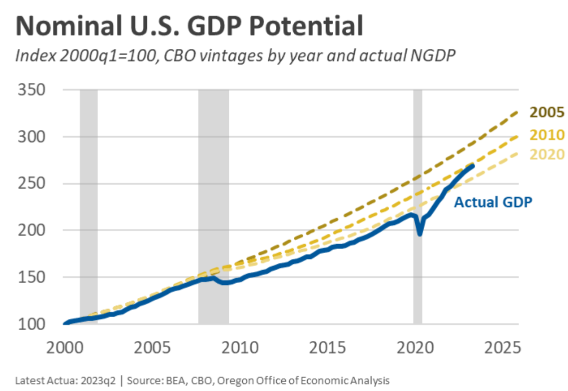
Economic Outlook

Macroeconomic Setting

Stepping back and examining the pandemic business cycle to date shows that the U.S. economy is on a much different trajectory than expected. At nearly every point since the shutdowns, the economy has outpaced expectations. So much so that when comparing the actual size of the U.S. economy today, not only is it above what economists thought the potential would be, it is starting to make up a lot of the lost ground from last decade when the slow, steady, and subpar recovery from the Great Financial Crisis was thought to have permanently scared the economy. This is a reminder that the potential size, and growth of the economy is not fixed. The combination, and contributions from labor and capital can, and do change, in part driven by public policy. As an example, the strong pandemic recovery has largely been driven by the very large, federal fiscal response, both initially and in subsequent legislation.

Now, of course this cycle has been an inflationary economic boom. On a real, or inflation-adjusted basis the gains are more in line with pre-pandemic expectations. Ultimately it is those real gains that matter when measuring growth and living standards. However, we live our lives in the nominal world. In that sense, incomes, consumer spending, business revenue, and tax collections all outpace expectations in recent years.

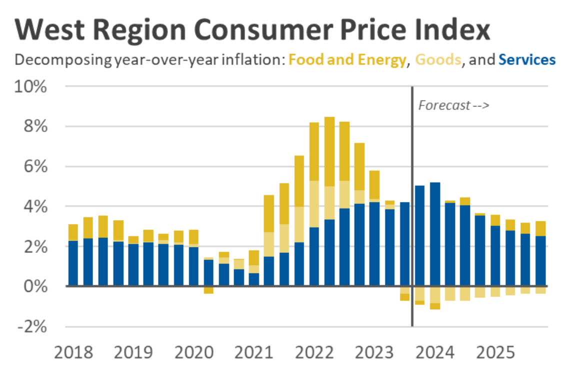


Inflation is Slowing, Now the Hard Part

Inflation Outlook

The good news is inflation has slowed considerably in the past year. On a year-over-year basis, the Consumer Price Index (CPI) last summer was running at a nine percent pace. This summer, CPI is running between three and four percent. Much of this slowdown in inflation is tied to supply side healing in the global economy, meaning supply chain struggles have eased, and food and energy prices have come off the boil. Expectations are inflation will remain relatively low in the months ahead as both autos and shelter inflation weigh on the overall index.

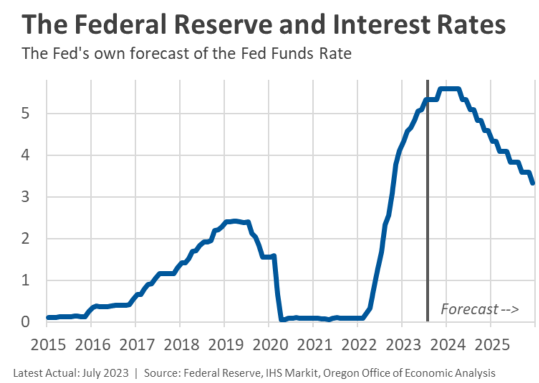
The bad news is even with all of the good news, inflation remains above the Federal Reserve's two percent target. And with the underlying growth in the economy reaccelerating today, inflation may re-heat as well in the not-too-distant future. To be clear, the baseline outlook remains for inflation to continue to broadly slow, with a multiyear period required to fully get back to the Fed's target on a sustainable basis. But risks remain that inflation may pick back up later this year or next.



Federal Reserve Policy

The current state of the economy leaves the Federal Reserve in a tough position. The reacceleration in growth appears to have caught the Fed, and many economists, a bit off-guard. Expectations were for the economy to continue to slow, alleviating pressure that results in inflation continuing to subside. This may very well be the case, and remains the theoretical lynchpin to the soft landing scenario. The renewed strength in the economy today may prove temporary. In fact the Fed is counting on that.

Historically the impact of past interest rate increases takes anywhere from 6 to 18 months to be felt in the real economy, even as financial markets react immediately. As Milton Friedman famously said the impacts of monetary policy are long and variable. There is some indication that in today's world of increased access to information in real time, the lags are shorter. Even so, the Fed has raised interest rates more than five percentage points in the past 18 months. Some additional slowdown in the economy should still be expected as the higher rates work their way into everyday business and household decisions. The question is how much slowing will there actually be?

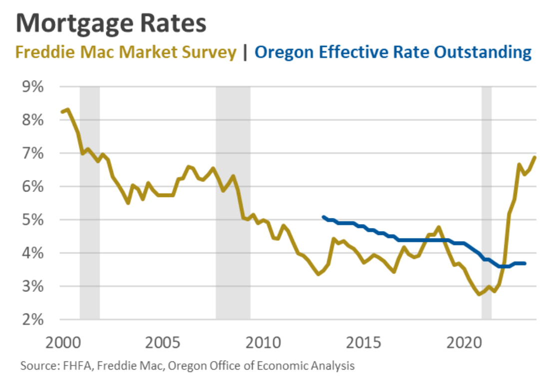


Moving forward the Federal Reserve believes its policy is restrictive. Based on their latest forecast, the Fed expects to raise interest rates one more time and hold them at a relatively high level until inflation slows further. Once that occurs, the Fed expects to cut interest rates so that the real, or inflation-adjusted rate remains relatively constant. While most private forecasters follow the general contours of the Fed's own outlook, expectations are starting to increase for even more interest rate increases, and/or the Fed holding rates steady for an even longer period of time. Such an outcome would keep with the "higher for longer" view of the economy given the strength and elevated inflation. There is a possibility that the economy is simply stronger than many believed, and therefore higher interest rates are needed to truly cool inflation.

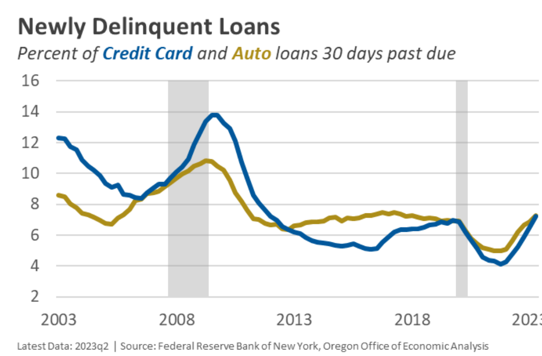
Impacts of Higher Interest Rates

Traditionally, higher interest rates slow economic growth through credit-sensitive sectors in the economy. With higher financing costs, businesses will expand and invest at a slower rate, and households will take on less debt, slowing consumer spending in the process. Today, a broad slowdown in the economy is not seen in the data, or at least not yet. The latest tracking estimates for real GDP growth this quarter are running at more than five percent according to the Federal Reserve Bank of Atlanta. Growth appears to be above trend, even with interest rates the highest they have been in decades.

Clearly higher rates are slowing some sectors in the economy. In addition to higher interest rates, banks are also tightening lending standards according to the Federal Reserve's Senior Loan Officer Opinion Survey (SLOOS). As such, it is more difficult for, generally smaller, businesses to get new loans. Large companies are better able to access deeper capital markets and rely less on traditional banking relationships. And many types of construction are taking more of a wait and see approach, with the expectations that rates will be lower in the years ahead. These actions do, or will slow overall growth.



