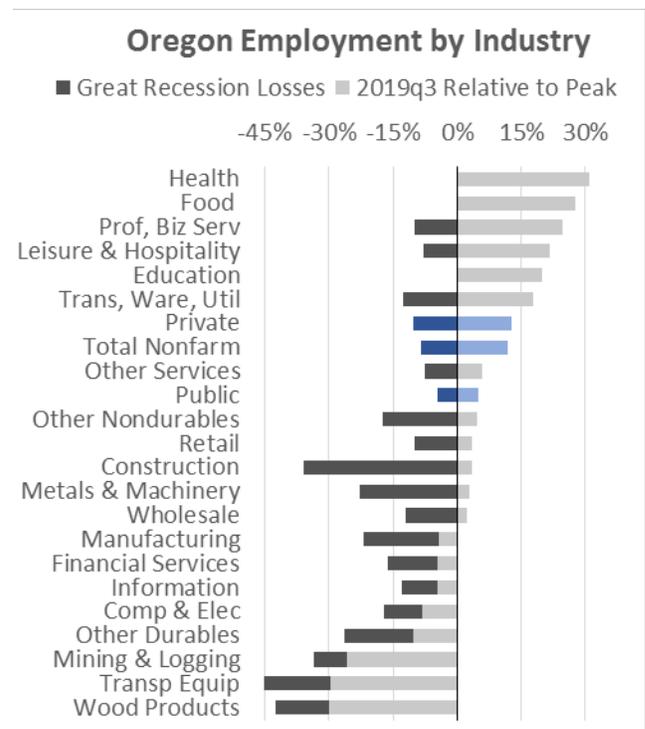
rates seen a few years ago, however still remain fast enough to keep pace with population gains so far.

The nearby graph illustrates the number of job gains by major industry by the length of the bar. The percentage increase these changes represent is noted as well.

So far in recovery, the large service sector industries have generally led job growth in terms of the number of jobs added and with above-average growth rates. These include jobs in professional and business services, health services, and leisure and hospitality industries. These three industries have gained just over 14,000 jobs in the past year and account for 47 percent of all job gains across the state. Now, given these industries account for 38 percent of all Oregon jobs, today they are increasing at a similar rate as the rest of the economy. Growth in the past year is being led to a larger degree by construction, nondurable manufacturing, and transportation, warehousing, and utilities.

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

Currently, thirteen major industries are at all-time highs. Private sector food manufacturing, education, and health never really suffered recessionary losses – although their growth did slow during the recession. Professional and business services and leisure and hospitality have each regained all of their losses and are leading growth today. Over the past couple of years retail employment, other services, transportation, warehousing and utilities, and construction, in addition to the public sector have surpassed their pre-recession levels and are at all-time highs. Additionally, wholesale trade and metals and machinery manufacturing have fully regained their recessionary losses. Most recently non-durable manufacturing excluding food is all the way back back; this growth is led by beverages (breweries), chemicals, and plastics and rubber. In total, the twelve private sector industries at all-time highs account for 71 percent of all statewide jobs. The public sector accounts for an additional 16 percent of all jobs.



With the Great Recession being characterized by a housing bubble, it is no surprise to see wood products, construction, mining and logging and financial services (losses are mostly real estate agents) among the hardest hit industries. These housing and related sectors are now recovering, although they still have much ground to make up. Transportation equipment manufacturing suffered the worst job cuts and is likely a structural decline due to the RV industry’s collapse<sup>3</sup>. With that being said, the subsectors tied to aerospace are doing better and

<sup>2</sup> 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.

<sup>3</sup> <http://oregoneconomicanalysis.com/2012/07/10/rv-workers-and-reemployment/>

the ship and boat building subsector is growing again. Metals and machinery manufacturing, along with mining and logging, have shown the largest improvements since the depths of the recession.

Coming off such a deep recession, goods-producing industries exhibited stronger growth than in past cycles. While all manufacturing subsectors have seen some growth, they are unlikely to fully regain all of their lost jobs. The good news, certainly in the short-term, is that much of the manufacturing sector has returned to growth in the past year following declines a year or two ago. Given ongoing trade issues, it is a question just how long these gains will last. That said, Oregon manufacturers typically outperform those in other states, in large part due to the local industry make-up. Oregon does not rely upon old auto makers or textile mills. The state’s manufacturing industry is comprised of newer technologies like aerospace and semiconductors. Similarly Oregon’s food processing industry continues to boom<sup>4</sup> even with layoffs and a closure recently.

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

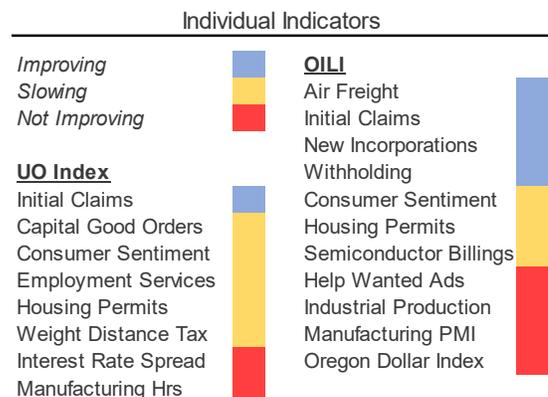
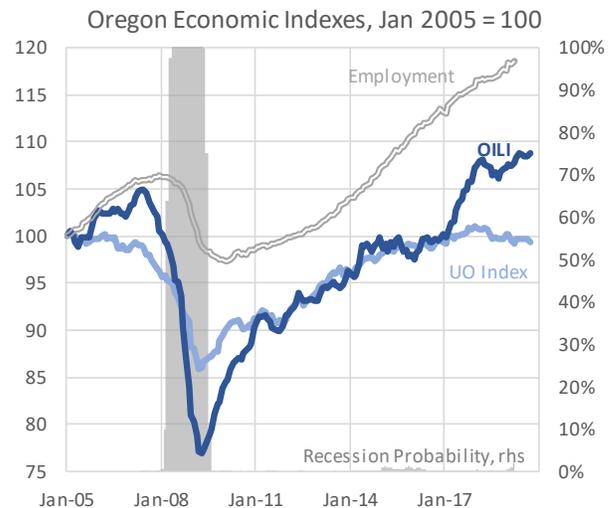
*For additional information on the most recent quarter’s employment forecast errors, please refer to Table A.1 in Appendix A.*

**Leading Indicators**

Over the past year both of the Oregon-specific composite leading indicators have largely moved sideways. In any given month the positive readings on individual indicators are offset by weaker readings on other indicators. That said, if we step back and look at the bigger picture, most indicators remain in expansion territory but clearly slowing down. Given that these models can be thought of as a green light versus red light indication of the economy, they point toward continued growth and not an impending recession, or at least not yet.

In September, the individual indicators most tied to manufacturing, slowing global growth and the trade war continue to be the most worrisome. That said, the decline in help wanted ads is added to the list following revised data.

All told the data flow and Oregon’s leading indicators remain a mixed bag. In general, economic forecasters see a heightened risk of recession so far in 2019 but are not altering their baseline forecasts accordingly. Rather, they are acknowledging the risks and continuing to monitor the situation.



<sup>4</sup> <https://oregoneconomicanalysis.com/2018/06/27/oregons-food-economy/>

University of Oregon professor Jeremy Piger has created a real time probability of recession<sup>5</sup> model, and finds there is a 2.8 percent chance the U.S. has entered into a recession. However, another recession will come, of that we can be sure. IHS Markit puts the probability of recession in the next year at 35 percent, while the Wall Street Journal Economic Forecasting Survey puts it at 30 percent.

Hopefully Oregon’s leading indicators will give a signal in advance of the next recession, which neither is doing today. While past experience is no guarantee of future performance, Oregon’s leading indicator series do have a good track record in their relatively brief history. Both series flattened out in 2006 and began their decline in advance of the Great Recession. Similarly both Oregon series reached their nadir in March 2009, a few months before the technical end of the recession (June 2009 per NBER) and about 9 months in advance of job growth returning to Oregon.

### Short-term Outlook

While Oregon’s economic expansion continues, growth has slowed and stabilized. In recent years, the state has enjoyed robust, full-throttle rates of job gains in the 3-3.5 percent range, or nearly 5,000 jobs per month. No longer is this the case. Oregon is expected to continue to see healthy job gains – a bit more than 2,000 per month or about 2 percent over this year and into 2020 – but the state is now past its peak growth rates for this expansion. Importantly, such gains remain strong enough to hold unemployment down and account for ongoing population growth.

After these near-term job gains, supply side constraints and longer-run demographic trends weigh on growth to a larger degree. These supply side constraints include a tighter labor market, infrastructure, energy costs, capacity utilization and the like. The large wave of retiring Baby Boomers will weigh on job growth rates for the coming decade. There will be enough jobs overall, as the generational churn is hidden underneath the labor market’s surface.

The general characteristics of the current forecast remain the same as in recent quarters although employment is revised down and personal income is revised up in keeping with historical revisions and tracking this year.

		Quarterly					Annual				
		2019:3	2019:4	2020:1	2020:2	2020:3	2018	2019	2020	2021	2022
<b>Personal Income, Nominal</b>	U.S.	3.6	4.3	4.1	4.1	4.3	5.6	4.8	4.2	4.4	4.4
% change	Oregon	4.2	4.1	4.2	4.6	4.7	6.2	5.3	4.5	4.9	4.8
<b>Wages and Salaries, Nominal</b>	U.S.	4.6	4.3	5.2	5.5	4.5	5.0	5.4	4.9	4.6	4.6
% change	Oregon	6.1	4.4	5.4	6.1	5.1	5.7	5.8	5.4	5.5	5.2
<b>Population</b>	U.S.	0.7	0.7	0.7	0.7	0.7	0.6	0.7	0.7	0.7	0.7
% change	Oregon	1.2	1.2	1.2	1.2	1.2	1.3	1.2	1.2	1.2	1.1
<b>Housing Starts</b>	U.S.	1.29	1.27	1.27	1.27	1.26	1.25	1.26	1.27	1.25	1.26
<i>U.S. millions, Oregon thousands</i>	Oregon	20.4	21.2	21.7	21.8	22.0	19.6	20.8	21.9	22.8	23.3
<b>Unemployment Rate</b>	U.S.	3.7	3.6	3.6	3.5	3.5	3.9	3.7	3.5	3.6	3.8
	Oregon	4.0	4.0	3.9	3.8	3.8	4.1	4.1	3.8	3.9	4.0
<b>Total Nonfarm Employment</b>	U.S.	1.2	1.0	0.9	1.5	0.2	1.7	1.5	1.0	0.7	0.5
% change	Oregon	1.5	1.5	1.4	2.1	1.1	2.0	1.5	1.5	1.4	1.0
<b>Private Sector Employment</b>	U.S.	1.2	1.1	0.8	0.7	0.9	1.9	1.7	0.9	0.8	0.5
% change	Oregon	1.8	1.5	1.3	1.4	1.7	3.3	1.5	1.4	1.5	1.1

There is one categorical change made in recent forecasts, which is to switch the inflation variable to the Consumer Price Index for All Urban Consumers, West Region (All Items) to align with HB 2118 (2019). For most

<sup>5</sup> [http://pages.uoregon.edu/jpiger/us\\_recession\\_probs.htm/](http://pages.uoregon.edu/jpiger/us_recession_probs.htm/)

of our office’s history, we used the Portland-Salem CPI however in 2018 the Bureau of Labor Statistics stopped publishing that series due to budget cuts and realigning their work products. Portland is now the largest metropolitan area in the nation without its own CPI. BLS is still collecting local data but not publishing local estimates. HB 2118 standardizes inflation calculations throughout statute and our office is now forecasting the same inflation metric.

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

Nevertheless, goods-producing industries, while smaller, had previously been growing at above-average rates. Expectations in recent forecasts have been that these goods-producing industries would slow. Growth over the next few years would be considerably less than that seen in the past few years.

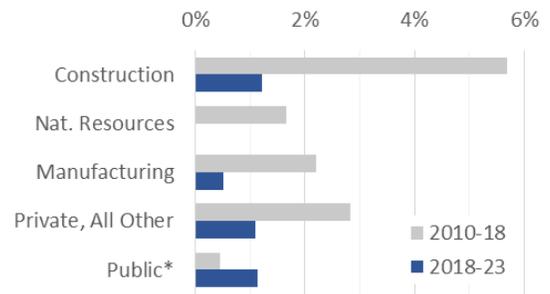
Even construction is expected to add jobs at a slower pace even as the housing rebound continues. This is in part due to the fact that growth must cool off after the exceptionally strong gains in construction in recent years. Additionally construction employment growth has far outpaced increases in new home construction. One side effect of this pattern is that productivity within the construction industry is declining. More workers producing fewer units of new housing or remodel activity means industrywide productivity is lower today than a decade or two ago. This is evident in the national data as well and is something researchers continue to dig into. No consensus has been reached as of yet.

Manufacturing is expected to see growth, albeit very slow growth in the coming years. This growth will be strongest among the state’s food and beverage manufacturers, predominantly breweries and wineries. That said, any further global weakening or strengthening of the dollar will weigh further on the outlook. Oregon as a whole is not expected to fully regain all of its Great Recession related manufacturing job losses. That said, both the Portland and Medford metro regions have fully regained their losses. Nationwide about 1 out of 5 metros have done so as well.

Public sector employment at the local, county and state level for both education and non-education workers is growing in Oregon, as state and local revenues continue to improve along with the economy. Over the forecast horizon, government employment is expected to grow roughly in line with population growth and the increased demand for public services, albeit just a hair faster than population growth alone. One public sector risk to the

### Goods Producing Sectors To Slow

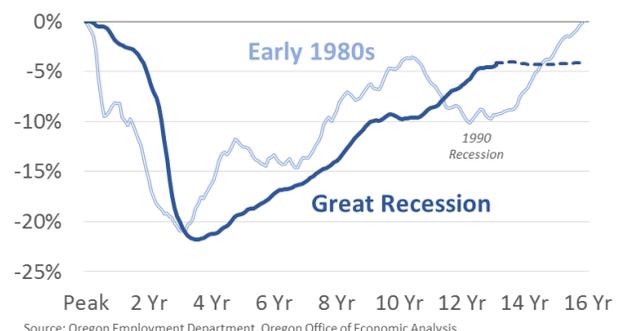
Oregon Employment Annual Growth Rates



\*Corrected for 2010 & 2020 Census workers and home health worker reclassification  
Source: Oregon Employment Dept, Oregon Office of Economic Analysis

### Oregon Manufacturing Employment

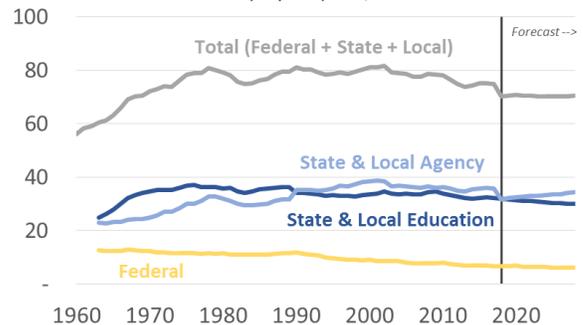
Oregon's Severe Recessions



Source: Oregon Employment Department, Oregon Office of Economic Analysis

### Government Workers in Oregon

Number of Employees per 1,000 Residents



Series Break 1990, 1950-1989 SIC data level shifted to match NAICS level in 1990s  
Latest Data: 2018 | Source: Oregon Employment Department, Oregon Office of Economic Analysis

outlook is PERS. The extent to which government hiring by local and state entities is impacted in the coming years as contributions increase is unknown.

Along with an improving labor market, stronger personal income gains are here, although tax law changes have pushed around growth rates in the recent past (see the expiring Bush tax cuts and the fiscal cliff) and may do so again moving forward. Recent revisions have also raised Oregon's personal income above previous forecast estimates. Personal income is now forecasted to grow 5.3 percent in 2019, slow to 4.5 percent in 2020 and then settle in at 4.9 percent in 2021, 4.8 percent in 2022 and 4.7 percent in 2023.

As the economy continues to improve, household formation is increasing too, which will help drive up demand for new houses. Household formation was suppressed earlier in the recovery, however the improving economy and increase in migration have returned in full force. Even as more young Oregonians are living at home, as the Millennials continue to age into their late-20s through their mid-30s, demand for housing will increase as well. In fact, given the underlying demographics, household formation should slightly outpace overall population growth in the coming years.

Housing starts to begin the year have totaled just over 20,000 at an annual pace, which is about the level of Oregon's long-run average, at least prior to the housing bubble. The outlook calls for a few more gains as housing production increases to meet demand. Starts will total 20,800 in 2019, and increase to 21,900 in 2020 and 22,800 in 2021. Over the extended horizon, starts are expected to average around 23,000 per year to meet demand for a larger population and also, partially, to catch-up for the underbuilding that has occurred in recent years.

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

### **Forecast Risks**

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

- **U.S. Economy.** While Oregon is more volatile than the nation overall, the state has never missed a U.S. recession or a U.S. expansion. In fact, Oregon's business cycle is perfectly aligned with the nation's, at least when measuring peak and trough dates for total nonfarm employment. If anything, Oregon actually leads the U.S. by a month or two. The fact that there are more worrisome trends or risks at the U.S. level means there should be concerns about the Oregon outlook. Should the U.S. fall into recession, Oregon will too. That said, should the U.S. economy accelerate, Oregon's economy should receive a similar boost as well.
- **Housing affordability.** Even as the housing market recovers, new supply has not kept up with demand (both from new households and investor activity). This applies to both the rental and ownership sides of the market. As such, prices have risen considerably and housing (in)affordability is becoming a larger risk to the outlook. Expectations are that new construction will pick up a bit in the next year or three, to match the increase in demand, which will alleviate some price pressures. However to the extent that supply does not match demand, home prices and rents increasing significantly faster than income or

wages for the typical household is a major concern. While not included in the baseline outlook, significantly worse housing affordability may dampen future growth as fewer people can afford to move here, lowering net in-migration and the size of the labor force.

- **Global Spillovers Both Up and Down.** The international list of risks seems to change by the day: a hard Brexit, sovereign debt problems in Europe, equity and property bubbles in places like Canada, South America and Asia, political unrest in Hong Kong, the Middle East and Venezuela, nuclear arsenal concerns with North Korea, and commodity price spikes and inflationary pressures in emerging markets. In particular, with China now a top destination for Oregon exports, the state of the Chinese economy – and its real estate market, or public debt burden – has spillover effects to the Oregon economy. Any economic slowing, or deteriorating relations in or with Asia is a potential threat to the Pacific Northwest.
- **Federal fiscal policy.** The uncertainty regarding federal fiscal policy remains a risk. Some policies are likely to impact Oregon more than the typical state, while others maybe not as much. The good news for Oregon is that outside of outright land ownership, the federal government has a relatively small physical presence in the state. This means that direct spending reductions are less likely to hurt Oregon. Of course, it also limits the local benefit from any potential increases in federal spending, as was recently passed by Congress. In terms of federal grants as a share of state revenue, Oregon ranks 29th highest. For federal procurement as a share of the economy, Oregon ranks 48th highest. Oregon ranks below average in terms of military-dependent industries as well. The one area that Oregon ranks above average is in terms of direct federal employment, ranking 19th highest among all states. Oregon also is exposed to an above-average share of federal transfer payments to households. Transportation funding is also a major local concern. Overall, the direct impact may be less than in other states but the impact will be felt nevertheless, particularly as our closest neighboring states have large federal and military workforces.
- **Climate and Natural Disasters.** Weather forecasting is even more difficult than economic forecasting a year or two into the future. While the severity, duration and timing of catastrophic events like earthquakes, wildfires and droughts are difficult to predict, we do know they impact regional economies. Fires damage forests and tourism. Droughts in particular impact our agricultural sector and rural economies to a larger degree. Whenever Cascadia, the big earthquake, hits, we know our regional economy and its infrastructure will be crippled and in need of immediate repairs. Some economic modeling suggests that Cascadia’s impact on Oregon will be similar to Hurricane Katrina’s on New Orleans. Longer-term issues like the potential impact of climate change on domestic migration patterns are likewise hard to predict and outside our office’s forecast horizon. There is a reasonable expectation that migration flows will continue to be strong as the rest of the country becomes less habitable over time.
- **Commodity price inflation.** Always worrisome is the possibility of higher oil (and gasoline) prices. While consumer spending has held up pretty consistently in this recovery, anytime there is a surge in gas prices, it eats away at consumers’ disposable income, leaving less income to spend on all other, non-energy related goods and services. This impact is certainly more muted today<sup>6</sup>, but a risk nonetheless.

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<sup>6</sup> <https://oregoneconomicanalysis.com/2018/11/08/oregons-energy-intensity-and-household-spending/>

- Federal timber policy and transfers impact regional economies and local governments. Reductions in public employment and services are being felt in the impacted counties in recent years and decades. For more information from a historical perspective, see two recent blog posts, [here](#) and [here](#)<sup>7</sup>.
- 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.

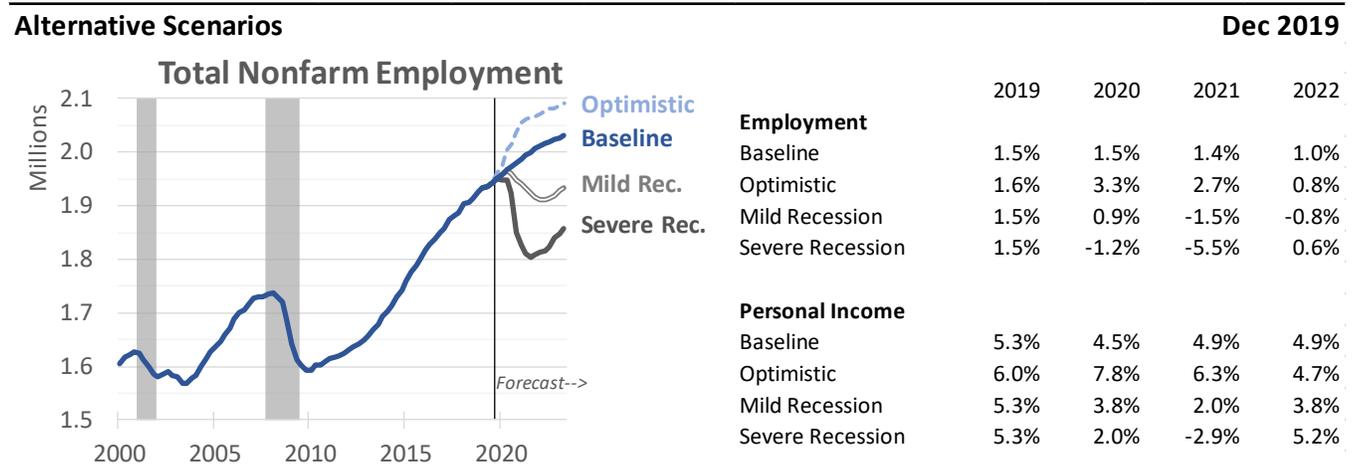
### Alternative Scenarios

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 expansion is able to gather steam as the trade tensions and manufacturing weakness fade and recede into the rearview mirror of history. The U.S. economy builds momentum into 2020. The economy is soon firing on all cylinders, resulting in faster productivity growth which raises the speed limit of overall gains. Wages and incomes increase likewise increase at a faster rate. All of this results in stronger consumer spending and more business investment.

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



#### Mild Recession Scenario:

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

The slowdown in economic growth and increased trade tensions carry over and escalate. Financial markets remain spooked and the yield curve inverts again. Real estate prices correct and the housing market stall worsens, removing one potential driver of growth. Strained trade relations result in falling exports, business confidence tumbles and so does capital spending. The U.S. dollar strengthens further, chocking off the manufacturing cycle entirely. These factors are enough weight on the recovery that by early-2020 the economy slides back into recession. Job losses ensue and while not severe – about 55,000 jobs in Oregon when it is all said and done – it takes a toll on business income, housing starts and personal income. The unemployment rate returns to nearly 7 percent. The net effect of the mild recession is an extended period of prolonged economic weakness, not unlike Japan’s so-called Lost Decade(s). Although inflation is expected to remain positive, a key difference.

#### Severe Recession Scenario:

After expanding for 11 years at relatively lackluster growth rates, the U.S. economy falls back into recession. Industrial production declines and the slower personal income growth in the U.S. worsens. Strained trade relations develop into an all-out trade war. The Fed, already lacking in traditional monetary policy ammunition, is not able to stave off such an impact. While the catalyst may be different, the economic effect is similar to late 2008 and early 2009, although not quite as severe when the dust settles. This is little comfort when the unemployment spikes back to 9 percent and more than 147,000 Oregonians lose their jobs by early-2021.

Besides the domestic economic headwinds and Federal Reserve tightening, the likely culprit in this scenario is either a meltdown of the financial markets sparked by some geopolitical shock, or quickly rising inflation. Economic growth in the U.S., while fairly steady as of late, is not nearly strong enough to withstand an external financial shock of this magnitude, nor a Federal Reserve quickly raising rates to fight inflation. Further economic effects of a recession this size are personal income losses of around 5 percent, about three-quarters the size of the Great Recession losses in Oregon. Housing starts plummet to near historical low levels of construction and home prices decline further. On the bright side, when construction does rebound, it will result in a surge of new home building that will rise above the state’s long term average level of building due to pent-up demand for housing and that the state will have under built housing during this time period.