All of that said, higher interest rates today do not appear to be packing the same punch, certainly compared to last decade. First, household balance sheets are strong. Income and wage growth is faster, household savings is higher, and the dominant type of debt households have – mortgages – is locked in at low, fixed rates. Two-thirds of Oregon households with a mortgage, have an interest rate below four percent. Moody's Analytics estimates that just 10-20 percent of all household debt is at adjustable interest rates, meaning today's higher rates will only slowly be repriced into household balance sheets over a period of years. There is unlikely to be a big slowdown in consumer spending due to rates alone.



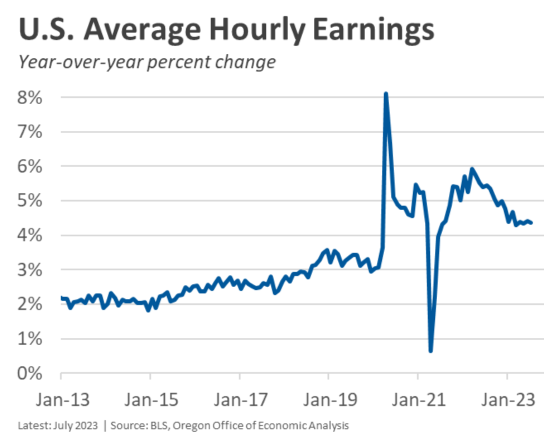
Of course this masks the differences between the macro and micro impacts. Households with more credit card debt, or those needing to buy an automobile today and the like are much more impacted, and likely struggling financially as a result, even if the economywide statistics are very strong. In recent quarters, national delinquency rates on both credit cards and automobile loans have increased off their record lows and are now back to pre-pandemic numbers. It is likely these delinquencies will rise higher in the quarters ahead, even as it is yet to be seen just how high they go this cycle.

Second, business balance sheets are strong as well. Revenues are up, driven by strong consumer spending, and according to Goldman Sachs, about half of all debt held by S&P 500 companies is set to mature in 2030 or later. As such, firms – at least the large, publicly traded ones – are less sensitive to today's higher rates as much of their debt is likewise locked in at lower rates for an extended period of time. Another consideration is that manufacturing, and goods-producing industries more broadly are capital intensive. Therefore, they are likely more sensitive to higher interest rates. But as the U.S. economy continues to evolve and become more service-oriented, the impact of higher rates on goods producers represents a smaller share of the economy than in the past.

Third, in terms of sectors of the economy most likely to be impacted, it may be the Federal Government. According to the Wall Street Journal, approximately three-quarters of federal debt is set to mature (come due) in the next five years. As that debt will need to be rolled over at higher rates, the impact will be to slow federal spending on public services, increase taxes to pay for it, or to increase the annual deficits, and overall debt. Given the commitments of increased federal investment in the years ahead (more on that later in the forecast), a reduction in overall federal spending appears unlikely. According to the Congressional Budget Office's latest long-term outlook, federal interest payments measured as a share of GDP is set to rise from 2.5 percent last year to 3.2 percent in 2030, which was the previous historic high reached in 1991. The CBO expects further interest payment increases over the long-term.

Now, this does not mean the federal debt is big threat to the economy. It is just an acknowledgement that the federal budget will be more impacted by the higher rates than the private sector in the short-term. Keep in mind that countries with their own currency, and independent monetary policy do not default on their debt (although the political brinkmanship around the U.S.' artificial debt ceiling may prove otherwise at some point). But sometime in the (distant) future, higher interest payments are likely to impact either direct federal spending, or the ability for fiscal policy to help during recessions.

Labor Market Crosscurrents



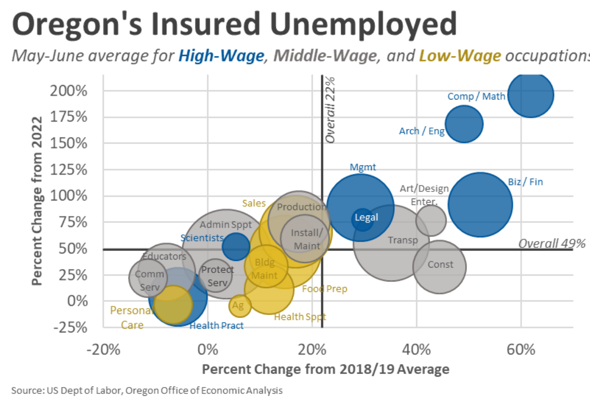
When it comes to the labor market, it remains very strong. Many indicators show the labor market has cooled some from the reopening highs, but remains tighter than last decade. In fact if we focus on job openings, and average hourly earnings, the U.S. labor market is roughly halfway back to pre-pandemic patterns. Job openings have declined some as employers have staffed back up and are less desperate to hire today. And wage growth has slowed as well. To date this combination of a declining job openings, slowing inflation, but unemployment remaining at or near record lows is being referred to as the immaculate cooling. As such, the likelihood of the economic soft landing is rising and is now the consensus outlook for forecasters. However, with average hourly earnings currently increasing at a 4-5 percent annual rate, it is unlikely to be consistent with the Fed's two percent inflation target over time.

Labor Market is Still Tight, but Less So

Here in Oregon the labor market data reveals more pronounced trends than in the national data. Job growth and personal income tax withholdings slowed noticeably early in 2023. And as of June 2023, job openings in the state are now back to pre-pandemic levels. Additionally, the number of Oregonians filing for and receiving unemployment insurance increased as well. And while UI claims have not spiraled upward like they do heading into a recession, they remain at higher levels than in the years leading up to the pandemic. Oregon's labor market looks to be a little less tight than it was, but still somewhere at or near full employment.

The largest increases in unemployment insurance claims have been among workers coming from high-wage occupations. In particular, increases among Computer and Math, and Architecture and Engineering occupations, followed by other high-wage occupations including Management, Legal, Business and Finance has seen the largest percentage changes. Some of these increases are likely tied to the large number of high-tech layoffs announced in the past year – particularly the Computer and Math, and Architecture and Engineering jobs. At the time of the announcements, and even in the ensuing months, it was difficult to see an impact on the overall economy. However, by looking at the characteristics of the unemployed, it shows there was a clear impact for some workers.

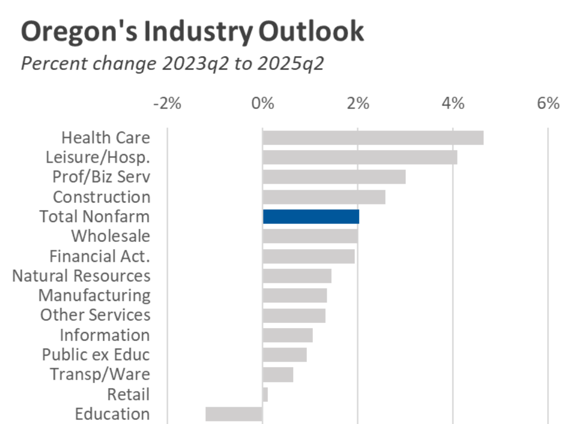
Additionally, more interest rate sensitive occupations like Construction, and Transportation have seen larger increases in unemployment as well. These changes are likely tied to the goods and freight cycle the U.S. economy has gone through in the past year. Overall, consumer spending on goods has held strong after the big pandemic era increases. However, as supply caught up to demand, inventories did accumulate for retailers and home improvement stores, among others. As those businesses have worked through their inventory, new orders and the associated production and logistics needed to get the new products to retailers did slow down, resulting in some layoffs. Now those cyclical swings are turning up. With inventories now leaner, production is increasing, and the freight recession is over and starting to improve. That is part of the reacceleration story in the short-term.



Oregon Industry Forecast

Labor is still hard to come by. The economy remains cyclical strong as evidenced by a low unemployment rate, and high employment rates among working-age cohorts. Most Oregonians who want a job, have a job, or at least there are plentiful job opportunities. But the labor market is also structurally tight for demographic reasons. The large Baby Boomer generation is retiring in recent years and will continue to do so in the decade ahead. Annual retirements nationwide are expected to be at least one million per year, and here in Oregon around 15,000 per year. To keep total employment stable, all of those soon-to-be retirees with a lifetime of experience and skills will need to be replaced by new hires.

Looking forward, job growth will slow noticeably from the pandemic reopening highs. In fact given high employment rates today, combined with the demographics, job gains may come in below expectations even as total labor income continues to grow quickly. Even so, the composition of job growth in the state is expected to shift as well. During the pandemic and initial recovery, many goods-producing industries and associated supply chain segments outpaced the overall economy, while in-person services lagged. With the relative slowdown in goods spending, sectors like transportation and warehousing, retail, even manufacturing and construction were expected to take a backseat in terms of overall gains. And with continued strong growth from households for things like going out to eat, and on vacations, and the like, service sectors are expected to add jobs at a faster rate during the 2023-25 biennium.



Some of these gains are more about the industries playing catchup to the overall economy. For example, leisure and hospitality has yet to fully regain the total number of jobs it had pre-pandemic. Clearly there have been some structural changes in the industry, be it the lack of daily cleanings for hotel rooms, or more kiosk ordering at restaurants and the like. On a per capita basis, or an inflation-adjusted revenue per employee basis, the industry is likely to never return to where it was in 2019. However, with a growing economy, and increased consumer demand, job gains should continue. The demand for workers is there. The risks to the industry employment forecast are that these structural changes are larger than are built into the forecast. Plus it is hard to find workers, especially for low-paying industries. As a result, more job growth may occur in the higher-paying, higher-productivity industries in the years ahead. Such an outcome would be a boon for the overall economy, albeit partially at the expense of the lower-paying industries looking for staff today.

Additionally, recent developments in financial markets may dampen future construction activity more than anticipated. The residential construction industry appeared to have found a bottom and was adjusting to mortgage rates in the 6-7 percent range. Recent weeks have now pushed mortgage rates closer to 7.5 percent. Should these higher rates persist more than a few days or weeks, they will slow future sales, and building activity. These developments are too new to build into this forecast but are substantial enough to warrant a mention as a potential risk. Similarly, commercial real estate is likely to slow as well given higher construction costs, including financing costs make new projects challenging to pencil out. On the other hand, should private sector activity slow more than anticipated, the increase in federal investment, see the next section, will make up for some of the slack, and compete less, or crowd out other types of activities.

Capital Investment Drives Productivity Gains

Economic growth is driven by the combination of labor and capital. Investment in the various forms of capital – financial, human, natural, physical, and social – drive productivity gains, meaning workers are able to produce more for every hour of work. Higher productivity raises the overall speed limit of the economy. Better productivity also helps alleviate inflationary pressures, the key macroeconomic issue facing the economy today.

So far during the pandemic, Oregon's overall economic growth compared to other states has been strongest in terms of productivity, above average in terms of income, and slightly below average when it comes to jobs and population gains. This pattern, and contributions to growth differs from Oregon's modern experience, as discussed in greater detail last quarter.

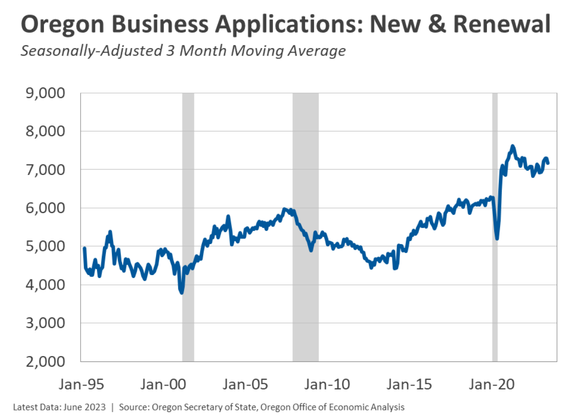
More broadly, productivity growth in the U.S. economy in recent decades has been slow. The exact reasons why is not fully understood by economists, but aging demographics, the slowdown in federal investment, and dearth of start-ups are all thought to be key factors.

Moving forward there are a few reasons to be more optimistic about productivity gains, including the Millennials aging into their prime working years, which also so happen to be peak entrepreneurship years as well, in addition to big increases in federal investment, and the more speculative potential of generative AI. Oregon stands to benefit as much, if not more than the typical state as a result.

Start-Ups

As discussed in greater detail in the May 2023 forecast[1], there has been a substantial increase in new business formation during and after the pandemic. New firms typically bring new ideas and products, and improve efficiencies compared to existing firms. This process, sometimes referred to creative destructive, raises economywide productivity.

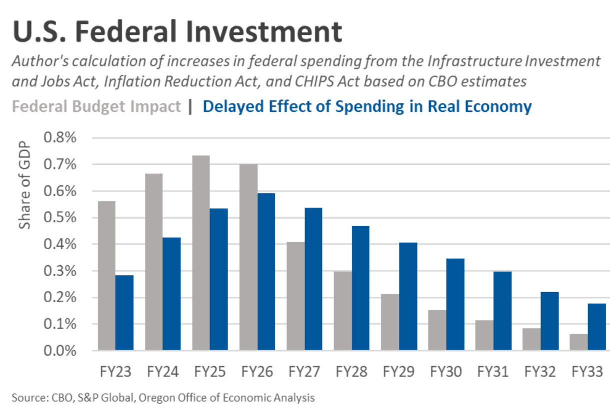
While there were some initial caveats or qualms that the increase in start-ups may have been just to access pandemic aid programs, or due to IRS changes and the like, the fact that business formation remains strong for the past three years is encouraging.



While tighter financial conditions in the economy may dampen start-up activity in the near future as it is harder to get loans, and for entrepreneurs to tap into their home equity at higher interest rates, there are also upside risks in the form of demographics. Research from the Census Bureau[2] shows that entrepreneurship rates peak in ones late 30s through early 40s. In the decade ahead the large Millennial generation will age into their peak entrepreneurship years, likely providing a long-lasting demographic tailwind to start-up activity in the years ahead. Now, simply having more businesses does not necessarily lead to increased business investment and productivity gains, but it is an encouraging signal about the possibilities in the years ahead.

Federal Investment

In recent years the federal government has passed major legislation that will increase federal investment in the economy. The combination of the Infrastructure Investment and Jobs Act (2021), Inflation Reduction Act (2022), and Chips and Science Act (2022) is a big boost to federal spending. Some of these increases in direct investment were offset by increases in revenue, or cost savings elsewhere in the budget, but the direct investment increases amount to more than half a percent of GDP per year over the next few years.



In terms of the economic impact, timing matters. It is one thing for the money to be approved to be spent, but when it comes to many of these projects, it takes time to design them, go through the RFP process, and ultimately build them. As such, much of the initial spending in the federal budget has gone

[1] See page 6: https://digital.osl.state.or.us/islandora/object/osl%3A1010830/datastream/OBJ/view
[2] https://www.census.gov/content/dam/Census/library/working-papers/2018/adrm/carra-wp-2018-03.pdf

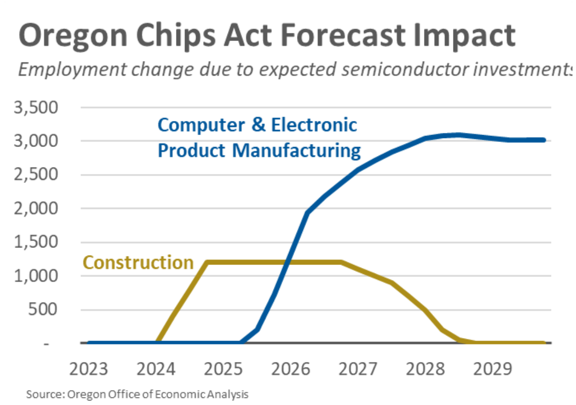
to seed loan and grant programs, and to other agencies to fund projects in the years ahead. Using a 2021 Congressional Budget Office analysis on the timing of actual infrastructure spending as a guide, the increase in federal investment will ramp up over the next few years, with the peak economic impact occurring during fiscal year 2026.