#### ***Extended Outlook***

IHS Markit projects Oregon’s economy to fare well relative to the rest of the country in the coming years. The state’s Real Gross State Product is projected to be the twenty-second fastest among all states across the country in terms of growth with gains averaging 1.8 percent from 2019 through 2024. Total employment is expected to be the twelfth strongest among all states at an annualized 0.7 percent, while manufacturing employment will be the second fastest in the country at 0.5 percent. Total personal income growth is expected to be 4.5 percent per year, the fifteenth fastest among all states, according to IHS Economics.

Our office is equally, if not more bullish in terms of Oregon’s relative growth prospects. Much of Oregon’s advantage comes from population growth, specifically the ability to attract and retain young, working-age households. Our office expects population growth to average 1.1 percent over the next handful of years. Recently, IHS lowered their forecast for Oregon population growth to 0.9 percent over the same time period. These differences are not immaterial. It amounts to a 5 year difference of nearly 50,000 Oregonians of which between two-thirds and three-fourths would be among the working-age population. As such, our overall economic outlooks have diverged just a bit.

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

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

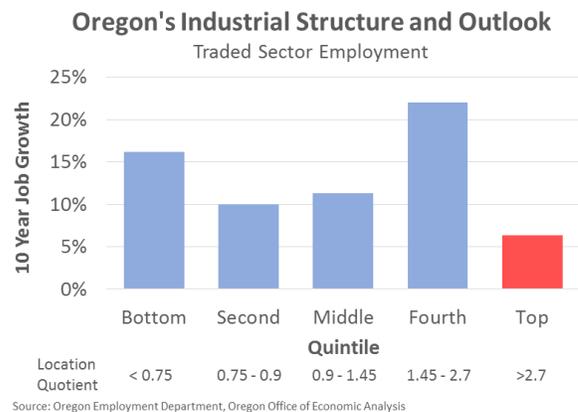
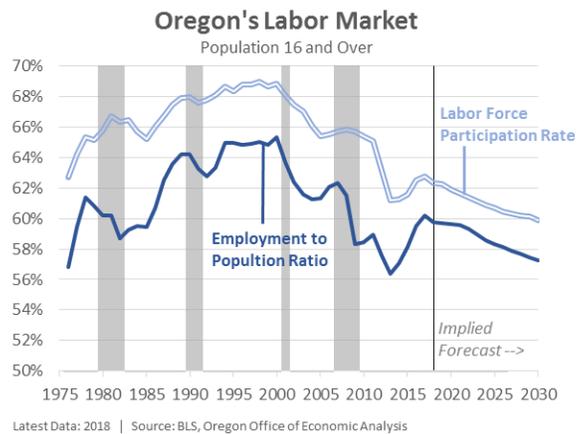
First, on the bright side, all of the recessionary-induced declines in the labor force itself have been reversed in the recent years. Oregon’s labor force has never been larger. However, the participation rate may be a little lower than expected, when adjusting for the size of the population and the aging demographics. Such modeling is sensitive to assumptions but it is encouraging that much of the participation gap has closed as the expansion has endure.

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

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

However, these industries which have been Oregon’s strength in both the recent past and historically, are now expected to grow the slowest moving forward. Productivity and output from the state’s technology producers is expected to continue growing quickly, however employment is not likely to follow suit. Similarly, the timber industry remains under pressure from both market based conditions and federal regulations. Barring major changes to either, the slow growth to downward trajectory of the industry in Oregon is likely to continue.

With that being said, certainly not all hope is lost. Those top industries in Oregon comprise approximately 7 percent of all statewide employment. And many industries in which Oregon has a larger concentration than



typical state are expected to perform quite well over the coming decade. These industries include management of companies, food and beverage manufacturing, published software along with some health care related firms.

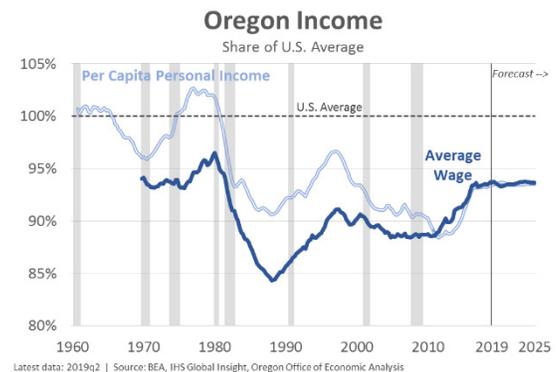
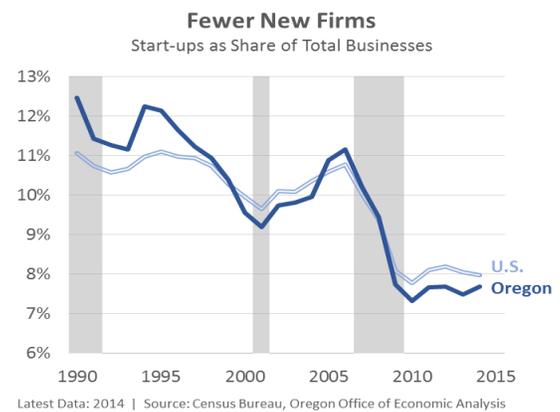
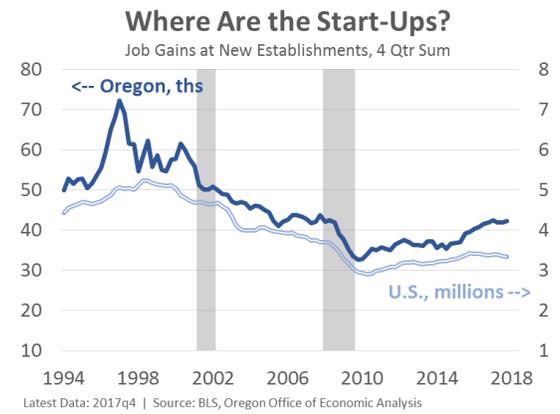
The state’s real challenges and opportunities will come in industries in which Oregon does not have a relatively large concentration. These industries, like consulting, computer system design, financial investment, and scientific R&D, are expected to grow quickly in the decade ahead. To the extent that Oregon is behind the curve, then the state may not fully realize these gains if they rely more on clusters and concentrations of similar firms that may already exist elsewhere in the country.

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

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

Importantly, Oregon also enjoys the long-term advantages of low electricity costs; a central location between the large markets of California, Vancouver and Asia; clean water; low business rents and living costs when compared to other Left Coast locations; and an increasingly diverse industrial base.

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

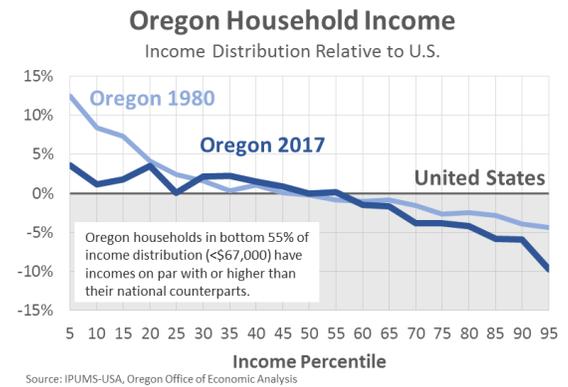
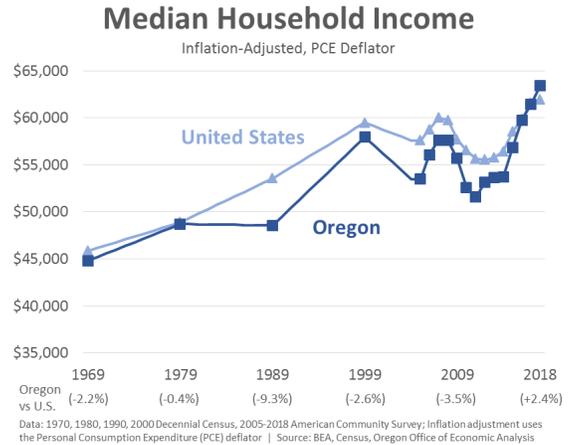


Even since the timber industry restructured following the severe early 1980s recessions, Oregon’s relative incomes have been lower. The regional economy experienced a major shock and it took quite a long time to recover. However, finally, in this current economic expansion, Oregon is regaining the ground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

Oregon’s median household income now matches the U.S. overall. Average wages in Oregon are at their highest relative point since the mills closed in the early 1980s. And the state’s per capita personal income is back to where it was prior to the dotcom crash in 2001.

In terms of the outlook, expectations are for Oregon’s relative positions to hold steady in the coming years. The primary reason for this is that Oregon’s average wages have already accelerated in recent years, even as U.S. wages are just now picking up. Our office expects Oregon’s average wage to continue to increase by 4 percent per year. However as the U.S. accelerates closer to Oregon’s annual rate, Oregon’s growth advantage in recent years will lessen.

One major factor influencing per capita personal income trends is the relative incomes at the very top of the distribution. Make no mistake, Oregon’s highest-income households have done well financially. However incomes at the top of the national distribution have increased even further. This gap among the richest households is large enough, and the incomes high enough to weigh on Oregon’s overall per capita income figures.



## Revenue Summary

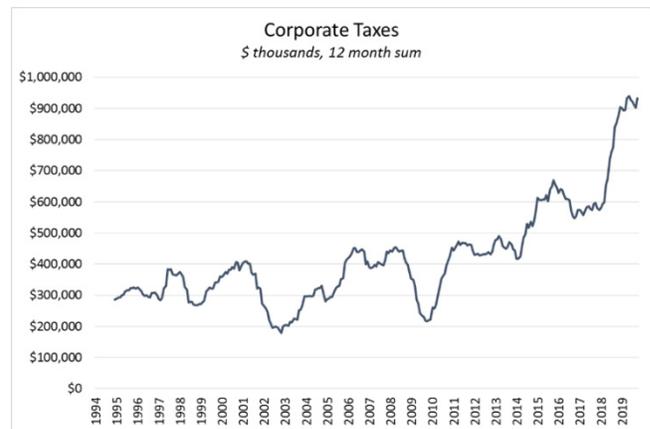
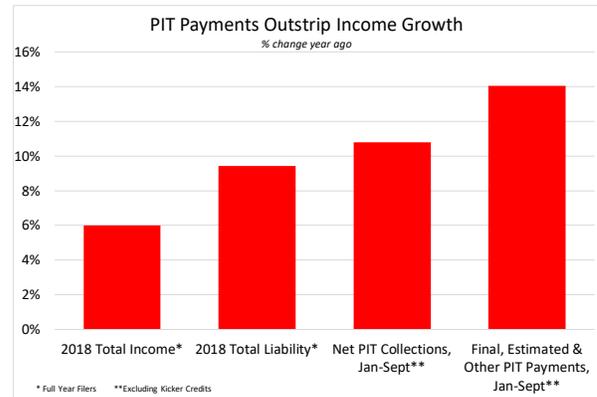
As the 2019-21 biennium has begun, all major types of Oregon's General Fund tax collections continue to outstrip gains in the underlying economy. The largest part of Oregon's General Fund, personal income tax collections, surged during the peak tax season and continued to post strong gains as extension filers submitted their tax returns in the fall. Both income tax payments net of refunds, as well as withholdings out of paychecks, have been posting growth rates above what economic gains would call for. Corporate tax collections have slowed a bit in recent months, but remain elevated above their typical size as well.

The primary forecasting challenge for the current biennium is to determine how much of the recently strong tax collections are due to temporary factors that will fade away in the months ahead. Even without the onset of recession, revenue growth is facing major headwinds during the current biennium. State & federal tax policies, a big kicker refund and slower economic growth will all weigh on General Fund revenues in the near term.

Over the past business cycle, state tax policy changes have played a role in boosting tax collections. In particular, the increase in personal tax rates (Measure 66) and the imposition of a corporate minimum tax with (Measure 67) have supported additional revenue growth. In addition to enacting these tax laws, policymakers have increased revenues further by allowing some tax credits to sunset and by being selective about which federal tax law changes Oregon couples to. On net, however, the impact of state tax law changes has been relatively small since many tax cuts as well as tax increases have been enacted.

Oregon's income tax rate structure has also played a role in supporting above-trend revenue gains. Strong household income gains represent the most encouraging aspect of Oregon's economic expansion. As households earn more income, many step up tax brackets, leading to even faster growth in personal income tax liability. Also, as income growth has become polarized, a higher share of earnings is being accounted for by households at the top of the income distribution. Such households often face the highest tax rates. High-income households currently account for an income share that is around 50% larger than it was during the peak of the last economic expansion. The share of income reported by high-income households is very sensitive to the business cycle and will fall off sharply when the next recession inevitably comes around, exacerbating revenue losses.

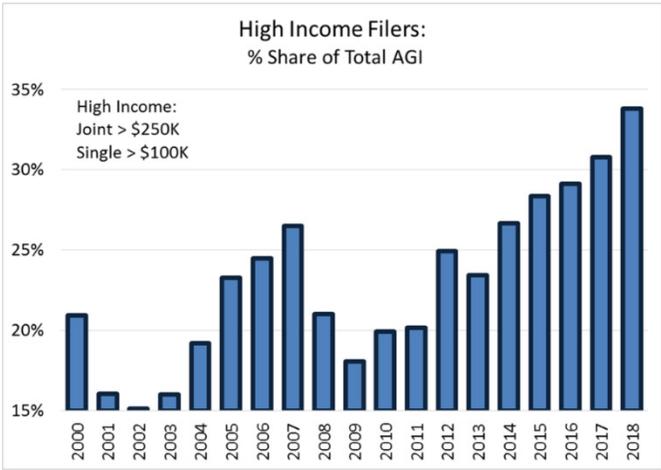
Perhaps the biggest factor behind Oregon's above-trend revenue gains has been the federal tax reforms that were enacted at the end of 2017. Federal tax law changes have boosted Oregon's recent tax collections through several avenues. While many of these factors are clearly temporary and will fade in the months ahead, it can be



argued that some of the federal tax reforms have broadened Oregon’s tax base and will persist over the extended horizon.

Among temporary factors, timing shifts in tax payments in response to changing federal tax rules have been very widespread, particularly for business tax liability. Through strategic accounting practices, both firms and individuals actively pulled costs into 2017 and pushed income into future years in order to reduce their tax burdens. Also, taxpayers have sought to take full advantage of expiring or limited deductions, and have actively claimed bonus depreciation and Section 179 expenses.

In addition to shifts in the timing of tax payments, some taxpayers are turning to more complicated tax management strategies in response to federal reforms. In particular, some filers have changed their business structures or reporting classifications in light of the new federal rules. Switching between C-corporations and passthrough entities, from wages to business income, and dividing or merging different lines of business are all strategies that have the potential to lower tax burdens for some filers. To date, however, the adoption of complicated tax management strategies has been surprisingly limited. Over time, as tax practitioners get more experience with the new rules, such strategies may become more widespread. However, many practitioners report being hesitant to advise making big changes in filing status due to the uncertain future of federal tax policies. Filing changes are not without cost, and under a new administration or Congress, some of the federal law changes may well be reversed in the years ahead. For example, the decision to switch into a C-Corporation, is very difficult to reverse should incentives change.



While many of the downstream effects of federal tax law changes are likely to be temporary, Oregon’s tax base has clearly grown somewhat due to the reforms. One goal of the federal reforms was to rely on a broader tax base rather than higher tax rates. Corporate deduction limits such as the cap on net interest deductions feed through to state tax liability. Personal income tax deduction limits on business income such as operating losses can also affect state tax liability. In addition to limiting deductions, the territorial system of international taxation appears to have given businesses an incentive to report more income domestically.

While there is a great deal of uncertainty about the staying power of recent revenue growth, the December forecast reflects a stable economic outlook, with the expected size of General Fund collections increasing slightly over what was expected at the Close of Session. Going forward, the uncertain path of the nationwide economy will dominate the revenue outlook. Fortunately, Oregon is better positioned than ever before to weather a revenue downturn. Automatic deposits into the Rainy Day Fund and Education Stability Fund have added up over the decade-long economic expansion. When the projected ending balance for the current biennium is included, Oregon is expected to end the biennium with more than \$2.7 billion in reserves set aside, amounting to almost 13% of the two-year budget.

Longer term, 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.

### 2019-21 General Fund Revenues

Gross General Fund revenues for the 2019-21 biennium are expected to reach \$21,169 million. This represents an increase of \$57 million from the September 2019 forecast, and an increase of \$149 million relative to the Close of Session forecast. With revenue gains expected to be very modest from an historical perspective, there is both upside and downside risk to the forecast.

(Millions)	2019 COS Forecast	September 2019 Forecast	December 2019 Forecast	Change from Prior Forecast	Change from COS Forecast
<b>Structural Revenues</b>					
Personal Income Tax	\$18,283.5	\$18,292.4	\$18,285.8	-\$6.7	\$2.3
Corporate Income Tax	\$1,190.8	\$1,270.0	\$1,325.9	\$55.9	\$135.1
All Other Revenues	\$1,546.1	\$1,549.8	\$1,557.4	\$7.6	\$11.3
<b>Gross GF Revenues</b>	<b>\$21,020.4</b>	<b>\$21,112.1</b>	<b>\$21,169.0</b>	<b>\$56.9</b>	<b>\$148.6</b>
Offsets and Transfers	-\$203.5	-\$196.8	-\$209.1	-\$12.3	-\$5.5
Administrative Actions <sup>1</sup>	-\$21.5	-\$21.5	-\$21.5	\$0.0	\$0.0
Legislative Actions	-\$199.5	-\$199.5	-\$199.5	\$0.0	\$0.0
<b>Net Available Resources</b>	<b>\$22,914.4</b>	<b>\$23,226.7</b>	<b>\$23,389.5</b>	<b>\$162.8</b>	<b>\$475.1</b>
<b>Confidence Intervals</b>					
<b>67% Confidence</b>	+/- 7.1%		<b>\$1,497.4</b>	<b>\$19.67B to \$22.67B</b>	
<b>95% Confidence</b>	+/- 14.1%		<b>\$2,994.8</b>	<b>\$18.17B to \$24.16B</b>	

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

#### Personal Income Tax

Personal income tax collections were \$2,460 million during the first quarter of fiscal year 2020, \$13 million (0.5%) above the latest forecast. Compared to the year-ago level, total personal income tax collections rose by 9.0% relative to a forecast that called for an 8.4% increase. Table B.8 in Appendix B presents a comparison of actual and projected personal income tax revenues for the July-September quarter. Strong growth in collections has continued into the second quarter of fiscal year 2020.

Personal income tax collections during the 2019-21 biennium will be constrained by many factors, including a large kicker credit. During the kicker certification process, when revenue data is reconciled with accounting records, it was determined that the kicker credit included an additional \$118 million, bringing the total amount to just under \$1.7 billion. This change was roughly neutral from a budgeting perspective since the beginning balance grew along with the size of the kicker credit.

#### Corporate Excise Tax

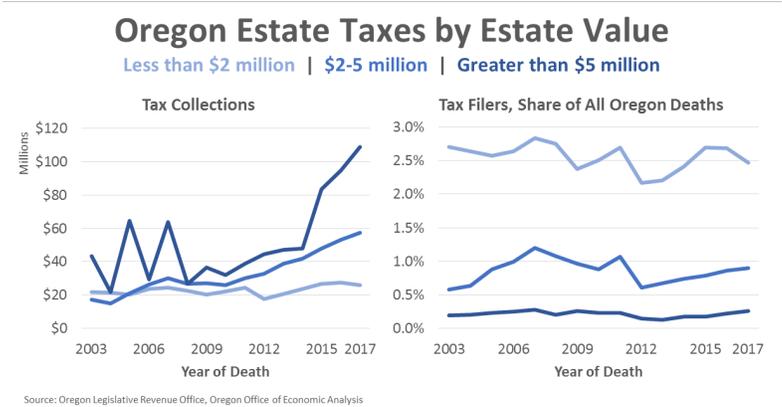
Corporate excise tax collections equaled \$230 million for the first quarter of fiscal year 2020, \$9 million (4.2%) below the September forecast. Compared to the year-ago level, net corporate excise tax collections fell by 9.5% while the forecast called for a decline of 13.1%.

Federal Tax Law Changes have injected a good deal of uncertainty into the outlook for corporate tax payments. It is likely that the corporate tax base has become larger in Oregon. In part, firms are now recognizing more of their global income streams. Also, some employees, investors, partnerships, S-corps and sole proprietorships face a larger tax incentive to incorporate. Conversely, some C-corporations and employees will benefit from becoming pass-through entities. Accelerated depreciation provisions are also impacting the revenue stream, as is the repatriation of deferred income from multinational corporations. While large, the amount of taxes on repatriated earnings appears to be falling short of expectations, and has been revised downward.

#### Other Sources of Revenue

Non-personal and non-corporate revenues in the General Fund account for approximately 7 percent of the total. One-fifth of this amount comes from Oregon Liquor Control Commission revenues, while estate taxes account for another fifth. In terms of forecast changes in recent biennia, estate taxes stand out as they have come in considerably above expectations.

Overall the number of estates impacted by the tax is relatively steady over the past decade, both in absolute numbers and as a share of all Oregon deaths. The growth in tax collections largely reflects the increasing size of a few very large estates. Looking forward, the outlook for collections remains strong, however not quite as strong as demographics and asset markets alone suggest due to household’s tax planning capabilities.



All told, General Fund revenues excluding personal and corporate taxes are expected to total \$1.56 billion in 2019-21, an upward revision of \$7.6 million relative to the previous forecast. Increases in insurance taxes and interest earnings were partially offset by downward revisions in tobacco taxes, criminal fines and securities fees. In the out biennia, these revenues are revised higher due to a stronger outlook for insurance taxes.

**Extended General Fund Outlook**

Table R.2 exhibits the long-run forecast for General Fund revenues through the 2027-29 biennium. Users should note that the potential for error in the forecast increases substantially the further ahead we look.

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

**Table R.2**

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

Revenue Source	Forecast 2017-19		Forecast 2019-21		Forecast 2021-23		Forecast 2023-25		Forecast 2025-27		Forecast 2027-29	
	Biennium	% Chg	Biennium	% Chg	Biennium	% Chg	Biennium	% Chg	Biennium	% Chg	Biennium	% Chg
Personal Income Taxes	18,823.3	17.2%	18,285.8	-2.9%	21,709.3	18.7%	23,672.7	9.0%	25,717.4	8.6%	28,408.1	10.5%
Corporate Income Taxes	1,752.7	44.8%	1,325.9	-24.4%	1,288.4	-2.8%	1,459.4	13.3%	1,697.3	16.3%	1,909.0	12.5%
All Others	1,339.3	3.9%	1,557.4	16.3%	1,405.0	-9.8%	1,470.9	4.7%	1,543.1	4.9%	1,639.2	6.2%
Gross General Fund	21,915.3	18.1%	21,169.0	-3.4%	24,402.7	15.3%	26,603.0	9.0%	28,957.8	8.9%	31,956.3	10.4%
Offsets and Transfers	(129.5)		(209.1)		(112.0)		(114.3)		(78.3)		(80.8)	
Net Revenue	21,785.8	17.6%	20,959.9	-3.8%	24,290.6	15.9%	26,488.7	9.0%	28,879.5	9.0%	31,875.4	10.4%

## Tax Law Assumptions

The revenue forecast is based on existing law, including measures and actions signed into law during the 2019 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 2019 Legislative Session can be found in Appendix B Table B.3. For a detailed treatment of the components of the 2019 Legislatively Enacted Budget, see: [LFO 2019-21 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 2019-21 Tax Expenditure Report](#) together with more timely updates produced by the Legislative Revenue Office.

## General Fund 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 \$4.7 billion lower than predicted over the next two biennia<sup>8</sup>.