In the short-run it is possible that the increase in federal investment could be inflationary. The economy only has so much construction and production capacity, so the increases could compete with other potential projects for labor and materials and the like. This competition could lead to higher construction costs. However in the long-run these investments should be disinflationary overall, and a boost to productivity once completed.

Oregon and the Chips and Science Act

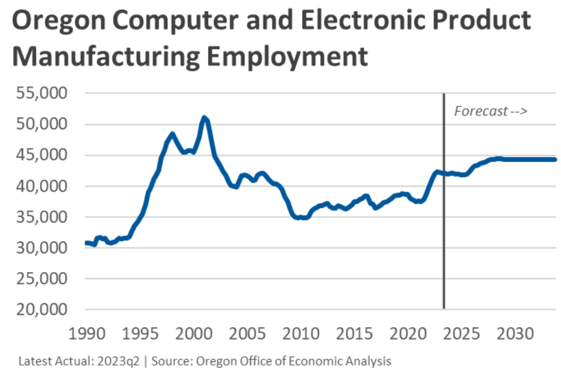
Included in the recent federal legislation was a big incentive program to increase domestic semiconductor manufacturing. In recent years there have been a handful of large, semiconductor announcements in states like Arizona, New York, Ohio, Texas and the like. To date none of the big announcements have been in Oregon, although that is set to change in the near future by all accounts. Our office is now building in some realistic placeholder assumptions about the growth in Oregon's high-tech sector in the years ahead.

To date, the State of Oregon has received more than a dozen applications for newly passed state incentives that should result in tens of billions of dollars of investment, and associated construction activity. There will also be local semiconductor job gains as well. The details of these projects are not public. However the combination of the federal and state programs, and momentum behind onshoring given the chip shortages during the pandemic, the increasing likelihood of sizable projects in the state is too big to ignore from a forecasting perspective.



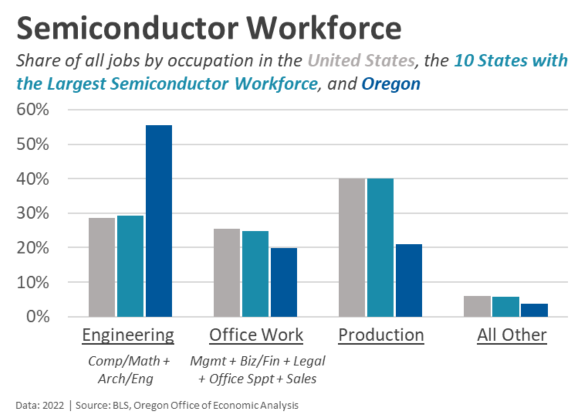
Specifically the forecast now includes an increase of about 3,000 additional Computer and Electronic Product manufacturing jobs over the next five years, in addition to just over 1,000 construction jobs that phase in and out over the same time period. The actual construction impact is expected to be larger than that, but some of the labor will likely shift from other projects in the region, resulting in a smaller net increase in total construction jobs. For now these forecast changes are more of placeholder values. As our office learns more about the potential projects, and ultimately which ones do or do not get built, we will adjust the forecast accordingly.

Our March 2022 forecast discusses the high-tech manufacturing outlook in more detail, but a few aspects are worth noting. First, the industry is a pillar of Oregon's economy. Its importance is hard to overstate. Second, industry employment held relatively steady (or down) for much of recent decades. Third, given the chip shortage and increased demand during the pandemic, local job gains increased by more than 3,000 jobs even without any of the major announcements seen elsewhere in the nation. This increase is the equivalent of adding one or one and a half new fabs. Fourth, the Oregon semiconductor workforce is significantly different than elsewhere in the country.



Oregon is 1.2 percent of all jobs nationwide. Oregon is 9 percent of the nation's semiconductor jobs (NAICS 3344). Oregon is 17 percent of the nation's engineering type jobs within the semiconductor industry. This means 55 percent of the workers in Oregon's semiconductor industry today work in Computer and Math, and Architecture and Engineering occupations. The national figure is 29 percent, as is it among the Top 10 states with the largest semiconductor workforces. Those states from largest to tenth largest are California, Texas, Oregon, Arizona, New York, Florida, Massachusetts, Michigan, Illinois, and Minnesota. Only Arizona at 43 percent engineering jobs is somewhat similar to Oregon's occupational structure.

What this means is Oregon is a key location within the nation for the research and design of semiconductors. Now, Oregon is still an integral location for the actual manufacturing of semiconductors as well, with about 7,000 production jobs which ranks 4th highest nationally, but as a share of the overall industry, Oregon's production jobs account for 21 percent compared to 40 percent nationally, and among the other large states. It is our high concentration of engineering jobs, and what that means for the overall industry, that makes Oregon standout compared to other staes.



Growth in semiconductors is likely to increase overall productivity in the economy because the sector is, well, highly productive. Looking at the average value-added per employee from state GDP data, Computer and Electronic Products are three times as productive as the average worker in the economy. And Oregon Computer and Electronic Product workers are 20-30 percent more productive than the average such worker nationwide. As such, local growth in the industry is expected to help boost economywide statistics in the years ahead.

Generative AI and Your State

Generative AI is a type of artificial intelligence that can create new content such as text, images, audio, and video without human intervention. It works by learning from a large dataset of existing examples and identifying patterns that it can use to generate new content that is similar to the examples it has learned from. Generative AI models are incredibly diverse and can take in various types of content, including images, longer text formats, emails, social media content, voice recordings, program code, and structured data. They can output new content, translations, answers to questions, sentiment analysis, summaries, and even videos. Generative AI has applications in art, design, music, business, marketing, and more, and it primarily helps automate the create process.

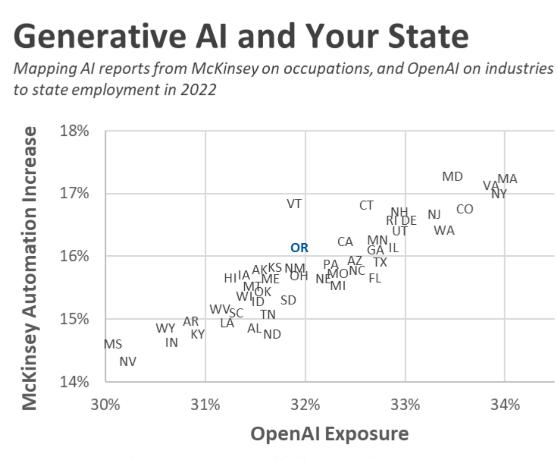
That paragraph was written by Perplexity AI, a ChatGPT like program trained on OpenAI's API. The prompt given was to write one paragraph on what generative AI is. Recent reports from McKinsey[3], Goldman Sachs, and OpenAI[4] all highlight the potential impacts of generative AI on the economy.

At a base level, the expectations are that generative AI will automate some tasks for workers, allowing them to spend more time on more productive tasks. In some ways, the impacts are similar to past trends in automation in the economy but differ in important ways.

First, the reports highlight that generative AI should be a net positive for the economy. It is unlikely to automate away many jobs, but rather make existing jobs more productive. This differs some from the trends in recent decades with the outright decline in manufacturing jobs due to automation, technological change, and offshoring.

Second, the types of workers most likely to be impacted is different than past automation trends. With generative AI, it will be jobs in industries and occupations largely held by college graduates where more of the routine research and writing tasks, among other, will be impacted. This means white-collar, and office-based jobs, as opposed to manufacturing and clerical jobs should see the biggest changes.