Baseline Case	December 2019									
	2017-19 BN		2019-21 BN		2021-23 BN		2023-25 BN		2025-27 BN	
	FY '18	FY '19	FY '20	FY '21	FY '22	FY '23	FY '24	FY '25	FY '26	FY '27
<b>Personal Income</b>										
Level	206.7	218.8	229.4	240.2	252.0	264.0	274.9	289.8	304.1	318.8
% change	6.0%	5.9%	4.8%	4.7%	4.9%	4.8%	4.1%	5.4%	4.9%	4.8%
<b>Taxes</b>										
Personal Income	8,872	9,909	8,588	9,698	10,665	11,044	11,564	12,108	12,557	13,161
Corporate Excise & Income	739	927	749	577	619	669	708	752	821	877
Other General Fund	633	706	698	859	694	711	727	744	762	781
Total General Fund	10,244	11,542	10,035	11,134	11,978	12,424	12,999	13,604	14,139	14,819
% change	4.3%	12.7%	-13.1%	11.0%	7.6%	3.7%	4.6%	4.7%	3.9%	4.8%
<b>Moderate Recession</b>										
<b>Personal Income</b>										
Level	206.7	218.8	223.8	228.7	242.5	257.0	269.7	286.5	301.4	316.5
% change	6.0%	5.9%	2.3%	2.2%	6.0%	6.0%	5.0%	6.2%	5.2%	5.0%
<b>Taxes</b>										
Personal Income	8,872	9,909	8,295	9,046	10,102	10,633	11,263	11,917	12,391	13,008
<i>Deviation from baseline</i>	0	0	-293	-652	-563	-411	-301	-191	-166	-153
Corporate Excise & Income	739	927	712	522	572	634	681	735	806	864
<i>Deviation from baseline</i>	0	0	-36	-55	-47	-36	-26	-17	-14	-13
Other General Fund	633	706	698	859	694	711	727	744	762	781
Total General Fund	10,244	11,542	9,705	10,427	11,368	11,978	12,671	13,396	13,959	14,653
% change	4.3%	12.7%	-15.9%	7.4%	9.0%	5.4%	5.8%	5.7%	4.2%	5.0%
<i>Deviation from baseline</i>	0	0	-329	-708	-610	-447	-328	-208	-180	-166
<i>Biennial Deviation</i>		0		-1,037		-1,057		-536		-346
<b>Severe Recession</b>										
<b>Personal Income</b>										
Level	206.7	218.8	209.0	216.8	233.2	250.2	265.5	285.0	299.8	314.8
% change	6.0%	5.9%	-4.5%	3.7%	7.5%	7.3%	6.1%	7.3%	5.2%	5.0%
<b>Taxes</b>										
Personal Income	8,872	9,909	7,521	8,376	9,550	10,233	11,016	11,829	12,299	12,912
<i>Deviation from baseline</i>	0	0	-1,066	-1,322	-1,115	-811	-548	-280	-257	-249
Corporate Excise & Income	739	927	616	465	527	599	660	727	798	855
<i>Deviation from baseline</i>	0	0	-133	-112	-92	-70	-48	-25	-23	-22
Other General Fund	633	706	698	859	694	711	727	744	762	781
Total General Fund	10,244	11,542	8,836	9,700	10,771	11,543	12,403	13,299	13,859	14,547
% change	4.3%	12.7%	-23.4%	9.8%	11.0%	7.2%	7.5%	7.2%	4.2%	5.0%
<i>Deviation from baseline</i>	0	0	-1,199	-1,434	-1,207	-882	-596	-305	-280	-271
<i>Biennial Deviation</i>		0		-2,633		-2,089		-901		-552

<sup>8</sup> The methodology for computing alternative scenarios has been changed to reflect recent work done by the Legislative Revenue Office. Assumptions: Recessions begin in 2019 and return to baseline income by 2026. The moderate recession

### **Corporate Activity Tax**

HB 3427 (2019) creates a new state revenue source by implementing a corporate activity tax (CAT). The tax is expected to generate \$1.6 billion in revenue in 2019-21 and \$2.8 billion in 2021-23. These revenues are dedicated to spending on education. The legislation also included personal income tax rate reductions, reducing General Fund revenues. The net impact of HB 3427 was designed to generate approximately \$1 billion per year in new state resources.

This forecast represents the second time the new CAT has been included. Table B.12 in Appendix B has details on 10 year forecast and the allocation of resources, while the personal income tax reductions are built into the General Fund forecasts as shown in Tables B.1 and B.2.

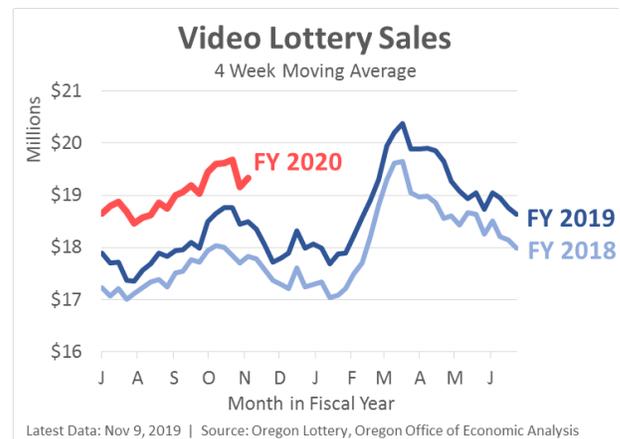
In terms of the big picture economic impacts, as always, our office starts with the Legislative Revenue Office’s impact statement and any Oregon Tax Incidence Model (OTIM) results LRO found. At the top line, OTIM results find minimal macroeconomic impacts across Oregon due to the new tax. Personal income, employment, population, investment and the like are less than one-tenth of a percent different under the new tax relative to the baseline. The model results also show that price levels (inflation) will increase above the baseline as some of the CAT is pushed forward onto consumers. Of course these top line, statewide numbers mask the varying experiences that individual firms and different industries will experience. There are likely to be some businesses or sectors that experience large impacts from the CAT, or where pyramiding increases prices to a larger degree, while other businesses or sectors see relatively few impacts.

Today we have no real economic or revenue data to evaluate the impact of the corporate activity tax as it begins in 2020. While businesses will make quarterly payments throughout 2020, it really will not be until April 2021 when their annual tax return is due that we will have a complete look at the revenue, taxpayer behavior and the like. As data does become available, our office, in conjunction with our advisors and the Legislative Revenue Office will work together to better understand the revenue and its impact. Our office will update the outlook accordingly at that time.

### **Lottery Earnings**

While available Lottery resources are largely unchanged relative to three months ago, these small topline changes mask two underlying forecast adjustments.

First, video lottery growth not only remains strong, but has accelerated in the recent months. The video outlook has been raised \$11 million in 2019-21 and \$4.1 million in 2021-23, while the outer biennia adjustments are relatively minor. These near-term changes, when combined with recent forecast revisions, have removed much of the weakness or lingering hangover expectations from the ilani Casino Resort in southwest Washington.



scenario assumes personal income growth will be reduced by one-half relative to the baseline in 2019 and 2020. The severe recession scenario assumes personal income will decline in 2019 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.

Second, traditional lottery has been revised down approximately \$2.4 million per year over the extended forecast due to adjustments made to the multistate jackpot games, Powerball and Mega Millions.

No adjustments were made to the outlook for sports betting as the game has only been available for a handful of weeks and is therefore it is too soon to know how accurate the initial projections are. Scoreboard is projected to generate \$8.3 million in available resources in 2019-21. These revenues are dedicated to the PERS Employer Incentive Fund per SB 1049 (2019).

Longer term, sports betting is forecasted to generate \$29.4 million in 2021-23 and \$42.2 million 2023-25 for the Employer Incentive Fund. These estimates are highly uncertain and come from myriad assumptions about the size of the sports betting market overall, industry competition, player adoption rates, administrative costs and the like. The research team at Lottery provided the underlying estimates of the handle, gross gaming revenue and expenses. Our office worked to extend the analysis over the full forecast horizon and to translate the gaming revenue estimates into available resources.

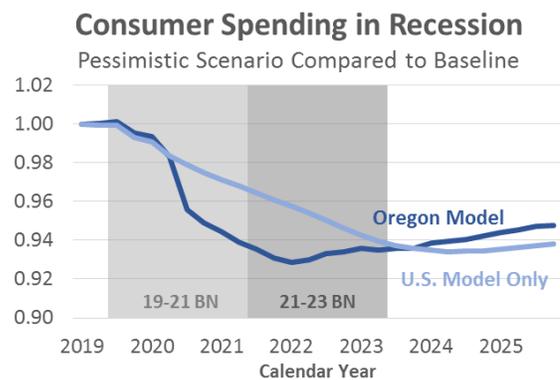
We also know that additional uncertainty arises from the volatility of revenues as wagers come in heavy on one team or another. For this reason, the forecast also assumes that Lottery will build reserves out of the sports betting revenue to help account for the expected volatility.

These figures have been discussed among the Lottery forecast advisory group and represent just a first step in incorporating sports betting revenue into the outlook. As actual sales data comes in, our office, along with the Oregon Lottery, Oregon Legislative Fiscal and Revenue Offices, and the state CFO's office will discuss trends, issues and risks. We will update the outlook accordingly.

#### *Lottery Outlook and Distributions*

Given the uncertain economic outlook and discussions with the advisory group, our office went ahead and modeled the impacts a recession would have on video lottery spending in Oregon. Of course one can model myriad alternative scenarios, however this one starts with IHS Markit's pessimistic scenario of a mild to moderate recession. Our office then ran this through our economic and lottery models and compared the outcomes relative to the baseline.

All told, there is a clear impact and a permanent reduction in sales over the forecast horizon amounting to around \$45 million per year (\$29 million in transfers). Consumer spending on recreational services in this scenario is not expected to return to the baseline. However, given that the baseline has ongoing growth built into it, the mild to moderate recession scenario really results in a couple of flat years for video lottery sales. At this point, they also just happen to split into 2019-21 and 2021-23. If this scenario comes to pass, overall lottery resources for both biennia will show growth, albeit slower growth than the baseline. And the more severe a recession is, the larger the impact on consumer spending.



Other big picture issues to watch include broader national trends in gaming markets, demographic preferences for recreational activities, and to what extent consumers increase the share of their incomes spent on gaming. In much of the past 10 years, consumers have remained cautious with their disposable income. Increases in spending on gaming have largely matched income growth at best.

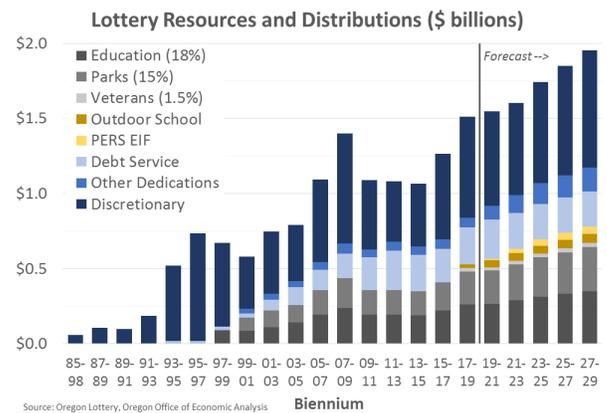
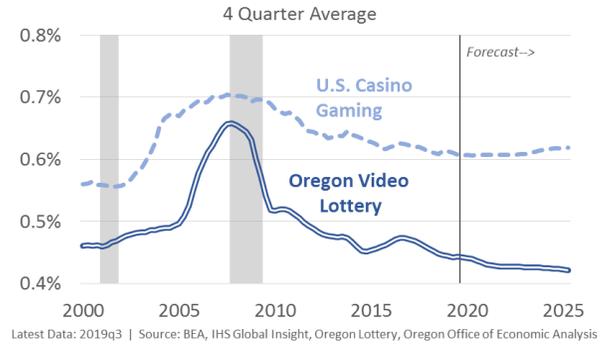
Over the long-run our office expects increased competition for household entertainment dollars, increased competition within the gaming industry, and potentially shifts in generational preferences and tastes when it comes to gaming. As such, our outlook for video lottery sales is continued growth, however at a rate that is slightly slower than overall personal income growth. Lottery sales will continue to increase as Oregon’s population and economy grows, however video lottery sales will likely be a slightly smaller slice of the overall pie.

Finally, in recent years Oregon voters approved two new amendments for where lottery resources are to be spent. The Outdoor School Education Fund is set to receive the lesser of 4 percent of net proceeds or \$5.5 million per quarter (\$44 million per biennium), adjusted for inflation. The Veterans’ Services Fund is set to receive 1.5 percent of net proceeds.

For more on the Lottery and overall gaming outlook, see our office’s recent report<sup>9</sup>.

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

### Gaming as Share of Personal Income



### Budgetary Reserves

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

<sup>9</sup> <https://oregoneconomicanalysis.com/2019/02/13/lottery-and-gaming-outlook-2019/>

<sup>10</sup> 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.

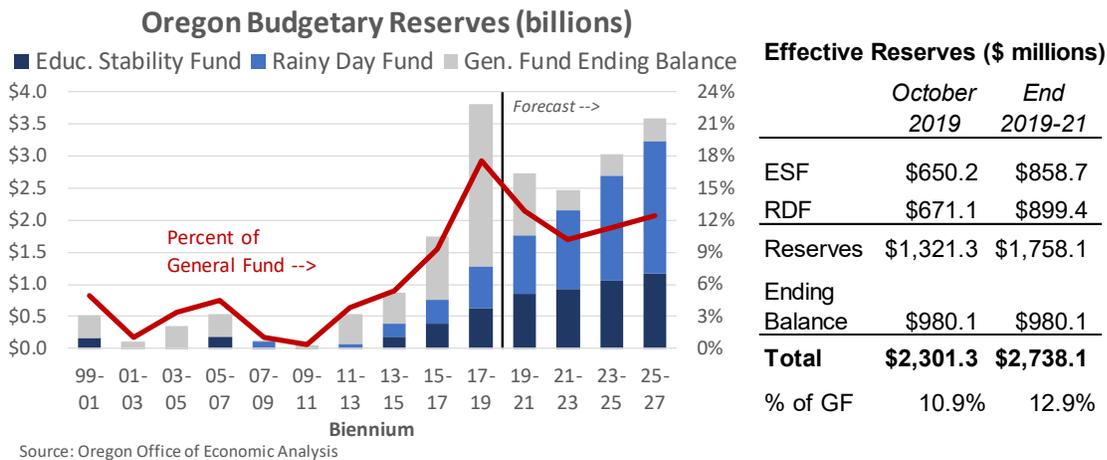
<sup>11</sup> The ESF gained its current reserve structure and mechanics via constitutional amendment in 2002. The ESF receives 18 percent of lottery earnings, deposited on a quarterly basis – 5% of which are deposited in the Oregon Growth sub-account.

As of this forecast the two reserve funds currently total a combined \$1.32 billion. At the end of the current 2019-21 biennium, they will total \$1.76 billion. A slightly lower interest rate forecast results in fewer interest earnings for both reserve accounts relative to last quarter’s forecast.

The forecast for the ORDF includes one deposit for this biennium relating to the General Fund ending balance from the previous biennium (2017-19). A deposit of \$199.5 million is expected in 2020 after the accountants close the books. The ORDF deposit relating to the increased corporate taxes from Measure 67 was made in June 2019. We had previously assumed it would occur during the 2019-21 biennium, however statute requires it to occur by the end of the biennium in which the revenues were received. All told, at the end of 2019-21 the ORDF will total \$899.4 million.

The forecast for the ESF calls for \$239.0 million in deposits during the 2019-21 biennium based on the current Lottery forecast. This would bring the ESF balance to \$858.7 million at the end of the current biennium.

Together, the ORDF and ESF are projected to have a combined balance of \$1.76 billion at the close of the 2019-21 biennium. Provided the General Fund ending balance remains unallocated, total effective reserves at the end of 2019-21 would total more than \$2.73 billion, or 12.9 percent of current revenues.



Such levels of reserve balances are bigger than Oregon has ever been able to accumulate, at least in the state’s recent history. However, such reserves would likely be just sufficient enough to withstand a typical recession’s impact on state revenues, but not likely enough to account for the increase in public services and programs during downturns. That said, reserves of approximately 7 percent are generally accepted to withstand a medium sized recession. Oregon now has reached that threshold.

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

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.

## Recreational Marijuana Tax Collections

The underlying outlook for recreational marijuana sales and tax collections remains intact and largely unchanged. That said, there are a couple of new issues to the forecast that warrant continued monitoring to gauge their impact on taxes paid and/or the flow of money and when it is disbursed to recipient programs.

Tax collections in recent months have largely tracked expectations, although a couple million to the high side resulting in a minor upward revision to 2019-21 available resources. No other changes have been made to the underlying sales forecast.

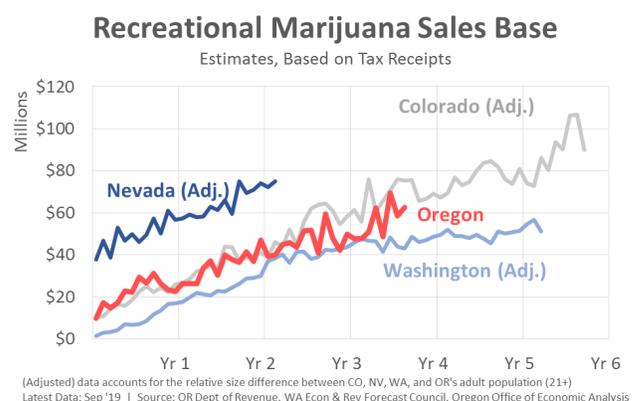
One potential risk to sales and tax collections remains the outcome of pending policies and lawsuits regarding the vaping ban. Getting a handle on both the current market share of potentially impacted products and estimates of how consumers would respond is challenging but something our office continues to research. Should the ban, which is a public health concern, go into effect, our office will adjust the sales and tax revenue outlook accordingly.

In terms of a potential issue that does not impact the sales outlook, but could impact resources for recipient programs is the timing and size of actual transfers into the Oregon Marijuana Account. The current process is businesses make monthly estimated payments based on their sales, but then file quarterly tax returns. Once the return has been processed at the Department of Revenue, then the tax revenue from that particular business is available to transfer to programs.

To the extent that firms file tax returns in a timely manner and/or there are relatively few disputes between businesses and tax authorities, then monies may be available for recipient programs faster than is currently assumed in the forecast – generally a one or two quarter delay. This may have been the case in the first quarter of the 2019-21 biennium in which the actual transfer made into the Oregon Marijuana Account was about \$4 million larger than expected, based upon these timing assumptions. Given such transfers are relatively new and fluctuations will naturally occur due to filing and processing patterns, no fundamental changes have been made yet to these timing assumptions. However this issue remains one to monitor moving forward.

Combined, the somewhat stronger sales in recent months and larger than expected quarterly transfer result in available resources in 2019-21 being revised higher by \$6.6 million, while expectations remain unchanged in future biennia.

Finally, prices are one issue that could have long-run impacts. As our office has discussed every quarter since we began developing the recreational marijuana forecast, prices are a big risk to the outlook. Oregon levies its recreational marijuana tax based on the price of the product. As such if prices fall, then the state receives less tax revenue for every ounce sold, or every edible purchased. Over the past couple of years this is exactly what has happened. Total state tax collections leveled off throughout 2018 and into early 2019, however the relatively stagnant topline masked big price declines and increases in quantities sold.



However, over the past six months or so, prices are once again rising, leading to higher tax collections but slower gains in the volume of products sold. This is certainly the case for usable marijuana where wholesale prices are up around 50 percent since the start of the year and retail prices more like 25 percent.

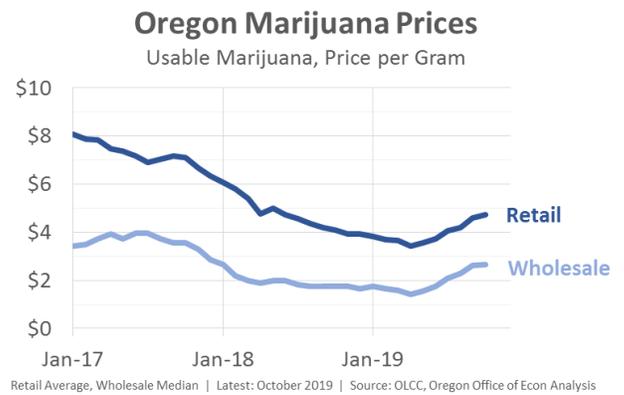
This rebound in prices is likely the bounce back following the large supply glut in recent years. As that inventory is sold or converted to other forms like concentrates, extracts, edibles and the like, prices are rising as the market works to find a better equilibrium between consumer demand and industry supply.

So far, price declines are ongoing among the concentrates and edibles, and their volume of sales is growing strongly. These differences among market segments represent any number of possibilities including that rising prices among more recently harvested products have not fully worked their way into the entire market yet, and/or the possibility that in a more mature industry, there may be greater seasonality in prices that ebbs and flows with harvest season.

Looking forward, Oregon is poised for strong growth in the coming years as the state's population, household incomes, and marijuana usage rates all increase. Furthermore, black and medical market conversions should boost recreational sales and tax collections as well.

That said, the outlook remains highly uncertain with substantial upside and downside risks. These risks include not only usage rates and prices, but shifts in supply and regulations that impact product availability. Additionally potential actions by the federal government remains a large risk as marijuana is a controlled substance and leakage into other states a large concern. Furthermore, the federal legalization of hemp introduces yet another risk to the outlook. To the extent that consumers choose to purchase CBD products, which have many of the same purported medical benefits as cannabis but without the psychoactive component, then these widely available products may gain market share at the expense of the Oregon taxed recreational marijuana products only available at licensed retailers.

*See Table B.11 in Appendix B for a full breakdown of distributions for recreational marijuana tax collections. Note that these distributions are based on current law.*



## 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 and 2000 to 18th between 2000 and 2010. Oregon's national ranking, including D.C., in population growth rate was 12<sup>th</sup> between 2010 and 2018 lagging behind all of our neighboring states, except California. Slow population growth during the decade preceding the 2010 Census characterized by double recessions probably cost Oregon one additional seat in the U.S. House of Representatives. Actually, Oregon's decennial population growth rate during the most recent census decade was the second lowest since 1900. As a result of economic downturn and sluggish recovery that followed, Oregon's population increased at a slow pace in the recent past. However, Oregon's current population is showing very strong growth as a consequence of state's strong economic recovery. Population growth between 2017 and 2018 was 11<sup>th</sup> fastest in the nation. Due to this better than average growth on national scale, Oregon will most likely get an additional seat in the U.S. House of Representatives. Based on the current forecast, Oregon's population of 4.195 million in 2018 will reach 4.705 million in the year 2029 with an annual rate of growth of 1.0 percent between 2018 and 2029.

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 aging population, long-term growth comes mainly from net in-migration. Working-age adults come to Oregon as long as we have favorable economic and living conditions. 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 76 percent of the population change during the booming economy of early 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 for several years. As a sign of slow to modest economic gain, the ratio of net migration-to-population change has registered at 89 percent in 2018 and will continue to rise throughout the forecast horizon. By 2029, all of the population growth and more in Oregon will come from the net migration due to the combination of continued high net migration, decline in the number of births, and the rise in the number of deaths. The natural increase of population, defined as the numbers of births minus deaths, will actually turn negative by the end of the forecast period due to the below replacement level fertility and increase in the number of deaths associated with the increase in the elderly population. With Oregon's favorable economic and environmental conditions, high level of net migration into Oregon will continue through the forecast horizon that will be solely responsible for Oregon's population growth.

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 forecast period of 2018-2029. It will also reflect demographics impacted by the depression era birth cohort combined with changing migration of working age population and elderly retirees through history. 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 and attrition of small depression era cohort due to death. The average annual growth of the elderly population will be 2.9 percent

during the 2018-2029 forecast period. However, the youngest elderly (aged 65-74) has been growing at an extremely fast pace in the recent past and will continue the trend in the near future exceeding 4 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. This fast paced growth rate will taper off to negative growth by the end of the forecast period as a sign of end of the baby-boom generation transitioning to elderly age group. Reversing several years of slow growth and a period of shrinking population, the elderly aged 75-84 started to show a positive growth as the effect of depression era birth-cohort has dissipated. An unprecedented fast pace of growth of population in this age group has started as the baby-boom generation is starting to mature into 75-84 age group. Annual growth rate during the forecast period of 2018-2029 is expected to be unusually high 5.3 percent. The oldest elderly (aged 85+) will continue to grow at a slow but steady rate in the near future 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 2.9 percent. An unprecedented growth in oldest elderly will commence near the end of the forecast horizon as the fast growing 75-84 age group population transition into this oldest elderly age cohort. As a sign of massive demographic structure change of Oregon's population, starting in 2023 the number of elderly population will exceed the number of children under the age of 18. To illustrate the contrast, in 1980 elderly population numbered less than half of the number of children in Oregon.

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 has remained and will remain at slow or below zero growth phase for several years. The size of this older working-age population will see only a small increase by 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 but slow 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 larger 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, but college enrollment typically goes up during the time of very competitive job market, 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 in the near future and will see negative growth for the rest of the forecast years. This will translate into slow growth or even decline in the school enrollments. On average for the forecast period, this school-age population will actually decline by -0.2 percent annually. 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. 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 the number of children actually decline over the forecast horizon. The number of working-age adults in general will show fast paced growth after the year 2023. Hence, based solely on demographics of Oregon, demand for public services geared towards children and young adults will likely to decline or increase at a slower pace, whereas demand for elderly care and services will increase rapidly.

### ***Procedure and Assumptions***

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

Populations by age-sex detail for the years 2000 through 2009, called intercensal estimates, in the following tables are developed by OEA based on 2000 and 2010 censuses. Post-censal population totals for the years 2010 through 2018 are from the Population Research Center, Portland State University. The numbers of births through 2018 and the deaths through 2017 are from Oregon's Center for Health Statistics. All other numbers and age-sex detail are generated by OEA.

Annual numbers of births are determined from the age-specific fertility rates projected based on Oregon's past trends and past and projected national trends. Oregon's total fertility rate is assumed to be 1.6 per woman in 2018 and this rate is projected to remain below the replacement level of 2.1 children per woman during the forecast period, tracking below the national rate.