Among occupational groups, McKinsey estimates that educators, business, legal, and scientific, technical, engineering, and math are expected to see the largest increases in automation. Conversely agriculture, construction, installation and repair, food services, and production jobs will see the smallest increases. At the industry level, OpenAI estimates that high-tech, financial activities, professional and technical services will be the most impacted, while social assistance, food services, and most types of manufacturing the least impacted.



Taking both of these reports and mapping the potential changes to each state's occupational and industrial structure reveals the nearby scatterplot. A few things stand out. First, the relatively tight linear fit indicates that the two reports have similar impacts, or at least similar distributional impacts on workers in different types of jobs.

Second, the absolute variation across states is fairly minimal. The range of exposure is a few percentage points. This is an indication that generative AI can best be thought of as a macro or economywide impact, given

[3] https://www.mckinsey.com/capabilities/mckinsey-digital/our-insights/the-economic-potential-of-generative-AI-the-next-productivity-frontier - key-insights
[4] https://arxiv.org/pdf/2303.10130.pdf

these types of jobs are everywhere. It is an open question whether the *development* of AI programs and tools will have a localized impact in existing tech hubs or similar locations, but in terms of the *impact* it will be broad based.

Third, that said, there are some relative patterns across states with tech-heavy states, financial centers, and Maryland and Virginia, both near Washington D.C. likely more exposed to AI, and resource states less exposed. Oregon falls in the middle of the pack, ranking 17th most exposed based on an occupational basis, and 26th most exposed based on an industrial structure basis. Keep in mind that exposure, in this context, means the potential to raise productivity among these types of workers, and the economy overall.

Update on Population Growth and Upcoming Data Releases

Data Release Schedule

Unfortunately demographic and population data lags considerably. However in the months ahead new, important data will be released. On September 14th, Census is set to release the published tables for the 2022 American Community Survey (ACS). The ACS is the best source for things like household income, poverty, employment by race and ethnicity, homeownership, working from home, and the socio-economic characteristics of migrants, among others. This will be the first look at any details regarding Oregon's population loss last year. As of today all that is available are total estimates, but none of the details. Our office will post summaries of the most important topics on our website in the weeks ahead, and include a summary in our next quarterly forecast.

Additionally, 2023 population estimates will be released this winter. In November, Portland State University's estimates should be available, followed by Census' estimates in December. This will provide the first look at 2023 data, although analysts will have to wait until Fall 2024 before the details of those estimates are known.

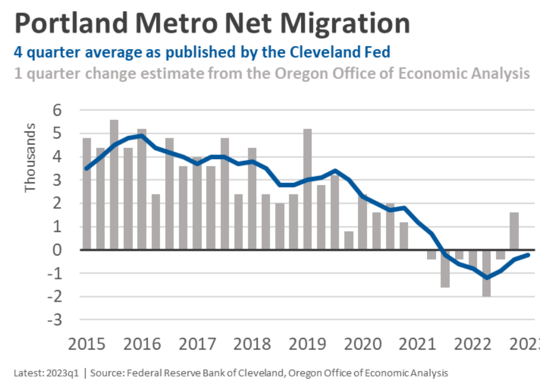
Update on Population Growth

While we wait for the official estimates to be released, there are three data points worth mentioning.

First, Oregon's population is in natural decline. Deaths outnumber births. Oregon's future population gains will come entirely from net migration, should it return as expected. When it comes to the underlying changes in Oregon's population, the preliminary data for the number of deaths and births appears to be slightly less negative than our office's forecast. Deaths have slowed noticeably from their pandemic highs, and are reverting toward the expected long-run trend of a growing, aging population. Births continue to decline further. So far the number of Oregonians aged 0 to 4 years old have fallen 10 percent in recent years. Looking forward, the state's K-12 education population (ages 5 to 17 years old) is expected to decline by 10 percent as well. Should the state's total fertility rate, which ranks 5th lowest nationwide in recent years, not stabilize or rebound some, further declines in young Oregonians should be expected.

Second, the number of surrendered drive licenses at Oregon DMVs continues to be in line with pre-pandemic figures, albeit slightly above. This is one indication that in-migration to Oregon continues, and has not shifted noticeably lower. However the data does miss out-migration, which could be the primary cause of Oregon's slower population gains, or losses.

Third, new data from the Federal Reserve Bank of Cleveland based on consumer credit reports shows that many large metro areas nationwide continue to lose population. Portland is the only Oregon metro included in the analysis, but some of the recent trends in the data are encouraging, or at least have a silver lining. At the metro level, Portland continues to see net out-migration. However, it is getting less negative, and trending toward the positive direction.



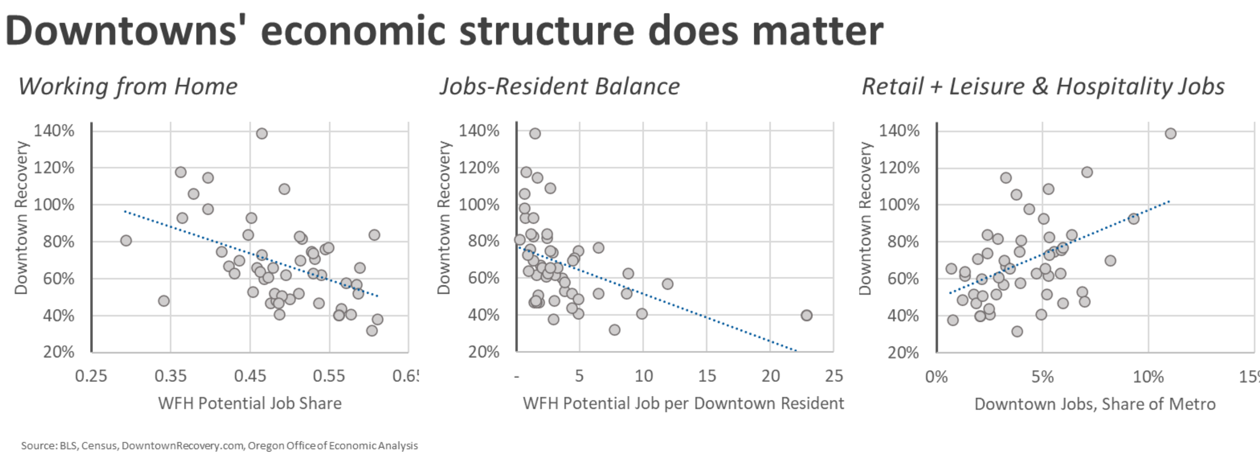
Importantly, the data the Cleveland Fed publishes is a four quarter average. This is very helpful to know what has happened over the past twelve months. But what our office really wants to know is what is happening today, and whether the pandemic era patterns are continuing or if things are starting to change. Given the data is a four quarter average, one can back out estimates of what the individual quarters that add up to the four quarters are. These calculations are somewhat sensitive to assumptions made. But the upshot is it is mathematically impossible for net migration to the Portland metro area to be entirely negative in recent quarters. The improvements in the twelve month change, as reported by the Cleveland Fed, mean that at least one of, and possibly all three of the three most recent quarters saw positive migration for the region.

Overall, our office does expect Oregon's population to grow in the years ahead. A modest rebound in migration will drive the gains, given deaths are expected to outnumber births for decades to come. With surrendered driver licenses at Oregon DMVs holding steady, and the possibility that the Portland regions' population has bottomed out, stronger statewide numbers appear likely in the year(s) ahead. To the extent population growth does not rebound as expected, our office is continuing to develop a zero migration alternative scenario. The previous May 2023 forecast included some exploratory findings of this scenario and our office will publish a more complete report in the coming months.

Downtown Recoveries

Included in the Federal Reserve Bank of Cleveland migration update was the fact that many urban cores nationwide continue to lose population. While the Portland metro population may be stabilizing, there are ongoing declines in the urban core neighborhoods based on the same credit report data.

When it comes to big cities and downtown areas there are a few important things to keep in mind. First, downtowns are distinct. There is no relationship between changes in jobs, income, or population at the metro level and the strength of the downtown recoveries. Second, the demand to be downtown has to come from somewhere. As seen in the charts below, it is the combination of commuters, local residents, and visitors all factor into the strength of any downtown.



On the left, the larger the share of downtown jobs that can be done remotely (working from home, or WFH), the weaker the downtown recovery. In post-pandemic world where working from home a couple days a week is more common, that downtown demand must be replaced. The middle chart looks at the relative balance between the number of WFH downtown jobs and the number of local residents who live downtown. Areas with comparatively larger downtown populations, have seen stronger recoveries. Finally the chart on the right looks at the importance of downtowns in attracting visitors. These may be city and metro residents coming downtown to go out to eat or take in a show, or out of town tourists and business travelers. But regions where downtowns matter more, by having a larger concentration of shopping and eating places, have seen stronger recoveries. In other words, downtowns need to continue to evolve and be an attractive place for people to work, live, and play.

Lastly, downtown definitions matter considerably. The most commonly cited data, and the data used in the charts above, comes from researchers at the University of Toronto[5]. It tracks cell phone data at the zip code level. The challenge is not all zip codes are created equal, and therefore the definition of "downtown" varies considerably when trying to compare cities. For some cities, like Portland and San Francisco, the zip codes used provide tight geographic definitions focused on the office building areas. For other cities, like San Diego, the downtown zip code includes both the airport and the zoo in addition to the office buildings.

Given the geographic variations, it is problematic to simply rank cities based on this data. The comparisons are apples to oranges based on how each city's physical layout and zip codes interact. As a result, our office is no longer using it to refer to Portland's relative ranking nationwide. However, on the other hand, these somewhat different definitions of downtowns do provide more variation in the composition of downtowns and the changes seen during the pandemic. As such, the broad findings of the economic structure of downtowns likely hold up, even if the specifics of one city versus another city are problematic.

[5] https://downtownrecovery.com/

Scenic Areas, Wealth, and Industrial Structure

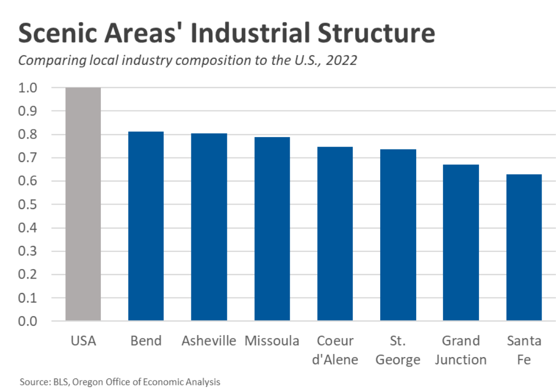
Scenic areas around the country have local economies with a larger travel and tourism component. If people from outside the area come to visit, they are going to need places to stay, food to eat, activities to do and so on. However, many scenic areas are also highly desirable places to live. As such they have significantly worse housing affordability, and also things like higher rates of working from home even before the pandemic. There is clearly a wealth effect in many scenic areas where not only are there households with very high incomes, but also housing values relative to local incomes or the size of the local economy are materially higher than elsewhere in the country.

Back in 2019, Brookings released a report on so-called wealth work[6], which focused on a dozen occupations that, generally speaking, provide services to those who can afford to have their lawns taken care of, go out to eat, get their taxes done, and so on. One reason this research caught the attention of our office is that the Bend metro area (Deschutes County) stood out as having a much larger share of local jobs in the wealth work occupations. While Bend, and Central Oregon more broadly do have a larger travel and tourism industry, that is not the whole story of the regional economy.

Our office recently updated the Brookings work with the latest available data. All Oregon metros have more housing wealth than the typical metro nationwide – the flipside of bad housing affordability, is a lot of housing wealth. But once again, Bend stood out. Among all metros nationwide, Bend ranks 17th highest for the share of all jobs in the wealth work occupations, and 15th highest for housing wealth. In trying to find similar metros to Bend, a handful of generally smaller, generally fast-growing areas in the intermountain west stood out.

Compared to the nation as a whole, Bend, and these other popular scenic areas do have a lot more jobs in leisure and hospitality, construction, and retail. This is typical given the increase in demand from tourism, and desire to live in these places. However, compared to the other scenic areas, Bend's underlying industrial structure stands out for having relatively more professional and business service jobs, in addition to a larger manufacturing basis. Furthermore, Bend does have a larger share of jobs in financial activities, which is mostly banks, insurance and real estate agents, but also does include the last Blockbuster on earth.

Using a more formal calculation to examine a region's industrial structure finds that among these scenic areas, Bend is the most similar to the nation overall. Bend's economy is more diverse than these other scenic areas.



Now, industry specialization is not necessarily bad. If a local economy relies more on one industry and that industry is booming – think timber in Oregon in the 1960s and 1970s, or high-tech in the Bay Area in the 1990s, or oil in North Dakota in recent decades – than the overall

[6] https://www.brookings.edu/articles/whos-employed-by-the-lifestyles-of-the-rich-and-famous/

economy booms alongside it. Issues arise when that industry faces challenges. As such, a more diversified regional economy can generally be better able to withstand different types of cycles as the economic base is more evenly distributed and less vulnerable to any particular shock.

For more on Scenic Areas, Wealth, and Industrial Structure, including a complete set of slides, please see our office's website[7].

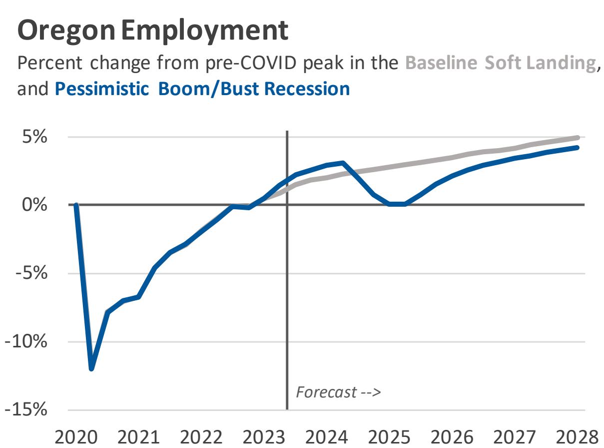
Alternative Scenario

The baseline outlook is our forecast for the most likely path for the Oregon economy. As with any forecast, however, many other scenarios are possible. Inflation is likely to remain above the Federal Reserve's target for the foreseeable future. As such, the Fed likely will need to raise interest rates further to cool the economy. The combination of high inflation, rising interest rates, and slowing economic growth is problematic. The risk of a recession in the future remains very real. The alternative scenario below is not the lower bound of all outcomes, but rather one plausible scenario modeled on realistic assumptions. For the revenue implications, see page 30.

<u>Boom/Bust Scenario: Moderate Recession</u>

Given the recession concerns and risks in the past year or so, the thinking was that if a recession did come, it would be mild. Inflation expectations remain well anchored, businesses are likely to hoard labor given how hard it is to find workers, and households continue to have strong balance sheets.

Alternative Scenario **Sep 2023**



	2022	2023	2024	2025	2026	2027
Employment						
Base: Soft Landing	3.8%	2.0%	1.2%	0.7%	0.7%	0.7%
Pes: Boom/Bust	3.8%	2.5%	0.5%	-1.6%	2.1%	1.0%
Unemployment Rate						
Base: Soft Landing	4.1%	3.9%	3.9%	4.1%	4.1%	4.1%
Pes: Boom/Bust	4.1%	4.2%	5.9%	6.5%	5.3%	4.7%
Personal Income						
Base: Soft Landing	2.0%	5.9%	6.2%	5.2%	5.0%	5.0%
Pes: Boom/Bust	2.0%	6.7%	4.4%	2.3%	6.2%	5.3%

All of those dynamics are still true today, however the longer the cycle lasts, the more things can change. And today, the ongoing strength in the economy, and slower inflation likely push any potential recession further into the future. One possibility is that today's strong household savings could be spent down in the quarters ahead, leaving somewhat weaker consumers when a recession does come,

[7] https://oregoneconomicanalysis.com/2023/08/03/scenic-areas-wealth-and-industrial-structure/

which would lead to larger layoffs and the so on. As such, the boom/bust alternative scenario this forecast is for a moderate sized recession beginning in the second half of 2024.