Life Table survival rates are developed for the year 2010. Male and female life expectancies for the 2010-2029 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 79.4 years for males and 83.5 years for females by the year 2029.

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 2018 and 2029 is expected to remain in the range of 38,500 to 47,500, averaging 42,600 persons annually. In the recent past, slowdown in Oregon's economy 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. 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, limiting the potential destination choices. 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 aging population and decline in the number of births largely due to the decline in fertility rate.

APPENDIX A: ECONOMIC FORECAST DETAIL

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Table A.1 – Employment Forecast Tracking

**Total Nonfarm Employment, 3rd quarter 2019**

(Employment in thousands, Annualized Percent Change)

	Preliminary Estimate		Forecast		Forecast Error		Y/Y Change
	level	% ch	level	% ch	level	%	% ch
<b>Total Nonfarm</b>	1,943.3	1.5	1,951.0	2.4	(7.7)	(0.4)	1.6
<b>Total Private</b>	1,644.4	1.8	1,650.9	2.5	(6.6)	(0.4)	1.6
<b>Mining and Logging</b>	6.9	(1.7)	7.0	7.2	(0.1)	(1.3)	(3.5)
<b>Construction</b>	108.6	0.6	109.7	(0.1)	(1.1)	(1.0)	2.9
<b>Manufacturing</b>	199.4	2.0	200.4	0.8	(1.0)	(0.5)	2.0
<b>Durable Goods</b>	137.5	0.8	138.4	0.8	(0.9)	(0.6)	1.2
<b>Wood Product</b>	23.2	(1.9)	23.8	1.6	(0.6)	(2.6)	(1.4)
<b>Metals and Machinery</b>	40.3	0.9	40.4	(1.8)	(0.0)	(0.1)	2.1
<b>Computer and Electronic Product</b>	38.7	1.7	38.9	4.8	(0.3)	(0.7)	1.6
<b>Transportation Equipment</b>	13.0	5.9	12.7	(3.6)	0.2	1.9	6.4
<b>Other Durable Goods</b>	22.3	(1.3)	22.6	0.8	(0.2)	(1.0)	(1.2)
<b>Nondurable Goods</b>	61.9	4.9	62.0	0.6	(0.1)	(0.2)	3.8
<b>Food</b>	30.0	(0.5)	31.0	0.9	(1.0)	(3.3)	0.5
<b>Other Nondurable Goods</b>	31.9	10.2	31.0	0.4	0.9	3.0	7.0
<b>Trade, Transportation &amp; Utilities</b>	356.1	1.0	356.9	1.1	(0.9)	(0.2)	1.1
<b>Retail Trade</b>	209.2	(1.1)	211.5	1.6	(2.3)	(1.1)	(1.0)
<b>Wholesale Trade</b>	76.6	1.1	76.4	0.7	0.2	0.2	1.3
<b>Transportation, Warehousing &amp; Utilities</b>	70.4	7.3	69.1	0.1	1.3	1.9	7.4
<b>Information</b>	34.5	(4.6)	34.6	4.6	(0.1)	(0.3)	0.9
<b>Financial Activities</b>	103.1	0.3	103.1	2.2	(0.0)	(0.0)	0.7
<b>Professional &amp; Business Services</b>	254.7	2.9	256.3	6.4	(1.6)	(0.6)	2.3
<b>Educational &amp; Health Services</b>	303.3	4.7	301.5	2.4	1.9	0.6	2.3
<b>Educational Services</b>	36.7	(0.7)	36.6	(1.7)	0.1	0.2	0.7
<b>Health Services</b>	266.7	5.5	264.9	3.0	1.8	0.7	2.6
<b>Leisure and Hospitality</b>	213.1	0.3	216.7	4.0	(3.6)	(1.7)	0.9
<b>Other Services</b>	64.6	0.1	64.6	(0.5)	0.0	0.0	0.6
<b>Government</b>	298.9	0.2	300.0	1.6	(1.1)	(0.4)	1.4
<b>Federal</b>	29.3	4.5	28.6	(5.2)	0.6	2.2	4.2
<b>State</b>	40.0	(11.1)	40.9	(3.1)	(0.9)	(2.2)	1.5
<b>State Education</b>	0.9	26.4	0.8	(3.6)	0.1	8.4	5.7
<b>Local</b>	229.7	1.8	230.5	3.3	(0.9)	(0.4)	1.0
<b>Local Education</b>	131.6	(3.8)	132.8	(2.1)	(1.1)	(0.9)	(0.9)

Table A.2 – Short-Term Oregon Economic Summary

	Quarterly					Annual					
	2019:3	2019:4	2020:1	2020:2	2020:3	2018	2019	2020	2021	2022	2023
<b>Personal Income (\$ billions)</b>											
<b>Nominal Personal Income</b>	225.8	228.1	230.4	233.0	235.7	213.1	224.4	234.4	246.0	257.9	270.1
% change	4.2	4.1	4.2	4.6	4.7	6.2	5.3	4.5	4.9	4.8	4.7
<b>Real Personal Income (base year=2012)</b>	205.3	206.1	207.1	208.5	209.9	197.0	204.5	209.3	215.6	221.3	226.8
% change	2.5	1.5	1.9	2.8	2.7	4.1	3.8	2.4	3.0	2.6	2.5
<b>Nominal Wages and Salaries</b>	114.1	115.4	116.9	118.7	120.2	107.0	113.3	119.4	125.9	132.4	138.8
% change	6.1	4.4	5.4	6.1	5.1	5.7	5.8	5.4	5.5	5.2	4.8
<b>Other Indicators</b>											
<b>Per Capita Income (\$1,000)</b>	53.1	53.5	53.8	54.3	54.7	50.8	52.8	54.5	56.6	58.6	60.7
% change	2.9	2.8	2.9	3.3	3.4	4.9	4.0	3.2	3.7	3.7	3.6
<b>Average Wage rate (\$1,000)</b>	58.1	58.7	59.2	59.8	60.4	55.5	57.8	60.1	62.6	65.2	67.8
% change	3.8	3.8	4.0	4.0	4.0	3.7	4.2	4.0	4.1	4.1	4.1
<b>Population (Millions)</b>	4.3	4.3	4.3	4.3	4.3	4.20	4.25	4.30	4.35	4.40	4.45
% change	1.2	1.2	1.2	1.2	1.2	1.3	1.2	1.2	1.2	1.1	1.1
<b>Housing Starts (Thousands)</b>	20.4	21.2	21.7	21.8	22.0	19.6	20.8	21.9	22.8	23.3	23.0
% change	(16.4)	18.5	7.9	3.5	2.1	1.8	6.1	5.3	3.9	2.3	(1.3)
<b>Unemployment Rate</b>	4.0	4.0	3.9	3.8	3.8	4.1	4.1	3.8	3.9	4.0	4.2
Point Change	(0.1)	(0.1)	(0.1)	(0.1)	0.0	0.0	(0.0)	(0.3)	0.0	0.2	0.2
<b>Employment (Thousands)</b>											
<b>Total Nonfarm</b>	1,943.3	1,950.3	1,957.1	1,967.1	1,972.3	1,912.1	1,940.6	1,968.8	1,995.8	2,016.6	2,031.5
% change	1.5	1.5	1.4	2.1	1.1	2.0	1.5	1.5	1.4	1.0	0.7
<b>Private Nonfarm</b>	1,644.4	1,650.3	1,655.8	1,661.7	1,668.6	1,617.3	1,641.8	1,665.3	1,689.7	1,707.6	1,720.3
% change	1.8	1.5	1.3	1.4	1.7	3.3	1.5	1.4	1.5	1.1	0.7
<b>Construction</b>	108.6	108.8	109.1	109.1	109.3	105.3	108.5	109.2	110.4	111.1	111.9
% change	0.6	0.8	0.9	0.3	0.5	7.7	3.0	0.7	1.1	0.6	0.8
<b>Manufacturing</b>	199.4	199.4	198.5	198.4	198.1	195.3	198.9	198.2	198.0	198.5	199.1
% change	2.0	(0.1)	(1.8)	(0.3)	(0.6)	2.8	1.9	(0.3)	(0.1)	0.3	0.3
<b>Durable Manufacturing</b>	137.5	137.7	137.7	137.8	137.6	135.6	137.5	137.7	137.3	137.2	137.5
% change	0.8	0.4	0.2	0.1	(0.5)	3.0	1.4	0.1	(0.3)	(0.0)	0.2
Wood Product Manufacturing	23.2	23.2	23.2	23.3	23.3	23.5	23.3	23.3	23.4	23.5	23.7
% change	(1.9)	0.3	0.2	0.3	0.2	2.4	(0.7)	(0.3)	0.3	0.7	0.9
High Tech Manufacturing	38.7	38.7	38.8	38.8	38.8	38.0	38.6	38.8	39.0	39.2	39.2
% change	1.7	0.6	0.3	0.4	(0.1)	3.0	1.6	0.6	0.4	0.7	(0.1)
Transportation Equipment	13.0	12.9	12.9	12.9	12.8	12.2	12.8	12.8	12.7	12.7	12.7
% change	5.9	(0.7)	(2.0)	(0.1)	(1.1)	2.5	5.2	0.2	(1.1)	0.1	0.3
<b>Nondurable Manufacturing</b>	61.9	61.7	60.7	60.6	60.4	59.6	61.4	60.6	60.7	61.2	61.6
% change	4.9	(1.0)	(6.2)	(1.0)	(0.8)	2.2	2.9	(1.4)	0.2	0.9	0.6
<b>Private nonmanufacturing</b>	1,444.5	1,451.0	1,457.3	1,463.3	1,470.6	1,422.1	1,442.8	1,467.1	1,491.7	1,509.2	1,521.3
% change	1.6	1.8	1.8	1.7	2.0	3.4	1.5	1.7	1.7	1.2	0.8
Retail Trade	209.2	209.1	209.0	208.9	209.0	211.4	209.6	209.0	209.5	210.0	210.5
% change	(1.1)	(0.2)	(0.2)	(0.2)	0.2	0.2	(0.9)	(0.3)	0.2	0.2	0.2
Wholesale Trade	76.6	76.8	76.8	76.9	76.9	75.1	76.5	76.9	77.3	77.5	77.6
% change	1.1	1.1	0.2	0.3	0.4	0.1	1.9	0.6	0.5	0.2	0.1
<b>Information</b>	34.5	34.6	34.6	34.6	34.7	34.4	34.6	34.7	34.7	34.8	34.9
% change	(4.6)	0.9	0.3	0.3	0.3	0.4	0.7	0.2	0.3	0.2	0.2
<b>Professional and Business Services</b>	254.7	256.7	259.1	261.3	264.9	249.7	254.3	263.4	275.9	283.9	287.4
% change	2.9	3.2	3.7	3.6	5.5	2.1	1.8	3.6	4.7	2.9	1.2
<b>Health Services</b>	266.7	268.8	271.1	272.8	274.2	258.9	265.0	273.4	278.7	283.3	288.0
% change	5.5	3.2	3.5	2.6	2.1	9.3	2.4	3.2	1.9	1.6	1.7
<b>Leisure and Hospitality</b>	213.1	214.0	215.1	216.7	218.1	211.2	213.3	217.2	220.3	222.9	224.9
% change	0.3	1.9	2.0	3.0	2.6	2.4	1.0	1.9	1.4	1.2	0.9
<b>Government</b>	298.9	300.0	301.3	305.4	303.7	294.8	298.8	303.5	306.1	309.0	311.2
% change	0.2	1.5	1.8	5.5	(2.3)	(4.8)	1.4	1.6	0.8	0.9	0.7

Table A.3 – Oregon Economic Forecast Change

	Quarterly					Annual					
	2019:3	2019:4	2020:1	2020:2	2020:3	2018	2019	2020	2021	2022	2023
	<b>Personal Income (\$ billions)</b>										
<b>Nominal Personal Income</b>	225.8	228.1	230.4	233.0	235.7	213.1	224.4	234.4	246.0	257.9	270.1
% change	1.7	1.3	1.0	0.8	0.7	1.8	1.8	0.8	0.6	0.4	0.4
<b>Real Personal Income (base year=2012)</b>	205.3	206.1	207.1	208.5	209.9	197.0	204.5	209.3	215.6	221.3	226.8
% change	1.9	1.5	1.2	1.0	0.9	1.9	1.9	0.9	0.9	0.6	0.4
<b>Nominal Wages and Salaries</b>	114.1	115.4	116.9	118.7	120.2	107.0	113.3	119.4	125.9	132.4	138.8
% change	1.2	0.9	0.8	0.8	0.8	0.7	1.2	0.8	0.8	0.9	0.9
<b>Other Indicators</b>											
<b>Per Capita Income (\$1,000)</b>	53.1	53.5	53.8	54.3	54.7	50.8	52.8	54.5	56.6	58.6	60.7
% change	1.7	1.3	1.0	0.8	0.7	1.8	1.8	0.8	0.6	0.4	0.4
<b>Average Wage rate (\$1,000)</b>	58.1	58.7	59.2	59.8	60.4	55.5	57.8	60.1	62.6	65.2	67.8
% change	1.4	1.3	1.3	1.3	1.3	0.7	1.4	1.3	1.3	1.3	1.4
<b>Population (Millions)</b>	4.25	4.27	4.28	4.3	4.3	4.20	4.25	4.30	4.35	4.40	4.45
% change	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
<b>Housing Starts (Thousands)</b>	20.4	21.2	21.7	21.8	22.0	19.6	20.8	21.9	22.8	23.3	23.0
% change	(6.7)	(3.2)	(2.6)	(2.6)	(2.8)	(0.2)	(3.1)	(2.7)	(2.8)	(2.7)	(2.8)
<b>Unemployment Rate</b>	4.0	4.0	3.9	3.8	3.8	4.1	4.1	3.8	3.9	4.0	4.2
Point Change	(0.4)	(0.4)	(0.5)	(0.6)	(0.6)	0.0	(0.2)	(0.6)	(0.8)	(0.9)	(0.7)
<b>Employment (Thousands)</b>											
<b>Total Nonfarm</b>	1,943.3	1,950.3	1,957.1	1,967.1	1,972.3	1,912.1	1,940.6	1,968.8	1,995.8	2,016.6	2,031.5
% change	(0.4)	(0.5)	(0.6)	(0.6)	(0.6)	(0.0)	(0.3)	(0.6)	(0.5)	(0.5)	(0.5)
<b>Private Nonfarm</b>	1,644.4	1,650.3	1,655.8	1,661.7	1,668.6	1,617.3	1,641.8	1,665.3	1,689.7	1,707.6	1,720.3
% change	(0.4)	(0.5)	(0.6)	(0.7)	(0.7)	0.0	(0.3)	(0.6)	(0.5)	(0.5)	(0.5)
<b>Construction</b>	108.6	108.8	109.1	109.1	109.3	105.3	108.5	109.2	110.4	111.1	111.9
% change	(1.0)	(1.1)	(1.1)	(1.3)	(1.4)	0.0	(0.8)	(1.4)	(1.7)	(1.7)	(1.6)
<b>Manufacturing</b>	199.4	199.4	198.5	198.4	198.1	195.3	198.9	198.2	198.0	198.5	199.1
% change	(0.5)	(0.6)	(1.0)	(0.9)	(0.9)	0.0	(0.5)	(0.9)	(1.0)	(1.2)	(1.2)
<b>Durable Manufacturing</b>	137.5	137.7	137.7	137.8	137.6	135.6	137.5	137.7	137.3	137.2	137.5
% change	(0.6)	(0.7)	(0.6)	(0.3)	(0.3)	(0.0)	(0.5)	(0.4)	(0.3)	(0.5)	(0.5)
Wood Product Manufacturing	23.2	23.2	23.2	23.3	23.3	23.5	23.3	23.3	23.4	23.5	23.7
% change	(2.6)	(2.8)	(2.9)	(2.6)	(2.4)	0.0	(1.8)	(2.5)	(2.1)	(2.9)	(2.6)
High Tech Manufacturing	38.7	38.7	38.8	38.8	38.8	38.0	38.6	38.8	39.0	39.2	39.2
% change	(0.7)	(0.7)	(0.9)	(0.3)	(0.0)	(0.1)	(0.3)	(0.2)	0.5	1.1	1.5
Transportation Equipment	13.0	12.9	12.9	12.9	12.8	12.2	12.8	12.8	12.7	12.7	12.7
% change	1.9	1.1	3.3	3.3	3.0	(0.3)	0.6	3.2	3.7	3.8	4.0
<b>Nondurable Manufacturing</b>	61.9	61.7	60.7	60.6	60.4	59.6	61.4	60.6	60.7	61.2	61.6
% change	(0.2)	(0.4)	(2.0)	(2.1)	(2.3)	0.1	(0.5)	(2.2)	(2.6)	(2.7)	(2.7)
<b>Private nonmanufacturing</b>	1,444.5	1,451.0	1,457.3	1,463.3	1,470.6	1,422.1	1,442.8	1,467.1	1,491.7	1,509.2	1,521.3
% change	(0.4)	(0.5)	(0.6)	(0.6)	(0.6)	0.0	(0.3)	(0.6)	(0.5)	(0.4)	(0.4)
Retail Trade	209.2	209.1	209.0	208.9	209.0	211.4	209.6	209.0	209.5	210.0	210.5
% change	(1.1)	(1.3)	(1.4)	(1.5)	(1.5)	(0.1)	(0.7)	(1.5)	(1.4)	(1.2)	(0.8)
Wholesale Trade	76.6	76.8	76.8	76.9	76.9	75.1	76.5	76.9	77.3	77.5	77.6
% change	0.2	0.4	0.4	0.4	0.3	0.0	0.3	0.4	0.5	0.5	0.4
<b>Information</b>	34.5	34.6	34.6	34.6	34.7	34.4	34.6	34.7	34.7	34.8	34.9
% change	(0.3)	(0.2)	(0.5)	(0.8)	(0.8)	0.0	0.4	(0.8)	(0.9)	0.4	0.4
<b>Professional and Business Services</b>	254.7	256.7	259.1	261.3	264.9	249.7	254.3	263.4	275.9	283.9	287.4
% change	(0.6)	(1.2)	(1.5)	(1.4)	(1.2)	0.0	(0.4)	(1.3)	(0.3)	0.3	0.3
<b>Health Services</b>	266.7	268.8	271.1	272.8	274.2	258.9	265.0	273.4	278.7	283.3	288.0
% change	0.7	0.7	0.8	0.7	0.6	(0.0)	0.4	0.6	0.1	(0.3)	(0.5)
<b>Leisure and Hospitality</b>	213.1	214.0	215.1	216.7	218.1	211.2	213.3	217.2	220.3	222.9	224.9
% change	(1.7)	(2.0)	(2.1)	(2.1)	(2.2)	0.0	(1.2)	(2.1)	(1.7)	(1.7)	(1.5)
<b>Government</b>	298.9	300.0	301.3	305.4	303.7	294.8	298.8	303.5	306.1	309.0	311.2
% change	(0.4)	(0.3)	(0.3)	(0.3)	(0.3)	(0.1)	(0.2)	(0.3)	(0.3)	(0.4)	(0.5)

Table A.4 – Annual Economic Forecast

**Dec 2019 - Personal Income**

**(Billions of Current Dollars)**

	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
<b>Total Personal Income*</b>												
Oregon	200.6	213.1	224.4	234.4	246.0	257.9	270.1	282.9	296.7	311.3	326.1	341.5
% Ch	5.4	6.2	5.3	4.5	4.9	4.8	4.7	4.7	4.9	4.9	4.8	4.7
U.S.	16,878.8	17,819.2	18,670.6	19,454.2	20,305.1	21,190.8	22,092.6	23,059.0	24,137.0	25,260.8	26,405.3	27,605.0
% Ch	4.7	5.6	4.8	4.2	4.4	4.4	4.3	4.4	4.7	4.7	4.5	4.5
<b>Wage and Salary</b>												
Oregon	101.2	107.0	113.3	119.4	125.9	132.4	138.8	145.5	152.6	160.0	167.6	175.6
% Ch	5.6	5.7	5.8	5.4	5.5	5.2	4.8	4.8	4.9	4.9	4.8	4.7
U.S.	8,462.1	8,888.5	9,370.5	9,826.8	10,283.1	10,754.7	11,222.8	11,708.1	12,259.7	12,854.7	13,466.5	14,099.5
% Ch	4.7	5.0	5.4	4.9	4.6	4.6	4.4	4.3	4.7	4.9	4.8	4.7
<b>Other Labor Income</b>												
Oregon	24.5	25.6	26.8	28.2	29.7	31.3	32.9	34.4	36.2	38.1	40.0	42.0
% Ch	4.5	4.4	4.6	5.0	5.6	5.3	4.9	4.7	5.1	5.3	5.1	4.9
U.S.	1,343.9	1,417.2	1,472.6	1,541.5	1,613.1	1,687.1	1,760.5	1,836.6	1,923.1	2,016.4	2,112.4	2,211.7
% Ch	3.7	5.5	3.9	4.7	4.6	4.6	4.4	4.3	4.7	4.9	4.8	4.7
<b>Nonfarm Proprietor's Income</b>												
Oregon	17.3	18.1	18.9	19.2	19.4	19.3	19.3	19.6	20.1	20.8	21.6	22.4
% Ch	11.5	4.4	4.2	2.0	0.7	(0.3)	0.0	1.4	2.7	3.7	3.7	3.6
U.S.	1,480.1	1,561.6	1,626.1	1,644.4	1,646.9	1,634.5	1,627.5	1,639.1	1,659.0	1,685.2	1,723.4	1,775.4
% Ch	6.6	5.5	4.1	1.1	0.1	(0.8)	(0.4)	0.7	1.2	1.6	2.3	3.0
<b>Dividend, Interest and Rent</b>												
Oregon	42.3	45.8	47.0	48.4	50.6	53.0	55.6	58.4	61.3	64.2	66.9	69.8
% Ch	8.0	8.3	2.7	3.0	4.4	4.7	5.0	5.0	5.0	4.7	4.3	4.4
U.S.	3,400.4	3,686.9	3,775.9	3,892.0	4,069.9	4,263.5	4,468.1	4,699.4	4,949.5	5,184.8	5,404.5	5,637.3
% Ch	6.2	8.4	2.4	3.1	4.6	4.8	4.8	5.2	5.3	4.8	4.2	4.3
<b>Transfer Payments</b>												
Oregon	37.8	40.0	43.1	45.1	47.5	50.0	52.8	55.8	58.8	61.8	65.0	68.2
% Ch	2.5	5.9	7.8	4.6	5.2	5.4	5.6	5.5	5.4	5.2	5.1	5.0
U.S.	2,804.0	2,920.0	3,115.8	3,274.6	3,435.6	3,607.7	3,799.4	4,004.0	4,216.1	4,432.6	4,658.6	4,891.9
% Ch	3.2	4.1	6.7	5.1	4.9	5.0	5.3	5.4	5.3	5.1	5.1	5.0
<b>Contributions for Social Security</b>												
Oregon	17.9	18.5	19.5	20.6	21.7	22.8	24.0	25.2	26.4	27.7	29.0	30.3
% Ch	7.3	3.5	5.4	5.7	5.4	5.0	5.1	4.9	5.0	4.8	4.5	4.5
U.S.	693.9	733.7	775.1	810.0	843.1	878.9	915.1	953.3	997.1	1,044.7	1,093.8	1,144.8
% Ch	5.3	5.7	5.7	4.5	4.1	4.2	4.1	4.2	4.6	4.8	4.7	4.7
<b>Residence Adjustment</b>												
Oregon	(4.7)	(4.9)	(5.1)	(5.2)	(5.4)	(5.5)	(5.6)	(5.8)	(6.0)	(6.2)	(6.4)	(6.6)
% Ch	2.9	4.0	4.6	2.4	2.2	2.3	2.6	3.1	3.2	2.9	3.3	3.0
<b>Farm Proprietor's Income</b>												
Oregon	0.0	(0.1)	(0.0)	(0.0)	0.1	0.2	0.3	0.2	0.2	0.3	0.3	0.3
% Ch	(96.6)	(429.7)	(49.8)	(96.7)	(5,527.3)	299.4	15.3	(16.2)	1.7	11.8	5.3	0.4
<b>Per Capita Income (Thousands of \$)</b>												
Oregon	48.4	50.8	52.8	54.5	56.6	58.6	60.7	62.9	65.4	67.9	70.5	73.2
% Ch	3.8	4.9	4.0	3.2	3.7	3.7	3.6	3.7	3.8	3.9	3.8	3.8
U.S.	51.8	54.4	56.6	58.5	60.7	62.9	65.1	67.5	70.2	73.0	75.8	78.8
% Ch	4.0	4.9	4.0	3.5	3.6	3.6	3.5	3.7	4.0	4.0	3.9	3.9

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

**Dec 2019 - Employment By Industry  
(Oregon - Thousands, U.S. - Millions)**

	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
<b>Total Nonfarm</b>												
Oregon	1,875.3	1,912.1	1,940.6	1,968.8	1,995.8	2,016.6	2,031.5	2,045.2	2,061.9	2,079.3	2,095.0	2,110.0
% Ch	2.3	2.0	1.5	1.5	1.4	1.0	0.7	0.7	0.8	0.8	0.8	0.7
U.S.	146.6	149.1	151.3	152.8	153.9	154.7	154.9	155.1	155.6	156.5	157.4	158.2
% Ch	1.6	1.7	1.5	1.0	0.7	0.5	0.2	0.1	0.4	0.6	0.6	0.5
<b>Private Nonfarm</b>												
Oregon	1,565.5	1,617.3	1,641.8	1,665.3	1,689.7	1,707.6	1,720.3	1,731.8	1,745.9	1,760.5	1,773.0	1,784.6
% Ch	2.5	3.3	1.5	1.4	1.5	1.1	0.7	0.7	0.8	0.8	0.7	0.7
U.S.	124.3	126.6	128.8	130.0	131.0	131.6	131.7	131.7	132.1	132.9	133.6	134.3
% Ch	1.8	1.9	1.7	0.9	0.8	0.5	0.1	0.0	0.3	0.6	0.6	0.5
<b>Mining and Logging</b>												
Oregon	7.0	7.2	7.0	7.1	7.1	7.2	7.2	7.2	7.3	7.3	7.3	7.3
% Ch	(1.8)	3.2	(3.3)	1.7	0.5	0.6	0.6	0.2	0.5	0.3	0.2	0.3
U.S.	0.7	0.7	0.8	0.7	0.7	0.8	0.8	0.8	0.8	0.8	0.8	0.8
% Ch	1.1	8.3	2.6	(1.5)	(0.3)	2.1	2.6	2.1	1.0	(0.4)	(0.2)	(0.1)
<b>Construction</b>												
Oregon	97.8	105.3	108.5	109.2	110.4	111.1	111.9	112.5	113.0	113.5	114.1	114.7
% Ch	8.2	7.7	3.0	0.7	1.1	0.6	0.8	0.5	0.4	0.5	0.5	0.5
U.S.	7.0	7.3	7.5	7.5	7.5	7.6	7.7	7.7	7.8	8.0	8.1	8.3
% Ch	3.6	4.6	2.8	0.2	0.3	1.2	0.6	0.7	1.5	1.9	1.9	2.1
<b>Manufacturing</b>												
Oregon	190.0	195.3	198.9	198.2	198.0	198.5	199.1	199.1	199.4	200.0	200.5	201.0
% Ch	0.9	2.8	1.9	(0.3)	(0.1)	0.3	0.3	0.0	0.1	0.3	0.3	0.2
U.S.	12.4	12.7	12.8	12.7	12.5	12.5	12.5	12.4	12.3	12.3	12.2	12.1
% Ch	0.7	2.0	1.2	(1.0)	(1.5)	(0.0)	(0.0)	(0.7)	(0.8)	(0.3)	(0.6)	(1.1)
<b>Durable Manufacturing</b>												
Oregon	131.6	135.6	137.5	137.7	137.3	137.2	137.5	137.4	137.5	137.8	138.1	138.3
% Ch	0.3	3.0	1.4	0.1	(0.3)	(0.0)	0.2	(0.0)	0.1	0.2	0.2	0.2
U.S.	7.7	7.9	8.1	8.0	7.9	7.9	7.9	7.8	7.8	7.8	7.7	7.6
% Ch	0.3	2.7	1.5	(0.9)	(1.6)	(0.0)	0.2	(0.5)	(0.7)	(0.2)	(0.7)	(1.4)
<b>Wood Products</b>												
Oregon	23.0	23.5	23.3	23.3	23.4	23.5	23.7	23.9	24.1	24.2	24.4	24.7
% Ch	0.9	2.4	(0.7)	(0.3)	0.3	0.7	0.9	0.9	0.7	0.4	0.8	1.2
U.S.	0.4	0.4	0.4	0.4	0.4	0.4	0.5	0.5	0.5	0.5	0.5	0.5
% Ch	1.1	2.4	0.5	0.8	2.3	4.7	3.2	0.5	2.1	2.4	0.1	(0.7)
<b>Metal and Machinery</b>												
Oregon	37.4	39.3	40.4	40.2	39.6	38.9	38.7	39.0	39.4	39.7	39.7	39.7
% Ch	1.9	5.2	2.8	(0.4)	(1.5)	(1.7)	(0.5)	0.7	1.0	0.7	0.2	(0.0)
U.S.	2.9	3.0	3.0	3.0	2.9	2.9	3.0	3.0	3.0	3.0	2.9	2.9
% Ch	0.1	3.1	1.3	(1.7)	(2.3)	1.0	1.9	0.6	(0.4)	(0.2)	(1.1)	(1.8)
<b>Computer and Electronic Products</b>												
Oregon	36.9	38.0	38.6	38.8	39.0	39.2	39.2	38.8	38.4	38.2	38.0	37.8
% Ch	(2.4)	3.0	1.6	0.6	0.4	0.7	(0.1)	(1.1)	(1.0)	(0.6)	(0.5)	(0.4)
U.S.	1.0	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
% Ch	(0.9)	1.6	2.7	0.2	(0.1)	0.8	0.4	0.4	0.2	(0.3)	(0.6)	(1.1)
<b>Transportation Equipment</b>												
Oregon	11.9	12.2	12.8	12.8	12.7	12.7	12.7	12.7	12.6	12.6	12.8	12.8
% Ch	(2.3)	2.5	5.2	0.2	(1.1)	0.1	0.3	(0.7)	(0.8)	0.5	1.1	0.5
U.S.	1.6	1.7	1.7	1.7	1.7	1.6	1.6	1.5	1.5	1.5	1.5	1.5
% Ch	0.8	3.6	2.1	(0.9)	(2.2)	(3.4)	(3.9)	(3.6)	(2.4)	(0.4)	0.3	(1.2)
<b>Other Durables</b>												
Oregon	22.6	22.7	22.4	22.5	22.7	22.8	23.0	23.0	23.0	23.1	23.2	23.2
% Ch	3.4	0.5	(1.2)	0.6	0.5	0.8	0.8	(0.0)	0.1	0.3	0.4	0.1
U.S.	2.2	2.2	2.2	2.2	2.2	2.2	2.3	2.2	2.2	2.2	2.2	2.2
% Ch	0.9	1.8	0.7	(0.3)	(0.9)	1.0	0.9	(0.4)	(0.3)	0.1	(0.7)	(1.1)
<b>Nondurable Manufacturing</b>												
Oregon	58.4	59.6	61.4	60.6	60.7	61.2	61.6	61.7	61.9	62.2	62.5	62.7
% Ch	2.3	2.2	2.9	(1.4)	0.2	0.9	0.6	0.2	0.3	0.5	0.5	0.4
U.S.	4.7	4.7	4.8	4.7	4.7	4.7	4.6	4.6	4.6	4.5	4.5	4.5
% Ch	1.3	0.9	0.7	(1.1)	(1.3)	(0.1)	(0.3)	(0.9)	(0.9)	(0.6)	(0.5)	(0.7)
<b>Food Manufacturing</b>												
Oregon	29.8	29.9	30.0	28.8	29.1	29.3	29.5	29.6	29.7	29.8	30.0	30.1
% Ch	2.2	0.5	0.2	(4.0)	0.9	0.9	0.6	0.3	0.2	0.5	0.6	0.4
U.S.	1.6	1.6	1.6	1.6	1.6	1.7	1.7	1.7	1.7	1.7	1.7	1.7
% Ch	2.7	1.3	0.8	(0.0)	0.6	1.8	1.4	0.6	0.4	0.7	0.6	0.2
<b>Other Nondurable</b>												
Oregon	28.6	29.7	31.4	31.8	31.6	31.9	32.1	32.1	32.2	32.4	32.5	32.6
% Ch	2.5	3.9	5.7	1.1	(0.4)	0.8	0.6	0.2	0.3	0.5	0.4	0.3
U.S.	3.1	3.1	3.1	3.1	3.0	3.0	3.0	2.9	2.9	2.8	2.8	2.7
% Ch	0.6	0.7	0.7	(1.7)	(2.2)	(1.1)	(1.3)	(1.7)	(1.7)	(1.3)	(1.2)	(1.2)
<b>Trade, Transportation, and Utilities</b>												
Oregon	349.0	352.2	355.8	356.4	357.4	358.2	359.0	360.0	360.9	361.5	361.9	362.5
% Ch	2.0	0.9	1.0	0.2	0.3	0.2	0.2	0.3	0.3	0.2	0.1	0.1
U.S.	27.4	27.7	27.8	27.7	27.6	27.5	27.2	26.8	26.6	26.6	26.5	26.5
% Ch	0.7	0.9	0.6	(0.3)	(0.4)	(0.6)	(1.1)	(1.2)	(0.8)	(0.3)	(0.1)	(0.3)

**Dec 2019 - Employment By Industry  
(Oregon - Thousands, U.S. - Millions)**

	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
<b>Retail Trade</b>												
Oregon	210.9	211.4	209.6	209.0	209.5	210.0	210.5	211.2	211.9	212.3	212.5	212.8
% Ch	1.9	0.2	(0.9)	(0.3)	0.2	0.2	0.2	0.4	0.3	0.2	0.1	0.1
U.S.	15.8	15.8	15.8	15.7	15.6	15.4	15.2	15.0	14.8	14.7	14.7	14.7
% Ch	0.0	(0.1)	(0.3)	(0.7)	(0.6)	(0.7)	(1.4)	(1.6)	(1.3)	(0.6)	(0.2)	(0.2)
<b>Wholesale Trade</b>												
Oregon	75.0	75.1	76.5	76.9	77.3	77.5	77.6	77.7	77.9	78.0	78.2	78.4
% Ch	1.4	0.1	1.9	0.6	0.5	0.2	0.1	0.2	0.2	0.2	0.2	0.2
U.S.	5.8	5.9	5.9	6.0	6.0	6.0	6.0	5.9	5.9	5.9	5.9	5.9
% Ch	0.5	0.7	1.5	0.4	0.4	(0.1)	(0.4)	(0.2)	(0.2)	(0.0)	0.1	(0.5)
<b>Transportation and Warehousing, and Utilities</b>												
Oregon	63.1	65.7	69.7	70.5	70.6	70.7	70.9	71.0	71.1	71.2	71.3	71.3
% Ch	3.3	4.1	6.1	1.0	0.1	0.2	0.2	0.2	0.1	0.1	0.1	0.1
U.S.	5.7	6.0	6.1	6.1	6.1	6.1	6.0	5.9	5.9	5.9	5.9	5.9
% Ch	3.1	3.9	2.3	0.3	(0.4)	(0.9)	(1.2)	(1.0)	(0.2)	0.4	(0.1)	(0.2)
<b>Information</b>												
Oregon	34.2	34.4	34.6	34.7	34.7	34.8	34.9	34.9	35.0	35.0	35.1	35.1
% Ch	1.9	0.4	0.7	0.2	0.3	0.2	0.2	0.2	0.2	0.1	0.1	0.1
U.S.	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.7
% Ch	0.7	0.5	(0.1)	0.6	0.0	(1.5)	0.3	0.5	(0.4)	(0.4)	(0.8)	(1.5)
<b>Financial Activities</b>												
Oregon	100.0	102.2	103.1	104.1	105.3	105.8	105.8	105.7	105.5	105.4	105.3	105.4
% Ch	3.0	2.2	0.8	1.0	1.1	0.5	(0.0)	(0.1)	(0.1)	(0.2)	(0.1)	0.2
U.S.	8.4	8.6	8.7	8.8	8.8	8.9	8.8	8.8	8.8	8.7	8.7	8.7
% Ch	2.0	1.4	1.3	1.3	0.6	0.1	(0.4)	(0.4)	(0.2)	(0.3)	(0.3)	0.1
<b>Professional and Business Services</b>												
Oregon	244.6	249.7	254.3	263.4	275.9	283.9	287.4	291.0	297.9	305.7	311.9	317.5
% Ch	2.2	2.1	1.8	3.6	4.7	2.9	1.2	1.3	2.4	2.6	2.0	1.8
U.S.	20.5	21.0	21.5	22.2	23.1	23.5	23.6	23.9	24.4	24.9	25.4	25.8
% Ch	2.0	2.4	2.3	3.2	4.1	1.9	0.6	1.0	2.1	2.4	1.8	1.6
<b>Education and Health Services</b>												
Oregon	272.9	295.4	301.7	310.2	315.6	320.2	325.0	329.8	333.9	337.3	340.1	342.5
% Ch	2.9	8.3	2.1	2.8	1.7	1.5	1.5	1.5	1.2	1.0	0.8	0.7
U.S.	23.2	23.7	24.2	24.6	24.8	25.0	25.1	25.2	25.4	25.5	25.7	25.9
% Ch	2.4	2.1	2.4	1.3	1.0	0.6	0.5	0.6	0.6	0.5	0.7	0.9
<b>Educational Services</b>												
Oregon	36.0	36.6	36.7	36.8	36.9	36.9	37.0	37.0	37.1	37.1	37.1	37.1
% Ch	0.9	1.6	0.2	0.2	0.3	0.2	0.1	0.2	0.1	0.0	0.0	0.0
U.S.	3.7	3.7	3.8	3.8	3.7	3.6	3.5	3.5	3.4	3.4	3.3	3.3
% Ch	2.8	1.6	1.6	(0.9)	(2.0)	(2.1)	(2.3)	(1.9)	(1.5)	(1.2)	(1.0)	(1.0)
<b>Health Care and Social Assistance</b>												
Oregon	236.9	258.9	265.0	273.4	278.7	283.3	288.0	292.7	296.8	300.2	303.0	305.4
% Ch	3.2	9.3	2.4	3.2	1.9	1.6	1.7	1.6	1.4	1.2	0.9	0.8
U.S.	19.5	19.9	20.5	20.8	21.1	21.4	21.6	21.8	22.0	22.2	22.4	22.7
% Ch	2.4	2.1	2.6	1.8	1.6	1.1	0.9	1.0	0.9	0.8	1.0	1.2
<b>Leisure and Hospitality</b>												
Oregon	206.4	211.2	213.3	217.2	220.3	222.9	224.9	226.2	227.4	228.8	230.4	231.9
% Ch	3.3	2.4	1.0	1.9	1.4	1.2	0.9	0.6	0.5	0.6	0.7	0.7
U.S.	16.1	16.4	16.7	16.9	17.1	17.3	17.4	17.5	17.4	17.4	17.5	17.6
% Ch	2.5	1.9	2.1	1.4	0.8	1.3	0.8	0.1	(0.2)	0.0	0.4	0.6
<b>Other Services</b>												
Oregon	63.5	64.3	64.6	64.8	65.0	65.2	65.3	65.4	65.7	66.1	66.3	66.7
% Ch	(0.6)	1.3	0.5	0.2	0.4	0.2	0.1	0.2	0.4	0.6	0.4	0.5
U.S.	5.8	5.8	5.9	5.9	5.9	5.9	5.8	5.8	5.8	5.8	5.8	5.8
% Ch	1.4	1.3	1.5	0.1	(0.7)	(0.8)	(0.8)	(0.5)	(0.2)	0.1	0.3	0.5
<b>Government</b>												
Oregon	309.8	294.8	298.8	303.5	306.1	309.0	311.2	313.4	316.0	318.8	322.0	325.4
% Ch	1.0	(4.8)	1.4	1.6	0.8	0.9	0.7	0.7	0.8	0.9	1.0	1.0
U.S.	22.4	22.4	22.6	22.8	22.9	23.0	23.2	23.4	23.5	23.7	23.8	24.0
% Ch	0.5	0.4	0.5	1.2	0.2	0.7	0.7	0.7	0.7	0.6	0.6	0.6
<b>Federal Government</b>												
Oregon	28.2	28.1	28.7	29.7	28.4	28.4	28.3	28.3	28.2	28.2	28.2	28.1
% Ch	(0.2)	(0.3)	2.3	3.4	(4.4)	(0.2)	(0.2)	(0.2)	(0.1)	(0.2)	(0.1)	(0.1)
U.S.	2.8	2.8	2.8	2.9	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8
% Ch	0.4	(0.3)	0.9	4.3	(4.2)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
<b>State Government, Oregon</b>												
State Total	56.2	39.5	40.5	40.3	41.1	41.7	42.2	42.6	43.0	43.6	44.1	44.8
% Ch	1.0	(29.7)	2.5	(0.7)	2.1	1.5	1.1	0.9	1.0	1.2	1.4	1.4
State Education	0.8	0.8	0.8	0.9	0.9	0.8	0.8	0.8	0.8	0.8	0.8	0.8
% Ch	3.3	2.0	6.2	2.4	(1.5)	(1.2)	(1.1)	(0.4)	(0.5)	(0.4)	0.0	0.3
<b>Local Government, Oregon</b>												
Local Total	225.3	227.1	229.5	233.5	236.5	238.9	240.6	242.5	244.8	247.1	249.7	252.5
% Ch	1.2	0.8	1.1	1.7	1.3	1.0	0.8	0.8	0.9	0.9	1.1	1.1
Local Education	132.7	132.7	132.1	132.4	134.4	136.0	137.3	138.3	139.3	140.5	141.7	142.3
% Ch	1.2	(0.1)	(0.4)	0.2	1.5	1.2	0.9	0.8	0.7	0.8	0.9	0.4

**Dec 2019 - Other Economic Indicators**

	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
<b>GDP (Bil of 2009 \$),</b>												
Chain Weight (in billions of \$)	18,108.1	18,638.2	19,058.1	19,431.1	19,813.8	20,155.3	20,446.3	20,796.3	21,233.1	21,693.6	22,150.1	22,620.0
% Ch	2.4	2.9	2.3	2.0	2.0	1.7	1.4	1.7	2.1	2.2	2.1	2.1
<b>Price and Wage Indicators</b>												
<b>GDP Implicit Price Deflator,</b>												
Chain Weight U.S., 2009=100	107.8	110.4	112.5	115.3	118.1	121.0	124.0	126.9	129.8	132.6	135.5	138.6
% Ch	1.9	2.4	1.9	2.5	2.4	2.5	2.5	2.3	2.2	2.2	2.2	2.2
<b>Personal Consumption Deflator,</b>												
Chain Weight U.S., 2009=100	105.9	108.1	109.8	112.0	114.1	116.5	119.1	121.6	124.1	126.5	129.1	131.7
% Ch	1.8	2.1	1.5	2.1	1.8	2.2	2.2	2.1	2.0	2.0	2.0	2.0
<b>CPI, Urban Consumers,</b>												
1982-84=100												
West Region	254.7	263.3	270.5	277.3	283.2	290.8	298.4	306.0	313.4	320.9	328.7	336.7
% Ch	2.8	3.3	2.8	2.5	2.1	2.7	2.6	2.5	2.4	2.4	2.4	2.4
U.S.	245.1	251.1	255.8	261.2	266.0	272.8	279.5	286.1	292.4	298.9	305.5	312.3
% Ch	2.1	2.4	1.9	2.1	1.8	2.5	2.5	2.3	2.2	2.2	2.2	2.2
<b>Oregon Average Wage</b>												
Rate (Thous \$)	53.5	55.5	57.8	60.1	62.6	65.2	67.8	70.6	73.5	76.5	79.6	82.8
% Ch	3.3	3.7	4.2	4.0	4.1	4.1	4.1	4.1	4.1	4.0	4.0	4.0
<b>U.S. Average Wage</b>												
Wage Rate (Thous \$)	57.7	59.6	61.9	64.3	66.8	69.5	72.4	75.5	78.8	82.1	85.6	89.1
% Ch	3.1	3.3	3.9	3.9	3.9	4.0	4.2	4.2	4.3	4.3	4.2	4.1
<b>Housing Indicators</b>												
<b>FHFA Oregon Housing Price Index</b>												
1991 Q1=100	393.7	424.6	443.8	465.1	483.0	501.4	520.6	540.0	559.4	579.6	600.5	621.8
% Ch	8.1	7.9	4.5	4.8	3.8	3.8	3.8	3.7	3.6	3.6	3.6	3.5
<b>FHFA National Housing Price Index</b>												
1991 Q1=100	245.4	261.6	274.1	284.1	291.8	300.0	309.2	318.4	327.9	337.7	347.7	358.0
% Ch	6.5	6.6	4.8	3.7	2.7	2.8	3.0	3.0	3.0	3.0	3.0	3.0
<b>Housing Starts</b>												
Oregon (Thous)	19.3	19.6	20.8	21.9	22.8	23.3	23.0	23.2	22.9	22.9	22.7	22.7
% Ch	1.7	1.8	6.1	5.3	3.9	2.3	(1.3)	1.0	(1.5)	0.0	(0.9)	(0.1)
U.S. (Millions)	1.2	1.2	1.3	1.3	1.2	1.3	1.2	1.2	1.2	1.2	1.2	1.2
% Ch	2.6	3.4	0.6	0.8	(1.6)	1.3	(2.5)	(1.5)	1.0	(1.4)	(2.5)	(0.3)
<b>Other Indicators</b>												
<b>Unemployment Rate (%)</b>												
Oregon	4.1	4.1	4.1	3.8	3.9	4.0	4.2	4.3	4.4	4.3	4.3	4.3
Point Change	(0.7)	0.0	(0.0)	(0.3)	0.0	0.2	0.2	0.1	0.0	(0.0)	(0.0)	0.0
U.S.	4.4	3.9	3.7	3.5	3.6	3.8	4.2	4.5	4.5	4.4	4.4	4.4
Point Change	(0.5)	(0.5)	(0.2)	(0.2)	0.0	0.2	0.4	0.3	0.0	(0.1)	(0.0)	0.0
<b>Industrial Production Index</b>												
U.S, 2002 = 100	104.4	108.6	109.6	110.9	112.3	113.6	114.4	115.8	118.0	120.3	122.4	124.6
% Ch	2.3	3.9	0.9	1.2	1.3	1.1	0.8	1.2	1.8	2.0	1.8	1.8
<b>Prime Rate (Percent)</b>												
	4.1	4.9	5.3	4.8	5.1	5.5	5.7	5.7	5.7	5.7	5.7	5.7
% Ch	16.7	19.7	8.3	(10.4)	8.0	7.0	4.2	0.3	(0.0)	0.0	0.0	0.0
<b>Population (Millions)</b>												
Oregon	4.14	4.20	4.25	4.30	4.35	4.40	4.45	4.49	4.54	4.58	4.63	4.67
% Ch	1.6	1.3	1.2	1.2	1.2	1.1	1.1	1.1	1.0	1.0	0.9	0.9
U.S.	325.7	327.7	330.1	332.4	334.7	337.1	339.4	341.6	343.9	346.1	348.3	350.5
% Ch	0.6	0.6	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.6	0.6	0.6
<b>Timber Harvest (Mil Bd Ft)</b>												
Oregon	3,692.1	3,619.9	3,564.6	3,651.0	3,698.6	3,787.7	3,826.8	3,849.1	3,908.7	3,914.0	3,918.2	3,919.9
% Ch	(1.9)	(2.0)	(1.5)	2.4	1.3	2.4	1.0	0.6	1.5	0.1	0.1	0.0

**APPENDIX B: REVENUE FORECAST DETAIL**

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Table B.1 General Fund Revenue Statement