The nature of the moderate recession is based on the impacts of higher interest rates, which will impact goods-producing industries to a greater degree than service-providing industries. And the severity of the cycle is close to the average recession Oregon has experienced since World War II, excluding the severe cycles in the early 1980s, the Great Recession, and the COVID recession. Looking specifically at the recessions beginning in 1957, 1960, 1969, 1973, 1990, and 2001, Oregon's average employment change has been a decline lasting three quarters and totaling 2.7 percent, followed by a four quarter recovery period to regain the lost jobs.

The 2024 moderate recession scenario is for a three quarter decline in employment totaling 3.0 percent, followed by a six quarter recovery period, more inline with the so-called jobless recoveries following the 1990 and 2001 cycles, compared to the faster recoveries in the 1950s, 1960s, and 1970s. The three percent decline in employment is a loss of 60,000 jobs. No industry is spared, but goods-producing ones see relatively larger losses at 4.5 percent, while services see slightly fewer losses at 2.8 percent, and the somewhat more stable public sectors experiences job losses of 2.3 percent. The unemployment rate increases to nearly 7 percent by early 2025. Nominal income does not fall outright but growth slows considerably. Income in Oregon is 2.5 percent below the baseline.

Oregon's Agricultural Economy

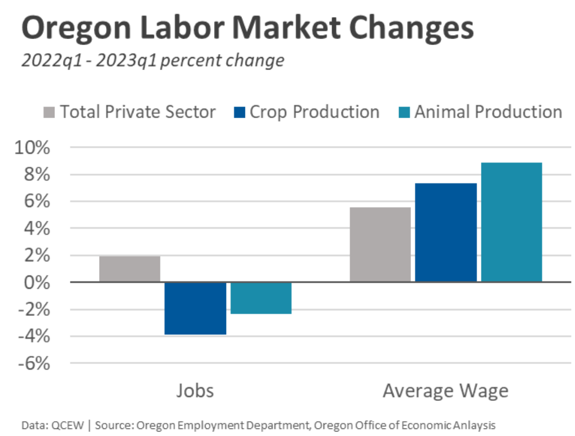
Last year, the Oregon Legislature passed HB 4002 (2022) which establishes maximum hour and overtime compensation requirements for agricultural workers. The law goes into effect starting this year, in 2023. Moving forward, our office will analyze and monitor the economic and labor market data to assess any impacts from the law. Our office will work to incorporate these changes, if any, in the broader context of the state's agricultural economy. It will take some time before data is available to assess any impacts.

Even so, our office has been highlighting the importance of agriculture to the state's economy in recent quarters. We have dug into farm employment, income, and sales at the state and county level, in addition to international exports. Additionally we discussed how ag fits in with the broader food economy in the state and nation, and also the outlook for consumer spending on food and price forecasts related to revenues and costs.

Last quarter we highlighted QCEW data, the nearly real-time data coming from businesses submitting records for unemployment insurance purposes. Of note was the fact that agricultural data was very seasonal given harvest, and that crop production had been on a slight downward trend in 2021 and 2022, possibly in part due to lower global commodity prices.

This quarter we have our first glimpse at the 2023 first quarter QCEW data. At a high level, when comparing the first quarter of this year to last year, employment for both crop production and animal production have declined, compared to job gains for the state's private sector overall. Average wages per worker have increased more for agricultural workers than for all private sector workers. At first blush, this pattern of weaker employment and strong wage gains likely fits the expected patterns of what the impact of the new law would be.

Keep in mind that this is preliminary data, and is just one quarter. It is far from enough information to make any real assessments of how the law is impacting the state economy. It is also at a high level, using a simple year-over-year comparison. Further analysis looking at the number of hours worked per employee is needed to better gauge the impacts.



Moving forward, our office will work with other state agencies to gather and analyze the available data. Future quarterly forecasts will include updates to the underlying ag economy, when available, and any such analysis of the impacts of the new law.

Longer-Term Forecast Risks

The economic and revenue forecast 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 usually 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 when measuring peak and trough dates for total nonfarm employment.
- Housing Affordability. New housing supply has not kept pace with demand in either the ownership or rental markets. Oregon has underbuilt housing by 140,000 units in recent decades[8]. To the extent home prices and rents rise significantly faster than incomes, it is a clear risk to the outlook. Worse housing affordability hurts Oregonians as they need to devote a larger share of their household budget to the basic necessities. Furthermore, while not the baseline outlook, worse affordability may dampen future growth as fewer people can afford to live here, lowering net in-migration, and the size of the labor force in the years ahead.
- Global Spillovers. The international list of risks seems to change by the day. Right now there is an ongoing war in Europe, and the risk of war in Southeast Asia has been uncomfortably high in recent years. Longer-term concerns regarding commodity price spikes in Emerging Markets, or the strength of the Chinese economy – the top destination for Oregon exports – are top of mind.
- Federal Fiscal Policy. Changes in national spending impact regional economies. In terms of federal revenues, spending, and employment Oregon is generally in the middle of the pack across states. Oregon does see larger impacts related to land management and forest policies, including direct federal employment. Oregon ranks below average in terms of military-dependent industries and lacks a substantial military presence within the state.

[8] https://www.oregon.gov/ohcs/about-us/Documents/RHNA/RHNA-Technical-Report.pdf

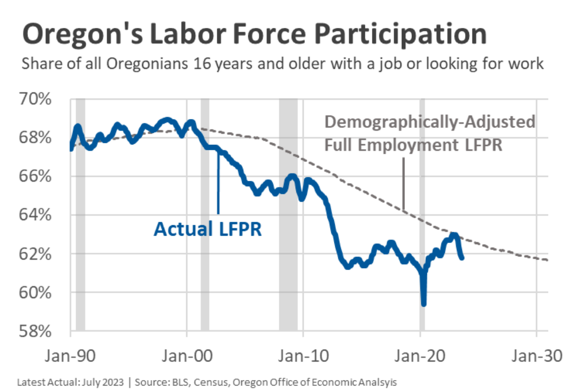
- Climate and Natural Disasters. While the severity, duration, and timing of catastrophic events like earthquakes, wildfires, and droughts are difficult to predict, we know they impact regional economies. Fires damage forests with long-term impacts, and short-term disrupt tourism. Droughts impact our agricultural sector and rural economies to a greater degree. Whenever Cascadia, the big earthquake, hits, we know our economy and infrastructure will be crippled. 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 migration patterns are hard to predict and generally thought to be outside our office's forecast horizon. Even so, it is a reasonable expectation that migration flows remain strong as the rest of the country becomes less habitable over time.
- Initiatives, Referendums, and Referrals. Generally, the ballot box and legislative changes bring a number of unknowns that could have sweeping impacts on the Oregon economic and revenue picture.

Extended Outlook

Oregon typically outperforms most states over the entire economic cycle. This time is no different, however the expectations are that the relative growth advantage may be a bit smaller than it has been historically. The primary reason being slower population, and labor force growth than in decades past. Our office is a bit more bullish on Oregon's economic and population growth than IHS Markit is, but our office overall agrees with the relative patterns nationwide. From 2023 to 2028, IHS expects Oregon's real GDP growth to rank 14th fastest among all states, while employment growth ranks 25th fastest, and population gains are the 16th fastest.