Table B.1  
General Fund Revenue Statement -- 2019-21

	Estimate at COS 2019	Forecasts Dated: 9/1/2019			Forecasts Dated: 12/1/2019			Difference	
		2019-20	2020-21	Total 2019-21	2019-20	2020-21	Total 2019-21	12/1/2019 Less 9/1/2019	12/1/2019 Less COS
<b>Taxes</b>									
Personal Income Taxes	18,283,508,000	8,654,067,000	9,638,356,000	18,292,423,000	8,587,742,000	9,698,026,000	18,285,768,000	(6,655,000)	2,260,000
Film and Video and Transfer to Counties	(45,262,000)	(22,230,000)	(23,032,000)	(45,262,000)	(22,230,000)	(23,032,000)	(45,262,000)	0	0
Corporate Income Taxes	1,190,805,000	695,166,000	574,792,000	1,269,958,000	748,720,000	577,156,000	1,325,876,000	55,918,000	135,071,000
Transfer to Rainy Day Fund & PERS UAL	(158,254,000)	(101,500,000)	(50,041,000)	(151,541,000)	0	(163,803,000)	(163,803,000)	(12,262,000)	(5,549,000)
Insurance Taxes	132,563,000	73,071,000	59,321,000	132,392,000	75,904,000	63,833,000	139,737,000	7,345,000	7,174,000
Estate Taxes	361,189,000	179,554,000	185,935,000	365,489,000	179,554,000	185,935,000	365,489,000	0	4,300,000
Cigarette Taxes	64,998,000	32,663,000	32,335,000	64,998,000	31,922,000	31,888,000	63,810,000	(1,188,000)	(1,188,000)
Other Tobacco Products Taxes	66,534,000	33,053,000	33,481,000	66,534,000	32,218,000	32,811,000	65,029,000	(1,505,000)	(1,505,000)
Other Taxes	1,636,000	823,000	813,000	1,636,000	878,000	878,000	1,756,000	120,000	120,000
<b>Fines and Fees</b>									
State Court Fees	138,730,000	69,281,000	69,449,000	138,730,000	70,227,000	69,449,000	139,676,000	946,000	946,000
Secretary of State Fees	70,837,000	35,392,000	35,445,000	70,837,000	35,392,000	35,445,000	70,837,000	0	0
Criminal Fines & Assessments	51,748,000	25,874,000	25,874,000	51,748,000	25,366,000	25,366,000	50,732,000	(1,016,000)	(1,016,000)
Securities Fees	27,269,000	13,206,000	13,606,000	26,812,000	12,690,000	13,206,000	25,896,000	(916,000)	(1,373,000)
<b>Central Service Charges</b>									
	10,376,000	5,188,000	5,188,000	10,376,000	5,188,000	5,188,000	10,376,000	0	0
<b>Liquor Apportionment</b>									
	348,537,000	167,298,000	181,239,000	348,537,000	167,298,000	181,239,000	348,537,000	0	0
<b>Interest Earnings</b>									
	102,965,000	51,477,000	51,488,000	102,965,000	55,301,000	51,488,000	106,789,000	3,824,000	3,824,000
<b>Miscellaneous Revenues</b>									
	13,500,000	6,500,000	7,000,000	13,500,000	6,500,000	7,000,000	13,500,000	0	0
<b>One-time Transfers</b>									
	155,200,000	0	155,200,000	155,200,000	0	155,200,000	155,200,000	0	0
<b>Gross General Fund Revenues</b>									
	21,020,395,000	10,042,613,000	11,069,522,000	21,112,135,000	10,034,900,000	11,134,108,000	21,169,008,000	56,873,000	148,613,000
Total Personal and Corporate Transfers	(203,516,000)	(123,730,000)	(73,073,000)	(196,803,000)	(22,230,000)	(186,835,000)	(209,065,000)	(12,262,000)	(5,549,000)
<b>Net General Fund Revenues</b>									
	20,816,879,000	9,918,883,000	10,996,449,000	20,915,332,000	10,012,670,000	10,947,273,000	20,959,943,000	44,611,000	143,064,000
<b>Plus Beginning Balance</b>									
	2,318,444,712			2,532,321,712			2,650,498,712	118,177,000	332,054,000
<b>Less Anticipated Administrative Actions*</b>									
	(21,472,000)			(21,472,000)			(21,472,000)	0	0
<b>Less Legislatively Adopted Actions**</b>									
	(199,459,036)			(199,459,036)			(199,459,036)	0	0
<b>Available Resources</b>									
	22,914,392,677			23,226,722,677			23,389,510,677	162,788,000	475,118,000
<b>Appropriations</b>									
	22,409,455,625			22,409,455,625			22,409,455,625	0	0
<b>Estimated Ending Balance</b>									
	504,937,052			817,267,052			980,055,052	162,788,000	475,118,000

Table B.2 General Fund Revenue Forecast by Fiscal Year

<b>General Fund Revenue Forecast</b>												<b>December 2019</b>
(\$Millions)												
<b>Fiscal Years</b>	<b>2017-18</b>	<b>2018-19</b>	<b>2019-20</b>	<b>2020-21</b>	<b>2021-22</b>	<b>2022-23</b>	<b>2023-24</b>	<b>2024-25</b>	<b>2025-26</b>	<b>2026-27</b>	<b>2027-28</b>	<b>2028-29</b>
	<b>Fiscal Year</b>											
<b>Taxes</b>												
Personal Income	8,893.1	9,930.3	8,587.7	9,698.0	10,664.9	11,044.4	11,564.2	12,108.5	12,556.5	13,160.8	13,890.3	14,517.8
Film and Video & Transfer to Counties	(20.6)	(21.7)	(22.2)	(23.0)	(23.3)	(26.7)	(24.8)	(24.0)	0.0	0.0	0.0	0.0
Corporate Excise & Income	755.0	997.8	748.7	577.2	619.0	669.4	707.6	751.9	820.7	876.6	935.8	973.2
Transfer to RDF & PERS UAL	(16.2)	(71.1)	0.0	(163.8)	0.0	(62.0)	0.0	(65.5)	0.0	(78.3)	0.0	(80.8)
Insurance	76.7	83.5	75.9	63.8	64.1	66.4	68.8	71.1	73.8	76.7	84.9	88.1
Estate	176.5	204.7	179.6	185.9	189.9	195.3	200.7	205.6	211.9	218.3	228.3	235.2
Cigarette	33.7	31.9	31.9	31.9	31.3	30.8	30.3	29.6	29.0	28.4	27.9	27.5
Other Tobacco Products	32.4	31.2	32.2	32.8	33.2	33.8	34.2	34.4	34.6	34.8	35.0	35.1
Other Taxes	0.9	1.1	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
<b>Other Revenues</b>												
Licenses and Fees	126.3	132.7	143.7	143.5	144.9	145.5	146.2	146.8	147.5	148.0	148.7	149.2
Charges for Services	5.4	5.4	5.2	5.2	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4
Liquor Apportionment	142.6	151.8	167.3	181.2	166.1	173.8	181.6	190.0	198.6	207.8	217.0	226.7
Interest Earnings	30.2	57.0	55.3	51.5	51.0	50.8	50.8	50.7	50.8	50.8	50.7	50.7
Others	8.2	7.0	6.5	162.2	7.5	8.0	8.5	9.0	9.5	10.0	10.5	11.0
<b>Gross General Fund</b>	<b>10,281.0</b>	<b>11,634.3</b>	<b>10,034.9</b>	<b>11,134.1</b>	<b>11,978.2</b>	<b>12,424.4</b>	<b>12,999.1</b>	<b>13,603.9</b>	<b>14,139.2</b>	<b>14,818.6</b>	<b>15,635.4</b>	<b>16,320.9</b>
<b>Net General Fund</b>	<b>10,244.3</b>	<b>11,541.5</b>	<b>10,012.7</b>	<b>10,947.3</b>	<b>11,954.9</b>	<b>12,335.7</b>	<b>12,974.3</b>	<b>13,514.4</b>	<b>14,139.2</b>	<b>14,740.3</b>	<b>15,635.4</b>	<b>16,240.1</b>
<b>Biennial Totals</b>												
	<b>2017-19 BN</b>	<b>Change (%)</b>	<b>2019-21 BN</b>	<b>Change (%)</b>	<b>2021-23 BN</b>	<b>Change (%)</b>	<b>2023-25 BN</b>	<b>Change (%)</b>	<b>2025-27 BN</b>	<b>Change (%)</b>	<b>2027-29 BN</b>	<b>Change (%)</b>
<b>Taxes</b>												
Personal Income	18,823.3	17.2%	18,285.8	-2.9%	21,709.3	18.7%	23,672.7	9.0%	25,717.4	8.6%	28,408.1	10.5%
Corporate Excise & Income	1,752.7	44.8%	1,325.9	-24.4%	1,288.4	-2.8%	1,459.4	13.3%	1,697.3	16.3%	1,909.0	12.5%
Insurance	160.3	15.1%	139.7	-12.8%	130.6	-6.5%	139.8	7.1%	150.5	7.6%	173.0	14.9%
Estate Taxes	381.2	18.1%	365.5	-4.1%	385.1	5.4%	406.3	5.5%	430.2	5.9%	463.5	7.7%
Cigarette	65.6	-6.9%	63.8	-2.7%	62.1	-2.7%	59.9	-3.5%	57.4	-4.2%	55.4	-3.4%
Other Tobacco Products	63.6	2.0%	65.0	2.3%	67.0	3.1%	68.6	2.3%	69.4	1.2%	70.0	0.9%
Other Taxes	2.0	9.6%	1.8	-11.1%	1.8	0.0%	1.8	0.0%	1.8	0.0%	1.8	0.0%
<b>Other Revenues</b>												
Licenses and Fees	259.0	5.2%	287.1	10.9%	290.3	1.1%	293.0	0.9%	295.5	0.9%	297.9	0.8%
Charges for Services	10.9	5.8%	10.4	-4.6%	10.9	4.8%	10.9	0.0%	10.9	0.0%	10.9	0.0%
Liquor Apportionment	294.4	12.4%	348.5	18.4%	339.9	-2.5%	371.7	9.4%	406.4	9.4%	443.7	9.2%
Interest Earnings	87.2	250.5%	106.8	22.5%	101.8	-4.7%	101.5	-0.3%	101.5	0.0%	101.5	-0.1%
Others	15.2	-89.8%	168.7	1009.3%	15.5	-90.8%	17.5	12.9%	19.5	11.4%	21.5	10.3%
<b>Gross General Fund</b>	<b>21,915.3</b>	<b>18.1%</b>	<b>21,169.0</b>	<b>-3.4%</b>	<b>24,402.7</b>	<b>15.3%</b>	<b>26,603.0</b>	<b>9.0%</b>	<b>28,957.8</b>	<b>8.9%</b>	<b>31,956.3</b>	<b>10.4%</b>
<b>Net General Fund</b>	<b>21,785.8</b>	<b>17.6%</b>	<b>20,959.9</b>	<b>-3.8%</b>	<b>24,290.6</b>	<b>15.9%</b>	<b>26,488.7</b>	<b>9.0%</b>	<b>28,879.5</b>	<b>9.0%</b>	<b>31,875.4</b>	<b>10.4%</b>

Table B.3 Summary of 2019 Legislative Session Adjustments

	19-21	21-23	23-25	Revenue Impact Statement
<b>Personal Income Tax Impacts (millions)</b>				
Tax Expenditure Extension - HB 2164	-\$70.5	-\$146.0	-\$156.4	<a href="#">HB 2164</a>
Rural Medical Provider – HB 2847	-\$0.2	-\$0.4	-\$0.4	<a href="#">HB 2847</a>
Corporate Activity Tax – HB 3427	-\$352.0	-\$548.0	-\$599.0	<a href="#">HB 3427</a>
DOR Tax Compliance – SB 523 & HB 5033	\$1.1	\$1.4	\$1.4	<a href="#">SB 523</a> <a href="#">HB 3206</a>
<b>Personal Income Tax Total</b>	<b>-\$421.6</b>	<b>-\$693.0</b>	<b>-\$754.4</b>	
<b>Corporate Income Tax Impacts (millions)</b>				
Medical Provider Taxes - HB 2010	-\$5.0	-\$8.0	-\$8.0	<a href="#">HB 2010</a>
Medical Provider Taxes - SB 523	\$1.20	\$1.2	\$1.2	<a href="#">SB 523</a>
Corporate Activity Tax – HB 3427	-\$71.0	-\$151.0	-\$163.0	<a href="#">HB 3427</a>
<b>Corporate Income Tax Total</b>	<b>-\$74.8</b>	<b>-\$157.8</b>	<b>-\$169.8</b>	
<b>Other Tax/Revenue Impacts (millions)</b>				
Court Filing Fees - HB 3447	\$3.1	\$3.6	\$3.8	<a href="#">HB 3447</a>
OLCC Fees - SB 248	\$5.2	\$5.6	\$5.7	<a href="#">SB 248</a>
DOR Collections - SB 980	\$0.5	\$0.5	\$0.5	<a href="#">SB 980</a>
DOR Tax Compliance - HB 5033	\$0.2	\$0.4	\$0.4	<a href="#">HB 5033</a>
Fund Shifts and Adjustments – HB 2377	\$179.6	\$26.5	\$10.0	<a href="#">HB 2377</a>
<b>Other Tax Total</b>	<b>\$188.5</b>	<b>\$36.6</b>	<b>\$20.4</b>	

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										
										December 2019
	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	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%
	2015:3	2015:4	2016:1	2016:2	FY 2016	2016:3	2016:4	2017:1	2017:2	FY 2017
WITHHOLDING	1,551,517	1,644,209	1,711,568	1,634,728	6,542,022	1,675,744	1,705,280	1,835,155	1,769,354	6,985,533
%CHYA	6.6%	7.9%	8.6%	8.6%	7.9%	8.0%	3.7%	7.2%	8.2%	6.8%
EST. PAYMENTS	309,470	141,009	327,008	423,839	1,201,325	300,866	319,225	382,445	450,241	1,452,777
%CHYA	16.9%	-40.3%	7.0%	5.7%	-0.5%	-2.8%	126.4%	17.0%	6.2%	20.9%
FINAL PAYMENTS <sup>1</sup>	99,618	321,345	141,818	813,132	1,375,913	103,631	144,248	175,235	919,186	1,342,301
%CHYA	7.5%	122.8%	-9.2%	-4.9%	10.2%	4.0%	-55.1%	23.6%	13.0%	-2.4%
REFUNDS	85,113	203,981	577,546	562,601	1,429,241	138,825	254,851	574,417	454,899	1,422,992
%CHYA	-15.5%	17.6%	11.0%	50.0%	22.2%	63.1%	24.9%	-0.5%	-19.1%	-0.4%
OTHER	(163,398)	-	-	236,108	72,710	(236,108)	-	-	192,251	(43,856)
TOTAL	1,712,094	1,902,583	1,602,848	2,545,205	7,762,729	1,705,308	1,913,902	1,818,419	2,876,134	8,313,763
%CHYA	11.7%	9.9%	5.6%	-0.2%	5.9%	-0.4%	0.6%	13.4%	13.0%	7.1%
	2017:3	2017:4	2018:1	2018:2	FY 2018	2018:3	2018:4	2019:1	2019:2	FY 2019
WITHHOLDING	1,748,844	1,836,249	2,011,564	1,851,177	7,447,834	1,925,880	2,039,120	2,079,900	1,999,015	8,043,914
%CHYA	4.4%	7.7%	9.6%	4.6%	6.6%	10.1%	11.0%	3.4%	8.0%	8.0%
EST. PAYMENTS	321,032	451,037	464,534	512,671	1,749,274	367,772	284,002	321,858	532,273	1,505,905
%CHYA	6.7%	41.3%	21.5%	13.9%	20.4%	14.6%	-37.0%	-30.7%	3.8%	-13.9%
FINAL PAYMENTS <sup>1</sup>	92,364	169,785	174,096	878,587	1,314,832	104,644	156,592	225,515	1,385,562	1,872,312
%CHYA	-10.9%	17.7%	-0.6%	-4.4%	-2.0%	13.3%	-7.8%	29.5%	57.7%	42.4%
REFUNDS	133,143	266,467	686,100	610,486	1,696,196	140,701	335,635	546,225	445,573	1,468,133
%CHYA	-4.1%	4.6%	19.4%	34.2%	19.2%	5.7%	26.0%	-20.4%	-27.0%	-13.4%
OTHER	(192,251)	-	-	237,300	45,049	(237,300)	-	-	222,477	(14,823)
TOTAL	1,836,845	2,190,604	1,964,094	2,869,249	8,860,793	2,020,295	2,144,078	2,081,049	3,693,754	9,939,176
%CHYA	7.7%	14.5%	8.0%	-0.2%	6.6%	10.0%	-2.1%	6.0%	28.7%	12.2%

Note: "Other" includes 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

December 2019

	2019:3	2019:4	2020:1	2020:2	FY 2020	2020:3	2020:4	2021:1	2021:2	FY 2021
WITHHOLDING	2,059,715	2,176,486	2,184,008	1,992,664	8,412,873	2,086,896	2,199,475	2,296,590	2,098,177	8,681,138
%CHYA	6.9%	6.7%	5.0%	-0.3%	4.6%	1.3%	1.1%	5.2%	5.3%	3.2%
EST. PAYMENTS	413,316	295,004	361,809	538,838	1,608,967	387,326	282,816	359,944	566,284	1,596,371
%CHYA	12.4%	3.9%	12.4%	1.2%	6.8%	-6.3%	-4.1%	-0.5%	6.8%	-0.8%
FINAL PAYMENTS <sup>1</sup>	131,560	218,646	156,825	650,664	1,157,695	96,866	136,108	172,394	1,019,351	1,424,719
%CHYA	25.7%	39.6%	-30.5%	-53.0%	-38.2%	-26.4%	-37.7%	9.9%	56.7%	23.1%
REFUNDS	144,251	300,991	1,171,944	931,566	2,548,752	194,873	446,783	786,759	586,279	2,014,695
%CHYA	2.5%	-10.3%	114.6%	109.1%	73.6%	35.1%	48.4%	-32.9%	-37.1%	-21.0%
OTHER	(222,477)	-	-	179,435	(43,042)	(179,435)	-	-	189,927	10,492
TOTAL	2,237,864	2,389,145	1,530,698	2,430,035	8,587,742	2,196,780	2,171,616	2,042,169	3,287,460	9,698,026
%CHYA	10.8%	11.4%	-26.4%	-34.2%	-13.6%	-1.8%	-9.1%	33.4%	35.3%	12.9%
	2021:3	2021:4	2022:1	2022:2	FY 2022	2022:3	2022:4	2023:1	2023:2	FY 2023
WITHHOLDING	2,196,874	2,315,734	2,419,301	2,208,890	9,140,800	2,312,427	2,437,533	2,542,003	2,320,325	9,612,288
%CHYA	5.3%	5.3%	4.9%	4.8%	5.1%	5.3%	5.3%	5.1%	5.0%	5.2%
EST. PAYMENTS	406,938	297,137	377,805	589,776	1,671,656	423,730	309,398	393,399	614,174	1,740,701
%CHYA	5.1%	5.1%	5.0%	4.1%	4.7%	4.1%	4.1%	4.1%	4.1%	4.1%
FINAL PAYMENTS <sup>1</sup>	113,800	170,066	191,890	1,085,934	1,561,689	121,756	178,576	184,072	1,096,016	1,580,420
%CHYA	17.5%	24.9%	11.3%	6.5%	9.6%	7.0%	5.0%	-4.1%	0.9%	1.2%
REFUNDS	130,693	287,931	759,992	591,079	1,769,695	136,390	301,089	816,692	636,332	1,890,503
%CHYA	-32.9%	-35.6%	-3.4%	0.8%	-12.2%	4.4%	4.6%	7.5%	7.7%	6.8%
OTHER	(189,927)	-	-	250,376	60,449	(250,376)	-	-	251,867	1,491
TOTAL	2,396,992	2,495,006	2,229,004	3,543,897	10,664,899	2,471,148	2,624,418	2,302,781	3,646,049	11,044,398
%CHYA	9.1%	14.9%	8.6%	7.5%	9.7%	3.1%	5.2%	3.3%	2.9%	3.6%
	2023:3	2023:4	2024:1	2024:2	FY 2024	2024:3	2024:4	2025:1	2025:2	FY 2025
WITHHOLDING	2,427,095	2,558,387	2,670,569	2,438,090	10,094,142	2,549,228	2,687,094	2,812,155	2,568,430	10,616,907
%CHYA	5.0%	5.0%	5.1%	5.1%	5.0%	5.0%	5.0%	5.3%	5.3%	5.2%
EST. PAYMENTS	440,900	321,934	409,664	643,674	1,816,171	461,891	337,262	429,532	679,499	1,908,185
%CHYA	4.1%	4.1%	4.1%	4.8%	4.3%	4.8%	4.8%	4.9%	5.6%	5.1%
FINAL PAYMENTS <sup>1</sup>	116,578	175,700	197,453	1,137,317	1,627,048	125,260	186,514	206,444	1,194,996	1,713,213
%CHYA	-4.3%	-1.6%	7.3%	3.8%	3.0%	7.4%	6.2%	4.6%	5.1%	5.3%
REFUNDS	146,771	323,592	863,946	673,029	2,007,338	154,529	341,148	911,809	710,610	2,118,097
%CHYA	7.6%	7.5%	5.8%	5.8%	6.2%	5.3%	5.4%	5.5%	6.2%	5.5%
OTHER	(251,867)	-	-	286,051	34,184	(286,051)	-	-	274,310	(11,741)
TOTAL	2,585,935	2,732,429	2,413,740	3,832,103	11,564,207	2,695,799	2,869,722	2,536,321	4,006,625	12,108,466
%CHYA	4.6%	4.1%	4.8%	5.1%	4.7%	4.2%	5.0%	5.1%	4.6%	4.7%
	2025:3	2025:4	2026:1	2026:2	FY 2026	2026:3	2026:4	2027:1	2027:2	FY 2027
WITHHOLDING	2,668,096	2,812,347	2,942,370	2,687,282	11,110,095	2,787,021	2,937,675	3,080,911	2,804,349	11,609,955
%CHYA	4.7%	4.7%	4.6%	4.6%	4.6%	4.5%	4.5%	4.7%	4.4%	4.5%
EST. PAYMENTS	484,445	353,730	450,482	712,332	2,000,989	507,032	370,222	471,434	744,819	2,093,506
%CHYA	4.9%	4.9%	4.9%	4.8%	4.9%	4.7%	4.7%	4.7%	4.6%	4.6%
FINAL PAYMENTS <sup>1</sup>	130,289	194,150	215,361	1,257,772	1,797,572	135,635	202,766	225,624	1,322,635	1,886,660
%CHYA	4.0%	4.1%	4.3%	5.3%	5.2%	4.1%	4.4%	4.8%	5.2%	5.0%
REFUNDS	163,954	361,859	994,088	781,541	2,301,442	173,571	382,839	1,053,749	828,529	2,438,689
%CHYA	6.1%	6.1%	9.0%	10.0%	8.7%	5.9%	5.8%	6.0%	6.0%	6.0%
OTHER	(274,310)	-	-	223,629	(50,680)	(223,629)	-	-	235,803	9,403
TOTAL	2,844,567	2,998,368	2,614,124	4,099,474	12,556,533	3,032,488	3,127,823	2,724,218	4,279,076	13,160,834
%CHYA	5.5%	4.5%	3.1%	2.3%	3.7%	6.6%	4.3%	4.2%	4.4%	4.8%
	2027:3	2027:4	2028:1	2028:2	FY 2028	2028:3	2028:4	2029:1	2029:2	FY 2029
WITHHOLDING	2,927,843	3,086,086	3,224,579	2,944,530	12,183,039	3,087,694	3,244,012	3,388,244	3,093,837	12,813,786
%CHYA	5.2%	5.2%	4.8%	5.1%	5.1%	5.5%	5.1%	5.1%	5.1%	5.2%
EST. PAYMENTS	533,696	389,692	496,039	781,326	2,200,754	560,496	409,261	520,927	820,260	2,310,943
%CHYA	5.4%	5.4%	5.3%	5.0%	5.2%	5.0%	5.0%	5.0%	5.0%	5.0%
FINAL PAYMENTS <sup>1</sup>	142,936	214,094	237,943	1,393,629	1,988,602	150,810	225,905	250,447	1,462,927	2,090,089
%CHYA	5.5%	5.7%	5.6%	5.5%	5.5%	5.5%	5.5%	5.3%	5.0%	5.1%
REFUNDS	182,781	403,152	1,106,675	870,071	2,562,678	191,774	422,915	1,166,560	917,299	2,698,549
%CHYA	5.2%	5.2%	4.9%	4.9%	5.0%	4.9%	4.9%	5.4%	5.4%	5.3%
OTHER	(235,803)	-	-	316,338	80,534	(316,338)	-	-	317,893	1,555
TOTAL	3,185,891	3,286,720	2,851,887	4,565,753	13,890,251	3,290,888	3,456,263	2,993,057	4,777,617	14,517,825
%CHYA	5.2%	5.2%	4.9%	6.9%	5.7%	3.3%	5.2%	5.0%	4.6%	4.5%

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

	OREGON CORPORATE INCOME TAX REVENUE FORECAST - QUARTERLY COLLECTIONS									
	Thousands of Dollars - Not Seasonally Adjusted									
	FY									December 2019
	2009:3	2009:4	2010:1	2010:2	2010	2010:3	2010:4	2011:1	2011:2	FY 2011
ADVANCE PAYMENTS	79,579	163,877	66,451	147,313	457,220	115,286	175,561	76,405	165,354	532,606
%CHYA	-20.9%	12.8%	4.2%	51.3%	12.3%	44.9%	7.1%	15.0%	12.2%	16.5%
FINAL PAYMENTS	20,404	24,009	38,412	45,714	128,539	21,781	21,206	35,770	40,805	119,562
%CHYA	-13.2%	-10.2%	72.1%	109.5%	36.2%	6.8%	-11.7%	-6.9%	-10.7%	-7.0%
REFUNDS	29,072	137,244	40,080	25,774	232,170	23,130	89,877	39,065	31,489	183,562
%CHYA	3.3%	9.9%	-40.6%	-30.7%	-9.9%	-20.4%	-34.5%	-2.5%	22.2%	-20.9%
TOTAL	70,910	50,642	64,784	167,254	353,589	113,936	106,890	73,111	174,670	468,606
%CHYA	-26.1%	7.3%	247.5%	104.0%	45.1%	60.7%	111.1%	12.9%	4.4%	32.5%
	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%
	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	118,673	202,813	715,141	136,698	215,677	102,663	195,412	650,449
%CHYA	-10.3%	6.9%	11.2%	10.5%	3.7%	-21.1%	-2.1%	-13.5%	-3.6%	-9.0%
FINAL PAYMENTS	67,305	59,752	63,509	70,433	260,998	44,746	93,441	52,164	81,824	272,175
%CHYA	133.6%	-18.8%	10.9%	-1.4%	13.0%	-33.5%	56.4%	-17.9%	16.2%	4.3%
REFUNDS	42,388	156,984	85,446	81,453	366,271	39,680	166,537	73,066	57,733	337,016
%CHYA	-15.1%	1.0%	46.4%	131.6%	22.5%	-6.4%	6.1%	-14.5%	-29.1%	-8.0%
TOTAL	198,245	123,094	96,736	191,793	609,868	141,764	142,581	81,761	219,503	585,608
%CHYA	15.2%	-0.9%	-8.4%	-12.8%	-1.9%	-28.5%	15.8%	-15.5%	14.4%	-4.0%
	FY									FY
	2017:3	2017:4	2018:1	2018:2	2018	2018:3	2018:4	2019:1	2019:2	2019
ADVANCE PAYMENTS	179,603	185,787	182,395	303,835	851,620	222,891	249,768	158,748	264,445	895,852
%CHYA	31.4%	-13.9%	77.7%	55.5%	30.9%	24.1%	34.4%	-13.0%	-13.0%	5.2%
FINAL PAYMENTS	42,600	66,460	46,270	108,539	263,869	74,735	102,942	68,818	174,861	421,356
%CHYA	-4.8%	-28.9%	-11.3%	32.6%	-3.1%	75.4%	54.9%	48.7%	61.1%	59.7%
REFUNDS	72,225	129,963	122,291	54,224	378,703	43,428	167,871	128,586	50,616	390,501
%CHYA	82.0%	-22.0%	67.4%	-6.1%	12.4%	-39.9%	29.2%	5.1%	-6.7%	3.1%
TOTAL	149,978	122,284	106,374	358,150	736,786	254,198	184,839	98,980	388,690	926,707
%CHYA	5.8%	-14.2%	30.1%	63.2%	25.8%	69.5%	51.2%	-7.0%	8.5%	25.8%

TABLE B.5

## OREGON CORPORATE INCOME TAX REVENUE FORECAST - QUARTERLY COLLECTIONS

	Thousands of Dollars - Not Seasonally Adjusted									
										December 2019
	2019:3	2019:4	2020:1	2020:2	FY 2020	2020:3	2020:4	2021:1	2021:2	FY 2021
ADVANCE PAYMENTS	236,341	265,808	134,646	207,601	844,397	160,834	196,049	119,104	192,821	668,808
%CHYA	6.0%	6.4%	-15.2%	-21.5%	-5.7%	-31.9%	-26.2%	-11.5%	-7.1%	-20.8%
FINAL PAYMENTS	67,657	96,706	115,253	96,804	376,420	50,004	132,965	108,084	94,281	385,335
%CHYA	-9.5%	-6.1%	67.5%	-44.6%	-10.7%	-26.1%	37.5%	-6.2%	-2.6%	2.4%
REFUNDS	73,866	179,170	154,412	64,649	472,097	56,382	211,670	145,457	63,479	476,987
%CHYA	70.1%	6.7%	20.1%	27.7%	20.9%	-23.7%	18.1%	-5.8%	-1.8%	1.0%
TOTAL	230,132	183,345	95,486	239,757	748,720	154,457	117,344	81,731	223,624	577,156
%CHYA	-9.5%	-0.8%	-3.5%	-38.3%	-19.2%	-32.9%	-36.0%	-14.4%	-6.7%	-22.9%
	2021:3	2021:4	2022:1	2022:2	FY 2022	2022:3	2022:4	2023:1	2023:2	FY 2023
ADVANCE PAYMENTS	159,372	197,826	122,773	200,735	680,706	164,647	204,535	127,749	208,615	705,546
%CHYA	-0.9%	0.9%	3.1%	4.1%	1.8%	3.3%	3.4%	4.1%	3.9%	3.6%
FINAL PAYMENTS	52,145	147,421	118,084	107,171	424,821	59,379	166,054	130,540	121,146	477,119
%CHYA	4.3%	10.9%	9.3%	13.7%	10.2%	13.9%	12.6%	10.5%	13.0%	12.3%
REFUNDS	54,174	217,752	149,349	65,227	486,503	55,794	231,453	157,571	68,482	513,300
%CHYA	-3.9%	2.9%	2.7%	2.8%	2.0%	3.0%	6.3%	5.5%	5.0%	5.5%
TOTAL	157,343	127,495	91,508	242,679	619,025	168,232	139,136	100,719	261,279	669,365
%CHYA	1.9%	8.7%	12.0%	8.5%	7.3%	6.9%	9.1%	10.1%	7.7%	8.1%
	2023:3	2023:4	2024:1	2024:2	FY 2024	2024:3	2024:4	2025:1	2025:2	FY 2025
ADVANCE PAYMENTS	168,948	210,198	131,912	215,364	726,423	174,235	217,218	136,460	222,946	750,859
%CHYA	2.6%	2.8%	3.3%	3.2%	3.0%	3.1%	3.3%	3.4%	3.5%	3.4%
FINAL PAYMENTS	67,456	184,523	167,623	146,352	565,955	83,286	249,747	198,558	171,774	703,365
%CHYA	13.6%	11.1%	28.4%	20.8%	18.6%	23.5%	35.3%	18.5%	17.4%	24.3%
REFUNDS	58,966	250,387	193,066	82,396	584,816	68,420	315,739	223,759	94,446	702,364
%CHYA	5.7%	8.2%	22.5%	20.3%	13.9%	16.0%	26.1%	15.9%	14.6%	20.1%
TOTAL	177,437	144,335	106,469	279,320	707,562	189,101	151,226	111,259	300,274	751,861
%CHYA	5.5%	3.7%	5.7%	6.9%	5.7%	6.6%	4.8%	4.5%	7.5%	6.3%
	2025:3	2025:4	2026:1	2026:2	FY 2026	2026:3	2026:4	2027:1	2027:2	FY 2027
ADVANCE PAYMENTS	182,264	227,039	142,450	232,422	784,175	188,495	235,893	148,090	240,828	813,307
%CHYA	4.6%	4.5%	4.4%	4.3%	4.4%	3.4%	3.9%	4.0%	3.6%	3.7%
FINAL PAYMENTS	100,280	306,099	205,059	189,090	800,528	110,254	312,998	211,662	206,934	841,848
%CHYA	20.4%	22.6%	3.3%	10.1%	13.8%	9.9%	2.3%	3.2%	9.4%	5.2%
REFUNDS	75,781	366,580	226,096	95,528	763,984	77,379	372,833	230,805	97,569	778,586
%CHYA	10.8%	16.1%	1.0%	1.1%	8.8%	2.1%	1.7%	2.1%	2.1%	1.9%
TOTAL	206,763	166,558	121,413	325,985	820,719	221,370	176,059	128,947	350,193	876,569
%CHYA	9.3%	10.1%	9.1%	8.6%	9.2%	7.1%	5.7%	6.2%	7.4%	6.8%
	2027:3	2027:4	2028:1	2028:2	FY 2028	2028:3	2028:4	2029:1	2029:2	FY 2029
ADVANCE PAYMENTS	195,819	244,819	152,721	247,977	841,336	201,409	250,448	155,155	252,076	859,088
%CHYA	3.9%	3.8%	3.1%	3.0%	3.4%	2.9%	2.3%	1.6%	1.7%	2.1%
FINAL PAYMENTS	121,932	320,219	216,440	222,525	881,115	131,757	324,717	219,502	232,275	908,251
%CHYA	10.6%	2.3%	2.3%	7.5%	4.7%	8.1%	1.4%	1.4%	4.4%	3.1%
REFUNDS	79,097	376,630	232,502	98,405	786,633	80,054	379,835	234,792	99,464	794,145
%CHYA	2.2%	1.0%	0.7%	0.9%	1.0%	1.2%	0.9%	1.0%	1.1%	1.0%
TOTAL	238,654	188,408	136,659	372,097	935,818	253,111	195,330	139,865	384,887	973,194
%CHYA	7.8%	7.0%	6.0%	6.3%	6.8%	6.1%	3.7%	2.3%	3.4%	4.0%

Table B.6 Cigarette and Tobacco Tax Distribution

December 2019											
TABLE B.6 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
<b>Distribution Forecast*</b>											
2019-20	31.922	124.410	4.962	21.765	183.059	9.925	192.984	32.218	24.858	2.765	59.841
2020-21	31.888	124.275	4.957	21.742	182.862	9.914	192.776	32.811	25.315	2.816	60.942
2019-21 Biennium	63.810	248.685	9.920	43.507	365.921	19.839	385.760	65.029	50.173	5.580	120.783
2021-22	31.325	122.081	4.870	21.358	179.633	9.739	189.372	33.236	25.643	2.852	61.732
2022-23	30.764	119.894	4.782	20.975	176.416	9.565	185.980	33.795	26.075	2.900	62.770
2021-23 Biennium	62.088	241.976	9.652	42.333	356.049	19.304	375.353	67.032	51.718	5.752	124.502
2023-24	30.320	118.164	4.713	20.672	173.869	9.427	183.296	34.175	26.368	2.933	63.475
2024-25	29.604	115.374	4.602	20.184	169.764	9.204	178.968	34.416	26.554	2.953	63.923
2023-25 Biennium	59.923	233.537	9.315	40.857	343.633	18.631	362.264	68.591	52.921	5.886	127.399
2025-26	28.975	112.924	4.504	19.756	166.160	9.009	175.169	34.623	26.713	2.971	64.307
2026-27	28.422	110.768	4.418	19.379	162.987	8.837	171.824	34.800	26.850	2.986	64.636
2025-27 Biennium	57.397	223.693	8.923	39.135	329.147	17.845	346.993	69.423	53.563	5.957	128.943
2027-28	27.934	108.866	4.342	19.046	160.188	8.685	168.873	34.951	26.966	2.999	64.916
2028-29	27.502	107.185	4.275	18.752	157.714	8.551	166.265	35.080	27.066	3.010	65.156
2027-29 Biennium	55.436	216.051	8.618	37.798	317.903	17.236	335.138	70.031	54.032	6.009	130.072

Table B.7 Revenue Distribution to Local Governments

<b>TABLE B.7</b>									<b>December 2019</b>
<b>Liquor Apportionment and Revenue Distribution to Local Governments (Millions of \$)</b>									
	<b>Liquor Apportionment Distribution</b>				<b>City Revenue</b>			<b>Counties</b>	<b>Cigarette Tax Distribution<sup>2</sup></b>
	<b>Total Liquor Revenue Available</b>	<b>General Fund (56%)</b>	<b>Mental Health<sup>1</sup></b>	<b>Oregon Wine Board</b>	<b>Revenue Sharing</b>	<b>Regular</b>	<b>Total</b>		
<b>2019-20</b>	294.383	167.298	9.518	0.336	53.287	37.301	90.587	26.643	9.925
<b>2020-21</b>	318.914	181.239	10.311	0.364	57.727	40.409	98.136	28.864	9.914
<b>2019-21 Biennium</b>	613.297	348.537	19.829	0.701	111.014	77.710	188.724	55.507	19.839
<b>2021-22</b>	307.245	166.083	10.258	0.364	59.337	41.536	100.873	29.668	9.739
<b>2022-23</b>	321.058	173.776	10.494	0.373	62.007	43.405	105.412	31.003	9.565
<b>2021-23 Biennium</b>	628.303	339.859	20.751	0.736	121.344	84.941	206.285	60.672	19.304
<b>2023-24</b>	335.143	181.627	10.735	0.382	64.727	45.309	110.036	32.363	9.427
<b>2024-25</b>	350.215	190.035	10.982	0.392	67.640	47.348	114.987	33.820	9.204
<b>2023-25 Biennium</b>	685.358	371.661	21.717	0.774	132.366	92.657	225.023	66.183	18.631
<b>2025-26</b>	365.608	198.627	11.234	0.401	49.428	70.611	120.039	35.306	9.009
<b>2026-27</b>	382.056	207.817	11.493	0.411	51.652	73.789	125.441	36.894	8.837
<b>2025-27 Biennium</b>	747.664	406.444	22.727	0.813	101.080	144.400	245.480	72.200	17.845
<b>2027-28</b>	398.875	216.959	12.010	0.430	53.924	77.034	130.958	38.517	8.685
<b>2028-29</b>	416.820	226.720	12.550	0.449	56.350	80.500	136.850	40.250	8.551
<b>2027-29 Biennium</b>	815.694	443.680	24.560	0.879	110.274	157.534	267.809	78.767	17.236

<sup>1</sup> Mental Health Alcoholism and Drug Services Account, per ORS 471.810

<sup>2</sup> For details on cigarette revenues see TABLE B.6 on previous page

Table B.8 Track Record for the September 2019 Forecast

**Table B.8 Track Record for the September 2019 Forecast**

(Quarter ending September 30, 2019)

<b>Personal Income Tax</b>	<b>Forecast Comparison</b>			<b>Year/Year Change</b>	
	Actual Revenues	Latest Forecast	Percent Difference	Prior Year	Percent Change
(Millions of dollars)					
Withholding	\$2,059.7	\$2,094.9	-1.7%	\$1,925.9	6.9%
Dollar difference		-\$35.2		\$131.0	
Estimated Payments*	\$413.3	\$393.0	5.2%	\$367.8	12.4%
Dollar difference		\$20.4		\$131.8	
Final Payments*	\$131.6	\$105.0	25.3%	\$104.6	25.7%
Dollar difference		\$26.6		\$25.5	
Refunds	-\$144.3	-\$145.6	-0.9%	-\$140.7	2.5%
Dollar difference		\$1.3		-\$3.6	
<b>Total Personal Income Tax</b>	<b>\$2,460.3</b>	<b>\$2,447.3</b>	<b>0.5%</b>	<b>\$2,257.6</b>	<b>9.0%</b>
Dollar difference		\$13.1		\$202.7	
<b>Corporate Income Tax</b>	<b>Forecast Comparison</b>			<b>Year/Year Change</b>	
(Millions of dollars)	Actual Revenues	Latest Forecast	Percent Difference	Prior Year	Percent Change
Advanced Payments	\$236.3	\$196.2	20.5%	\$222.9	6.0%
Dollar difference		\$40.1		\$13.5	
Final Payments	\$67.7	\$82.7	-18.2%	\$74.7	-9.5%
Dollar difference		-\$15.1		-\$7.1	
Refunds	-\$73.9	-\$58.0	27.4%	-\$43.4	70.1%
Dollar difference		-\$15.9		-\$30.4	
<b>Total Corporate Income Tax</b>	<b>\$230.1</b>	<b>\$220.9</b>	<b>4.2%</b>	<b>\$254.2</b>	<b>-9.5%</b>
Dollar difference		\$9.2		-\$24.1	
<b>Total Income Tax</b>	<b>Forecast Comparison</b>			<b>Year/Year Change</b>	
(Millions of dollars)	Actual Revenues	Latest Forecast	Percent Difference	Prior Year	Percent Change
<b>Corporate and Personal Tax</b>	<b>\$2,690.5</b>	<b>\$2,668.2</b>	<b>0.8%</b>	<b>\$2,511.8</b>	<b>7.1%</b>
Dollar difference		\$22.3		\$178.7	

\* Data separating estimated and other personal income tax payments is no longer available. Tracking represents estimates based on banking data.

Table B.9 Summary of Lottery Resources

Summary of Lottery Resources	Dec 2019 Forecast										
	2019-21			2021-23		2023-25		2025-2027		2027-29	
	Current Forecast	Change from Sep-19	Change from COS 2019	Current Forecast	Change from Sep-19						
(in millions of dollars)											
<b>LOTTERY EARNINGS</b>											
Traditional Lottery	146.300	(7.297)	(8.600)	150.331	(4.813)	150.579	(4.830)	150.407	(4.831)	150.419	(4.830)
Video Lottery	1,321.015	11.306	16.071	1,421.482	4.148	1,547.904	0.424	1,649.732	(0.625)	1,749.693	(0.663)
Scoreboard (Sports Betting) <sup>1</sup>	8.252	0.000	8.252	29.425	0.000	42.198	0.000	46.404	0.000	49.901	0.000
Administrative Actions	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
<b>Total Available to Transfer</b>	<b>1,475.567</b>	<b>4.009</b>	<b>15.723</b>	<b>1,601.238</b>	<b>(0.665)</b>	<b>1,740.680</b>	<b>(4.406)</b>	<b>1,846.543</b>	<b>(5.457)</b>	<b>1,950.014</b>	<b>(5.493)</b>
<b>ECONOMIC DEVELOPMENT FUND</b>											
Beginning Balance	65.340	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Transfers from Lottery	1,475.567	4.009	15.723	1,601.238	(0.665)	1,740.680	(4.406)	1,846.543	(5.457)	1,950.014	(5.493)
Other Resources <sup>2</sup>	5.731	0.000	0.000	2.000	0.000	2.000	0.000	2.000	0.000	2.000	0.000
<b>Total Available Resources</b>	<b>1,546.638</b>	<b>4.009</b>	<b>15.723</b>	<b>1,603.238</b>	<b>(0.665)</b>	<b>1,742.680</b>	<b>(4.406)</b>	<b>1,848.543</b>	<b>(5.457)</b>	<b>1,952.014</b>	<b>(5.493)</b>
<b>ALLOCATION OF RESOURCES</b>											
Constitutional Distributions											
Education Stability Fund <sup>3</sup>	265.602	0.722	2.830	288.223	(0.120)	313.322	(0.793)	332.378	(0.982)	351.002	(0.989)
Parks and Natural Resources Fund <sup>4</sup>	221.335	0.601	2.358	240.186	(0.100)	261.102	(0.661)	276.981	(0.819)	292.502	(0.824)
Veterans' Services Fund <sup>5</sup>	22.134	0.060	0.236	24.019	(0.010)	26.110	(0.066)	27.698	(0.082)	29.250	(0.082)
Other Distributions											
Outdoor School Education Fund <sup>5</sup>	45.306	0.000	0.000	49.857	0.135	52.275	0.142	54.810	0.149	57.469	0.156
County Economic Development	50.231	0.000	0.000	54.500	0.159	59.347	0.016	63.251	(0.024)	67.083	(0.025)
HECC Collegiate Athletic & Scholarships <sup>6</sup>	14.100	0.000	0.000	16.012	(0.007)	17.407	(0.044)	18.465	(0.055)	19.500	(0.055)
Gambling Addiction <sup>7</sup>	14.593	0.000	0.000	16.012	(0.007)	17.407	(0.044)	18.465	(0.055)	19.500	(0.055)
County Fairs	3.828	0.000	0.000	3.828	0.000	3.828	0.000	3.828	0.000	3.828	0.000
Other Legislatively Adopted Allocations <sup>8</sup>	879.210	0.000	0.000	238.900	0.000	234.300	0.000	234.300	0.000	234.300	0.000
Employer Incentive Fund (PERS) <sup>1</sup>	8.252	0.000	8.252	29.425	0.000	42.198	0.000	46.404	0.000	49.901	0.000
<b>Total Distributions</b>	<b>1,524.591</b>	<b>1.383</b>	<b>13.677</b>	<b>960.961</b>	<b>0.052</b>	<b>1,027.295</b>	<b>(1.450)</b>	<b>1,076.581</b>	<b>(1.867)</b>	<b>1,124.336</b>	<b>(1.87)</b>
<b>Ending Balance/Discretionary Resources</b>	<b>22.047</b>	<b>2.626</b>	<b>2.047</b>	<b>642.277</b>	<b>(0.717)</b>	<b>715.385</b>	<b>(2.956)</b>	<b>771.962</b>	<b>(3.590)</b>	<b>827.678</b>	<b>(3.619)</b>

Note: Some totals may not foot due to rounding.

1. Per SB 1049 (2019), Sports Betting revenues are transferred to Economic Development Fund making them subject to the constitutional distributions, then an equal amount is transferred to the Employer Incentive Fund
2. Includes interest earnings on Economic Development Fund and reversions.
3. 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 School Capital Matching Fund.
4. The Parks and Natural Resources Fund Constitutional amendment requires 15% of net proceeds be transferred to this fund.
5. Per Ballot Measure 96 (2016), 1.5% of net lottery proceeds are dedicated to the Veterans' Services Fund
6. Per Ballot Measure 99 (2016), the lesser of 4% of Lottery transfers or \$22 million per year is transferred to the Outdoor Education Account. Adjusted annually for inflation.
7. Approximately one percent of net lottery proceeds are dedicated to each program. Certain limits are imposed by the Legislature.
8. 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****Dec 2019****Rainy Day Fund**

(Millions)	2017-19	2019-21	2021-23	2023-25	2025-27
Beginning Balance	\$376.4	\$666.6	\$899.4	\$1,241.5	\$1,631.2
Interest Earnings	\$23.5	\$33.3	\$55.7	\$80.4	\$103.0
Deposits <sup>1</sup>	\$266.7	\$199.5	\$286.4	\$309.3	\$327.7
Triggered Withdrawals	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
<b>Ending Balance<sup>2</sup></b>	<b>\$666.6</b>	<b>\$899.4</b>	<b>\$1,241.5</b>	<b>\$1,631.2</b>	<b>\$2,061.9</b>

**Education Stability Fund<sup>3</sup>**

(Millions)	2017-19	2019-21	2021-23	2023-25	2025-27
Beginning Balance	\$384.2	\$621.1	\$858.7	\$920.8	\$1,059.2
Interest Earnings <sup>4</sup>	\$22.4	\$31.8	\$47.1	\$57.4	\$64.4
Deposits <sup>5</sup>	\$235.9	\$239.0	\$62.1	\$138.4	\$109.4
Distributions	\$21.0	\$33.2	\$47.1	\$57.4	\$64.4
Oregon Education Fund	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
Oregon Opportunity Grant	\$21.0	\$33.2	\$47.1	\$57.4	\$64.4
Withdrawals	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
<b>Ending Balance</b>	<b>\$621.1</b>	<b>\$858.7</b>	<b>\$920.8</b>	<b>\$1,059.2</b>	<b>\$1,061.7</b>

**Total Reserves**

(Millions)	2017-19	2019-21	2021-23	2023-25	2025-27
<b>Ending Balances</b>	<b>\$1,287.7</b>	<b>\$1,758.1</b>	<b>\$2,162.3</b>	<b>\$2,690.4</b>	<b>\$3,123.6</b>
Percent of General Fund Revenues	5.9%	8.4%	8.9%	10.2%	10.8%

## 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.

Table B.11 Recreational Marijuana Resources and Distributions

TABLE B.11 Summary of Marijuana Resources	Dec 2019										
	2019-21			2021-23		2023-25		2025-27		2027-29	
	Current Forecast	Change from Sep-19	Change from COS 2019	Current Forecast	Change from Sep-19						
(in millions of dollars)											
<b>MARIJUANA EARNINGS</b>											
+ Tax Revenue <sup>1</sup>	248.208	6.694	10.239	298.841	0.000	326.435	0.000	352.873	0.000	379.312	0.000
- Administrative Costs <sup>2</sup>	14.246	0.052	0.052	14.193	0.000	14.193	0.000	14.193	0.000	14.193	0.000
<b>Net Available to Transfer</b>	<b>233.962</b>	<b>6.642</b>	<b>10.186</b>	<b>284.648</b>	<b>0.000</b>	<b>312.242</b>	<b>0.000</b>	<b>338.680</b>	<b>0.000</b>	<b>365.118</b>	<b>0.000</b>
<b>OREGON MARIJUANA ACCOUNT</b>											
Beginning Balance	28.765	0.000	0.000	8.405	5.314	0.000	0.000	0.000	0.000	0.000	0.000
Revenue Transfers	233.962	6.642	10.186	284.648	0.000	312.242	0.000	338.680	0.000	365.118	0.000
Other Resources	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	(1.000)
<b>Total Available Resources</b>	<b>262.727</b>	<b>6.642</b>	<b>10.186</b>	<b>293.053</b>	<b>5.314</b>	<b>312.242</b>	<b>0.000</b>	<b>338.680</b>	<b>0.000</b>	<b>365.118</b>	<b>(1.000)</b>
<b>ALLOCATION OF RESOURCES</b>											
State School Fund (40%)	103.765	0.000	0.000	118.062	2.966	124.897	0.000	135.472	0.000	146.047	(0.400)
Mental Health, Alcoholism, & Drug Services (20%)	51.882	0.000	0.000	59.031	1.483	62.448	0.000	67.736	0.000	73.024	(0.200)
State Police (15%)	38.912	0.000	0.000	44.273	1.112	46.836	0.000	50.802	0.000	54.768	(0.150)
Cities (10%)	23.396	0.664	1.019	28.465	(0.309)	31.224	0.000	33.868	0.000	36.512	(0.100)
Counties (10%)	23.396	0.664	1.019	28.465	(0.309)	31.224	0.000	33.868	0.000	36.512	(0.100)
Alcohol & Drug Abuse Prevention, Intervention & Treatment (5%)	12.971	0.000	0.000	14.758	0.371	15.612	0.000	16.934	0.000	18.256	(0.050)
<b>Total Distributions</b>	<b>254.322</b>	<b>1.328</b>	<b>2.037</b>	<b>293.053</b>	<b>5.314</b>	<b>312.242</b>	<b>0.000</b>	<b>338.680</b>	<b>0.000</b>	<b>365.118</b>	<b>(1.000)</b>
<b>Ending Balance</b>	<b>8.405</b>	<b>5.314</b>	<b>8.269</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>

Note: Some totals may not foot due to rounding.

1. Retailers pay taxes monthly, however taxes are not available for distribution to recipient programs until the Department of Revenue receives and processes retailers' quarterly tax returns. As such, there is a one to two quarter lag between when the initial monthly payments are made and when monies become available to distribute.

2. Administrative Costs reflect monthly collection costs for the Department of Revenue in addition to distributions to the Criminal Justice Commission and OLCC per SB 1544 (2018)

Table B.12 Fund for Student Success (Corporate Activity Tax)

Dec 2019											
TABLE B.12											
Summary of Corporate Activity Tax Resources											
	2019-21			2021-23		2023-25		2025-27		2027-29	
(in millions of dollars)	Current Forecast	Change from Sep-19	Change from COS 2019	Current Forecast	Change from Sep-19						
<b>Corporate Activity Tax</b>											
+ Tax Revenue	1,596.267	0.000	0.000	2,806.156	0.000	3,063.290	0.000	3,344.575	0.000	3,657.172	0.000
- Administrative Costs	9.520	0.000	0.000	19.200	0.000	21.312	0.000	23.656	0.000	26.259	0.000
<b>Net Available to Transfer</b>	<b>1,586.747</b>	<b>0.000</b>	<b>0.000</b>	<b>2,786.956</b>	<b>0.000</b>	<b>3,041.978</b>	<b>0.000</b>	<b>3,320.918</b>	<b>0.000</b>	<b>3,630.913</b>	<b>0.000</b>
<b>Fund for Student Success</b>											
Beginning Balance	0.000	0.000	0.000	34.760	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Revenue Transfers	1,586.747	0.000	0.000	2,786.956	0.000	3,041.978	0.000	3,320.918	0.000	3,630.913	0.000
Other Resources	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
<b>Total Available Resources</b>	<b>1,586.747</b>	<b>0.000</b>	<b>0.000</b>	<b>2,821.716</b>	<b>0.000</b>	<b>3,041.978</b>	<b>0.000</b>	<b>3,320.918</b>	<b>0.000</b>	<b>3,630.913</b>	<b>0.000</b>
<b>ALLOCATION OF RESOURCES</b>											
State School Fund	643.000	0.000	0.000	739.000	0.000	796.686	0.000	869.740	0.000	950.927	0.000
Student Investment Account	472.740	0.000	0.000	1,041.358	0.000	1,122.646	0.000	1,225.589	0.000	1,339.993	0.000
Statewide Education Initiative Account	265.122	0.000	0.000	624.815	0.000	673.588	0.000	735.354	0.000	803.996	0.000
Early Learning Account	171.125	0.000	0.000	416.543	0.000	449.058	0.000	490.236	0.000	535.997	0.000
<b>Total Distributions</b>	<b>1,551.987</b>	<b>0.000</b>	<b>0.000</b>	<b>2,821.716</b>	<b>0.000</b>	<b>3,041.978</b>	<b>0.000</b>	<b>3,320.918</b>	<b>0.000</b>	<b>3,630.913</b>	<b>0.000</b>
<b>Ending Balance</b>	<b>34.760</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>

Note: Some totals may not foot due to rounding.

## APPENDIX C: POPULATION FORECASTS BY AGE AND SEX

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Table C.1 Oregon's Population Forecasts and Component of Change 1990-2029

Year (July 1)	Population	Population Change		Births		Deaths		Natural	Net Migration	
		Number	Percent	Number	Rate/1000	Number	Rate/1000	Increase	Number	Rate/1000
1990	2,860,400	69,800	2.50	42,008	14.87	24,763	8.76	17,245	52,555	18.60
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
<b>1990-1995</b>		<b>324,000</b>		<b>210,464</b>		<b>131,769</b>		<b>78,695</b>	<b>245,305</b>	
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
<b>1995-2000</b>		<b>246,700</b>		<b>222,239</b>		<b>145,431</b>		<b>76,808</b>	<b>169,892</b>	
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
<b>2000-2005</b>		<b>195,800</b>		<b>227,708</b>		<b>152,804</b>		<b>74,904</b>	<b>120,896</b>	
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
<b>2005-2010</b>		<b>210,400</b>		<b>240,225</b>		<b>157,246</b>		<b>82,979</b>	<b>127,421</b>	
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	43,690	1.11	45,447	11.53	33,731	8.56	11,716	31,974	8.11
2015	4,013,845	51,135	1.29	45,660	11.45	35,318	8.86	10,342	40,793	10.23
<b>2010-2015</b>		<b>176,545</b>		<b>226,354</b>		<b>167,458</b>		<b>58,896</b>	<b>117,649</b>	
2016	4,076,350	62,505	1.56	45,647	11.28	35,339	8.74	10,308	52,197	12.90
2017	4,141,100	64,750	1.59	44,602	10.86	36,773	8.95	7,829	56,921	13.85
2018	4,195,300	54,200	1.31	42,906	10.29	36,900	8.85	6,006	48,194	11.56
2019	4,247,700	52,399	1.25	42,872	10.16	38,549	9.13	4,323	48,076	11.39
2020	4,299,400	51,701	1.22	42,867	10.03	39,169	9.17	3,699	48,002	11.23
<b>2015-2020</b>		<b>285,555</b>		<b>218,894</b>		<b>186,729</b>		<b>32,165</b>	<b>253,390</b>	
2021	4,349,800	50,400	1.17	42,861	9.91	39,880	9.22	2,981	47,418	10.96
2022	4,399,000	49,200	1.13	42,849	9.80	40,654	9.29	2,196	47,004	10.75
2023	4,447,100	48,100	1.09	42,822	9.68	41,490	9.38	1,332	46,768	10.57
2024	4,493,800	46,699	1.05	42,790	9.57	42,413	9.49	377	46,322	10.36
2025	4,539,300	45,500	1.01	42,750	9.47	43,364	9.60	-614	46,114	10.21
<b>2020-2025</b>		<b>239,899</b>		<b>214,073</b>		<b>207,801</b>		<b>6,272</b>	<b>233,627</b>	
2026	4,583,000	43,700	0.96	42,711	9.36	44,306	9.71	-1,596	45,296	9.93
2027	4,625,300	42,300	0.92	42,667	9.27	45,293	9.84	-2,625	44,926	9.76
2028	4,666,000	40,700	0.88	42,621	9.17	46,389	9.99	-3,768	44,468	9.57
2029	4,705,100	39,100	0.84	42,570	9.09	47,452	10.13	-4,883	43,983	9.39
<b>1990-2000</b>		<b>570,700</b>		<b>432,703</b>		<b>277,200</b>		<b>155,503</b>	<b>415,197</b>	13.10
<b>2000-2010</b>		<b>406,200</b>		<b>467,933</b>		<b>310,050</b>		<b>157,883</b>	<b>248,317</b>	6.83
<b>2010-2020</b>		<b>462,100</b>		<b>445,248</b>		<b>354,187</b>		<b>91,061</b>	<b>371,039</b>	9.19
<b>2019-2029</b>		<b>457,400</b>		<b>427,509</b>		<b>430,410</b>		<b>-2,901</b>	<b>460,301</b>	10.26

Sources: 1990-1999 population - U.S. Census Bureau; 2000-2009 population - intercensal estimates by Office of Economic Analysis; population estimates 2010-2018 by Population Research Center, PSU; births and deaths 1990-18/17: Oregon Center for Health Statistics.

Table C.2 Population Forecasts by Age and Sex: 2010-2029

Age	2010				2011				2012				2013				2014			
	Male	Female	Total	Mdn. Age	Male	Female	Total	Mdn. Age	Male	Female	Total	Mdn. Age	Male	Female	Total	Mdn. Age	Male	Female	Total	
0-4	122,327	116,130	238,457	37.2	121,092	115,088	236,180	37.4	119,516	113,359	232,875	37.6	118,293	111,850	230,143	37.8	117,872	111,493	229,365	
5-9	121,539	116,369	237,908	39.4	121,767	115,893	237,660	39.7	122,733	116,900	239,634	39.9	124,024	117,953	241,977	40.1	124,734	118,038	242,772	
10-14	124,508	118,732	243,241	40.6	124,074	119,044	243,118	40.8	123,603	118,287	241,890	41.0	123,386	118,206	241,593	41.2	123,403	118,463	241,865	
15-19	131,126	124,540	255,667	42.4	129,068	121,927	250,996	42.6	127,517	120,587	248,104	42.8	126,643	119,875	246,518	43.0	126,847	119,972	246,819	
20-24	128,787	124,903	253,689	43.4	130,576	126,691	257,267	43.6	132,853	128,787	261,640	43.8	135,293	130,705	266,000	44.0	136,741	132,080	268,821	
25-29	134,019	131,816	265,835	44.4	133,302	130,829	264,132	44.6	132,463	129,927	262,390	44.8	132,508	130,403	262,911	45.0	134,578	132,874	267,452	
30-34	131,489	128,325	259,814	45.4	133,512	130,743	264,255	45.6	135,689	133,329	269,018	45.8	137,321	135,074	272,395	46.0	139,932	137,412	277,344	
35-39	128,070	123,596	251,665	46.4	125,924	121,787	247,710	46.6	126,018	122,275	248,293	46.8	128,683	124,338	253,022	47.0	130,858	126,562	257,420	
40-44	125,969	122,843	248,811	47.4	128,974	125,358	254,332	47.6	130,795	126,620	257,415	47.8	131,483	127,467	258,950	48.0	131,047	126,698	257,745	
45-49	130,825	132,538	263,363	48.4	127,795	128,542	256,337	48.6	125,434	124,976	250,410	48.8	123,864	122,179	246,043	49.0	124,309	121,474	245,783	
50-54	135,129	141,565	276,693	49.4	134,682	140,654	275,335	49.6	133,445	139,197	272,643	49.8	132,080	137,545	269,625	50.0	131,568	136,140	267,708	
55-59	133,011	140,802	273,812	50.4	134,009	142,349	276,358	50.6	134,403	143,058	277,461	50.8	134,376	142,746	277,122	51.0	133,344	142,041	275,385	
60-64	115,236	121,045	236,281	51.4	121,440	127,818	249,258	51.6	122,921	129,548	252,470	51.8	124,925	132,821	257,746	52.0	127,753	136,837	264,590	
65-69	81,854	87,917	169,771	52.4	84,425	90,852	175,277	52.6	82,096	88,785	170,881	52.8	80,059	85,599	165,658	53.0	78,473	83,411	161,884	
70-74	56,925	62,949	119,874	53.4	59,485	65,640	125,125	53.6	62,496	69,113	131,609	53.8	67,184	73,899	141,083	54.0	71,303	78,473	149,776	
75-79	40,932	50,101	91,034	54.4	41,549	50,075	91,624	54.6	42,654	50,692	93,346	54.8	44,224	52,064	96,287	55.0	46,443	54,145	100,588	
80-84	30,391	42,734	73,126	55.4	30,500	42,287	72,787	55.6	30,560	41,822	72,381	55.8	30,774	41,257	72,031	56.0	31,046	40,788	71,834	
85+	26,800	51,458	78,258	56.4	27,598	52,275	79,874	56.6	28,360	52,915	81,276	56.8	28,995	53,538	82,533	57.0	29,522	53,890	83,411	
Total	1,898,938	1,938,362	3,837,300	38.3	1,909,773	1,947,852	3,857,625	38.5	1,923,557	1,960,178	3,883,735	38.7	1,942,040	1,976,980	3,919,020	38.9	1,964,844	1,997,866	3,962,710	
Mdn. Age	37.2	39.4	38.3	37.4	39.7	38.5	37.6	39.9	38.7	37.8	40.0	38.9	38.0	40.1	39.0	38.0	40.1	39.0		
Age	2015				2016				2017				2018				2019			
	Male	Female	Total	Mdn. Age	Male	Female	Total	Mdn. Age	Male	Female	Total	Mdn. Age	Male	Female	Total	Mdn. Age	Male	Female	Total	
0-4	118,065	111,542	229,607	38.1	112,182	107,176	219,358	38.2	110,623	105,617	216,240	38.3	109,163	104,157	213,320	38.4	107,703	102,651	210,354	
5-9	125,502	118,321	243,824	40.2	125,540	118,120	243,660	40.2	125,253	117,281	242,534	40.2	124,926	116,377	241,303	40.2	124,607	115,463	240,070	
10-14	122,735	118,328	241,063	41.2	123,807	118,633	242,441	41.2	125,568	120,566	246,134	41.2	127,404	122,223	249,627	41.2	128,481	122,681	251,162	
15-19	127,735	120,633	248,368	42.2	128,448	121,638	250,085	42.2	129,149	121,889	251,038	42.2	129,338	122,073	251,411	42.2	129,610	122,533	252,143	
20-24	137,304	132,672	269,977	43.2	137,526	132,652	270,178	43.2	138,151	133,323	271,474	43.2	137,916	133,230	271,146	43.2	138,362	133,523	271,885	
25-29	139,959	137,056	277,015	44.2	143,647	143,914	287,561	44.2	149,363	150,285	299,648	44.2	154,128	155,225	309,353	44.2	158,424	158,424	316,848	
30-34	141,525	138,707	280,232	45.2	144,070	140,722	284,792	45.2	146,205	142,880	289,086	45.2	148,173	145,415	293,588	45.2	151,745	149,552	301,297	
35-39	134,484	129,808	264,292	46.2	138,181	133,110	271,291	46.2	136,983	132,303	269,286	46.2	135,127	132,407	267,534	46.2	134,589	132,255	266,844	
40-44	130,440	125,302	255,742	47.2	129,051	124,315	253,366	47.2	126,612	122,587	249,199	47.2	124,885	121,885	246,770	47.2	124,885	121,885	246,770	
45-49	127,060	123,545	250,605	48.2	131,246	126,804	258,050	48.2	134,157	128,892	263,049	48.2	135,475	130,160	265,635	48.2	135,400	129,637	265,037	
50-54	129,981	133,569	263,550	49.2	127,847	130,622	258,469	49.2	127,711	127,711	255,422	49.2	125,327	125,340	250,667	49.2	126,116	124,882	251,000	
55-59	133,245	142,271	275,516	50.2	133,803	142,713	276,516	50.2	133,264	142,249	275,513	50.2	132,346	141,198	273,544	50.2	132,091	140,121	272,212	
60-64	130,407	139,689	270,096	51.2	132,872	142,414	275,286	51.2	134,431	144,220	278,651	51.2	135,166	144,565	279,730	51.2	134,545	144,218	278,764	
65-69	109,922	117,550	227,472	52.2	116,860	124,952	241,812	52.2	119,222	127,460	246,682	52.2	121,835	131,164	253,000	52.2	124,984	135,379	260,363	
70-74	74,860	82,510	157,370	53.2	77,688	85,607	163,295	53.2	80,391	89,610	170,001	53.2	83,229	92,843	176,072	53.2	86,838	96,848	183,686	
75-79	48,615	56,084	104,699	54.2	51,000	58,692	109,692	54.2	53,744	62,024	115,768	54.2	57,958	66,449	124,407	54.2	61,575	70,575	132,149	
80-84	31,707	40,809	72,517	55.2	32,509	40,934	73,443	55.2	33,587	41,566	75,152	55.2	35,014	42,755	77,768	55.2	38,638	44,438	83,076	
85+	30,095	53,967	84,062	56.2	30,836	54,337	85,173	56.2	31,428	54,414	85,842	56.2	32,073	54,392	86,465	56.2	32,525	54,071	86,596	
Total	1,991,483	2,022,363	4,013,845	38.1	2,023,989	2,052,361	4,076,350	38.2	2,057,401	2,083,700	4,141,100	38.3	2,085,686	2,109,614	4,195,300	38.4	2,112,990	2,134,710	4,247,700	
Mdn. Age	38.1	40.2	39.1	38.2	40.2	39.2	38.3	40.2	39.2	38.5	40.3	39.2	38.5	40.3	39.4	38.7	40.4	39.5		
Age	2020				2021				2022				2023				2024			
	Male	Female	Total	Mdn. Age	Male	Female	Total	Mdn. Age	Male	Female	Total	Mdn. Age	Male	Female	Total	Mdn. Age	Male	Female	Total	
0-4	115,485	108,642	224,127	38.9	113,931	107,176	221,107	39.0	112,449	106,283	218,732	39.1	111,000	104,889	215,889	39.2	109,571	103,715	213,286	
5-9	125,506	116,608	242,114	40.2	126,190	117,019	243,209	40.2	126,211	116,888	243,099	40.2	125,988	116,673	242,661	40.2	125,461	116,236	241,697	
10-14	129,473	123,177	252,650	41.2	129,378	122,864	252,242	41.2	128,764	121,686	250,450	41.2	128,230	120,542	248,771	41.2	128,215	120,388	248,603	
15-19	129,295	122,504	251,799	42.2	130,034	122,642	252,676	42.2	131,486	124,263	255,749	42.2	133,139	125,739	258,879	42.2	134,049	126,027	260,076	
20-24	139,146	134,064	273,210	43.2	139,370	134,748	274,118	43.2	139,512	134,273	273,785	43.2	139,835	134,571	274,406	43.2	140,136	135,049	275,185	
25-29	157,870	150,255	308,125	44.2	157,414	158,576	315,990	44.2	157,779	158,150	315,929	44.2	157,705	157,705	315,410	44.2	157,356	156,516	313,872	
30-34	156,098	154,904	311,002	45.2	161,955	162,013	323,968	45.2	167,721	168,672	336,393	45.2	172,714	173,797	346,511	45.2	175,452	176,885	352,337	
35-39	150,607	143,816	294,423	46.2	152,900	145,650	298,550	46.2	154,603	147,310	301,913	46.2	156,541	149,866	306,407	46.2	160,174	154,062	314,236	
40-44	140,210	134,153	274,363	47.2	143,934	137,509	281,443	47.2	147,691	141,001	288,693	47.2	150,499	143,431	293,930	47.2	153,970	146,282	300,252	
45-49	134,517	128,324	262,840	48.2	133,318	127,191	260,509	48.2	132,247	128,200	260,447	48.2	131,647	130,719	262,366	48.2	131,273	130,337	261,610	
50-54	129,084	127,220	256,304	49.2	133,179	130,476	263,655	49.2	132,376	128,230	260,606	49.2	131,664	130,618	262,282	49.2	131,047	130,011	261,058	
55-59	130,6																			

Table C.3 Population of Oregon: 1990-2029

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	43,690	1.11%
2015	4,013,845	51,135	1.29%
2016	4,076,350	62,505	1.56%
2017	4,141,100	64,750	1.59%
2018	4,195,300	54,200	1.31%
2019	4,247,700	52,399	1.25%
2020	4,299,400	51,701	1.22%
2021	4,349,800	50,400	1.17%
2022	4,399,000	49,200	1.13%
2023	4,447,100	48,100	1.09%
2024	4,493,800	46,699	1.05%
2025	4,539,300	45,500	1.01%
2026	4,583,000	43,700	0.96%
2027	4,625,300	42,300	0.92%
2028	4,666,000	40,700	0.88%
2029	4,705,100	39,100	0.84%

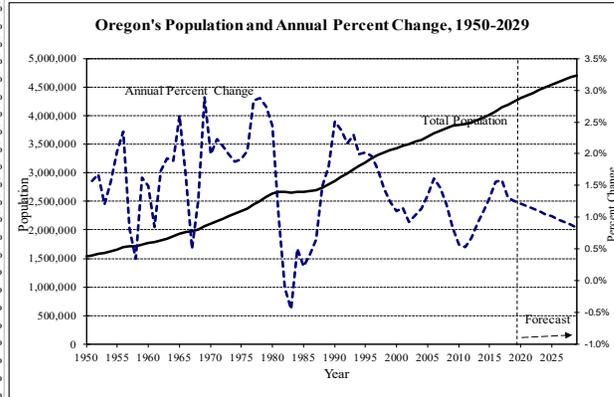


Table C.4 Children: Ages 0-4

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	230,143	-2,733	-1.17%	630,161	1,473	0.23%	365,925	3,346	0.92%
2014	229,365	-777	-0.34%	631,753	1,592	0.25%	368,525	2,600	0.71%
2015	229,607	242	0.11%	633,304	1,550	0.25%	370,167	1,642	0.45%
2016	231,240	1,632	0.71%	635,485	2,182	0.34%	370,880	712	0.19%
2017	232,236	996	0.43%	638,094	2,608	0.41%	373,086	2,206	0.59%
2018	230,170	-2,065	-0.89%	639,287	1,194	0.19%	374,200	1,114	0.30%
2019	227,327	-2,843	-1.24%	641,363	2,076	0.32%	375,292	1,092	0.29%
2020	224,127	-3,200	-1.41%	644,564	3,200	0.50%	375,209	-83	-0.02%
2021	221,107	-3,020	-1.35%	646,828	2,264	0.35%	375,418	209	0.06%
2022	219,232	-1,875	-0.85%	646,809	-19	0.00%	376,274	856	0.23%
2023	219,140	-92	-0.04%	645,104	-1,705	-0.26%	377,612	1,338	0.36%
2024	218,998	-142	-0.06%	642,387	-2,718	-0.42%	378,981	1,369	0.36%
2025	219,108	110	0.05%	638,308	-4,078	-0.63%	380,563	1,582	0.42%
2026	219,496	388	0.18%	633,913	-4,396	-0.69%	382,035	1,472	0.39%
2027	219,018	-478	-0.22%	630,474	-3,438	-0.54%	384,437	2,402	0.63%
2028	218,505	-513	-0.23%	627,201	-3,273	-0.52%	386,228	1,791	0.47%
2029	217,958	-547	-0.25%	624,676	-2,524	-0.40%	386,048	-180	-0.05%

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

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

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

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	668,956	8,507	1.29%	1,059,961	12,683	1.21%	1,053,466	2,930	0.28%
2015	679,008	10,051	1.50%	1,074,881	14,920	1.41%	1,059,767	6,301	0.60%
2016	691,871	12,863	1.89%	1,097,009	22,128	2.06%	1,068,321	8,554	0.81%
2017	705,188	13,317	1.92%	1,123,925	26,916	2.45%	1,071,315	2,993	0.28%
2018	714,682	9,493	1.35%	1,149,254	25,330	2.25%	1,069,577	-1,738	-0.16%
2019	725,247	10,565	1.48%	1,174,471	25,216	2.19%	1,067,011	-2,565	-0.24%
2020	733,015	7,768	1.07%	1,197,182	22,712	1.93%	1,066,447	-564	-0.05%
2021	741,672	8,657	1.18%	1,219,950	22,768	1.90%	1,066,602	155	0.01%
2022	750,102	8,430	1.14%	1,241,929	21,979	1.80%	1,067,088	486	0.05%
2023	758,480	8,378	1.12%	1,260,804	18,876	1.52%	1,069,649	2,561	0.24%
2024	766,327	7,848	1.03%	1,281,076	20,272	1.61%	1,072,681	3,032	0.28%
2025	772,617	6,289	0.82%	1,297,118	16,041	1.25%	1,078,714	6,034	0.56%
2026	778,111	5,494	0.71%	1,313,031	15,913	1.23%	1,085,018	6,304	0.58%
2027	783,676	5,565	0.72%	1,326,272	13,241	1.01%	1,093,846	8,828	0.81%
2028	788,868	5,192	0.66%	1,339,199	12,927	0.97%	1,103,670	9,824	0.90%
2029	792,357	3,489	0.44%	1,352,822	13,624	1.02%	1,114,465	10,796	0.98%

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	619,639	4.15%	363,807	5.72%	172,422	2.44%	83,411	1.06%
2015	646,119	4.27%	384,842	5.78%	177,215	2.78%	84,062	0.78%
2016	673,416	4.22%	405,107	5.27%	183,136	3.34%	85,173	1.32%
2017	702,446	4.31%	425,682	5.08%	190,921	4.25%	85,842	0.79%
2018	732,812	4.32%	444,171	4.34%	202,175	5.89%	86,465	0.73%
2019	762,236	4.02%	462,215	4.06%	213,424	5.56%	86,596	0.15%
2020	791,871	3.89%	480,732	4.01%	223,599	4.77%	87,540	1.09%
2021	819,896	3.54%	498,470	3.69%	232,670	4.06%	88,756	1.39%
2022	847,668	3.39%	505,831	1.48%	251,431	8.06%	90,407	1.86%
2023	874,790	3.20%	512,771	1.37%	269,455	7.17%	92,564	2.39%
2024	899,677	2.84%	518,717	1.16%	285,429	5.93%	95,530	3.20%
2025	925,488	2.87%	524,558	1.13%	302,355	5.93%	98,575	3.19%
2026	949,507	2.60%	529,481	0.94%	317,918	5.15%	102,108	3.58%
2027	971,253	2.29%	531,012	0.29%	333,717	4.97%	106,524	4.32%
2028	991,198	2.05%	529,855	-0.22%	348,578	4.45%	112,764	5.86%
2029	1,009,129	1.81%	527,445	-0.45%	362,963	4.13%	118,721	5.28%