Over the extended forecast horizon our office has identified four main avenues of growth that are important to continue to monitor: the state's dynamic labor supply, the state's industrial structure, productivity, and the current number of start-ups, or new businesses formed.

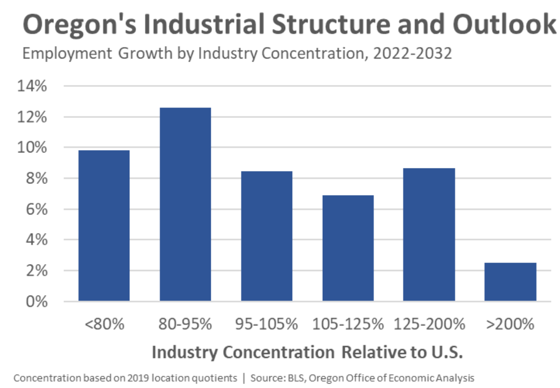
Labor Supply. Oregon has typically benefited from an influx of households from other states, including an ample supply of skilled workers. Households at least used to continue to move to Oregon even when local jobs are scarce, as long as the economy is equally bad elsewhere, particularly in California. 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 typically been higher.



The good news today is that Oregon's labor force has never been larger, and the labor force participation rate has been higher that it was before the pandemic began, at least until the last couple months of data. Even in this sometimes noisy, and unrevised data, the strength of Oregon's labor market is clear.

Moving forward, overall labor force participation rates will decline, simply due to the aging of the population. As more Baby Boomers enter into their retirement years, the share of all adults working or looking for work will fall as a result. As such, comparing Oregon's participation rates against a demographically-adjusted measure is important. Here, too, the current strength of the Oregon's labor market is evident, and encouraging.

The challenge moving forward is twofold. First, is overall population growth and whether that rebounds as expected in the years ahead. Second, whenever the next recession (or two) does come, maintaining a high participation rate and not seeing larger numbers of discouraged workers drop out of the labor force like they did following both the dotcom and housing busts. It was only once the economy became strong again in the late 2010s and early 2020s have some of those losses begun to be regained.



Industrial Structure. Oregon's industrial structure is very similar to the U.S. overall. However, Oregon's manufacturing industry is relatively larger, and weighted more toward semiconductors and wood products, compared to the nation which is more concentrated in transportation equipment (aerospace, and automobiles). However, industries like timber and high-tech, 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.

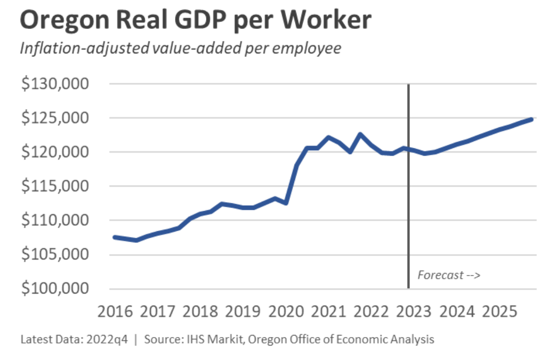
With that being said, certainly not all hope is lost. Those top industries in which Oregon has a local concentration at least twice the national average comprise approximately 4 percent of all statewide employment. Slower growth moving forward is not a weight, but rather more of a lack of a boost.

Many industries in which Oregon has a larger concentration that then typical state are expected to perform quite well over the coming decade. These industries include management of companies, food and beverage manufacturing, published software along with some health care related firms.

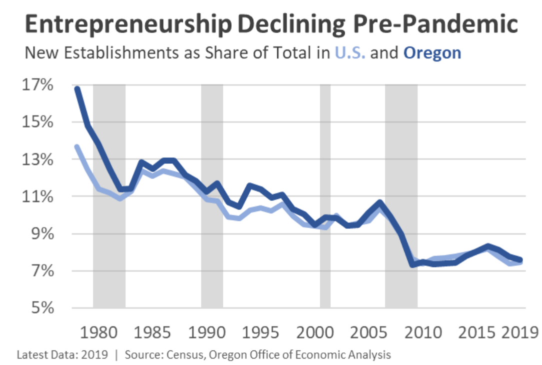
The state's real challenges and opportunities will come in industries in which Oregon does not have a relatively large concentration. These industries, like consulting, computer system design, financial investment, and scientific R&D, are expected to grow quickly in the decade ahead. To the extent that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

Capital and Productivity. Ultimately, the economy's industrial structure combined with capital will result in increasing productivity. Higher productivity allows firms to produce and sell more products, and pay higher wages to its workers. Capital can come in many different forms including financial, natural, phsyical, human, and social. All can help raise firm productivity, benefiting the economy more broadly.

Today, the economy desparately needs better productivity, which has been sluggish this century. Early in the pandemic, productivity perked up as firms had to make due with reduced workforces at the same time consumer demand remained strong. However, as employment has rebounded, these productivity increases not only have not held, but have eroded. The current outlook for producivity is more or less back to the pre-pandemic trend, if slightly above it. Increasing the stock and use of Oregon's capital would boost the economy overall.

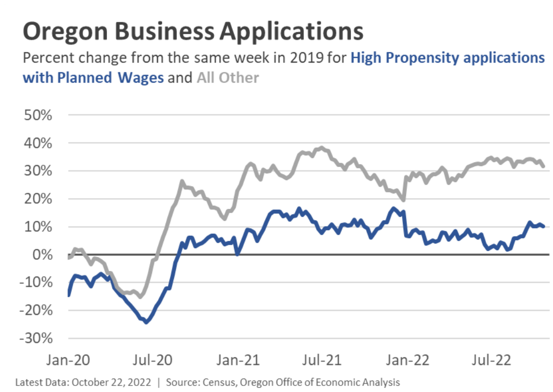


New Business Formation. New businesses are generally considered the primary source of innovation. New ideas, products, and services help propel future economic growth. Unfortunately in the decades leading up to the pandemic, start-up activity was declining. New businesses as a share of all businesses were at or near record lows in 2019. Employment at start-ups follow a similar pattern.



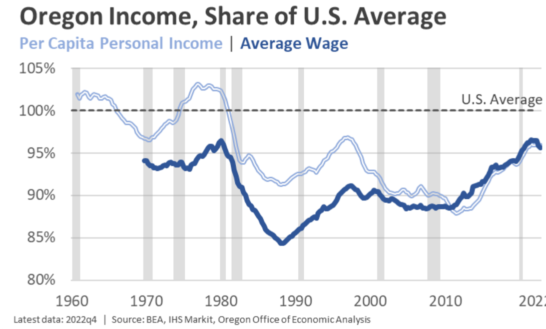
To the extent the low levels of entrepreneurship continue, and R&D more broadly is not being undertaken, slower productivity gains and overall economic growth is to be expected. However, to the extent that larger firms that have won out in today's marketplace are investing in R&D and making those investments themselves, then the worries about the number of start-ups today is overstated. It can be hard to say which is the correct view. That said, actual, realized productivity in the economy has been sluggish in recent decades.

Encouragingly, new business applications during the pandemic actually accelerated, stopping the long-run decline. Applications from what Census calls high-propensity business with planned wages, which are the most likely to eventually turn into real firms that employ workers, have been higher in 2021 and so far in 2022 than back in 2019. New business applications of all other types, including self-employment, are up even further.



These gains provide some hope for future economic growth should some of these new firms bring new ideas, products, and efficiencies to market. Even if the per firm probability of success remains the same, having more ping pong balls in the lottery increases the overall probability that a few will survive and succeed tremendously.

Oregon Income Relative to U.S. One long-standing concern for some policymakers and analysts had been Oregon's relatively low income and wage compared to the rest of the nation. Encouragingly, the strong economic growth last decade did translate into meaningful increases in Oregon's per capita income and average wage. Today Oregon's per capita income relative to the U.S. is at its highest point since the dotcom bust two decades ago, and the state's average wage is at its highest relative point since the timber industry restructured and the mills started closing in the early 1980s.



Oregon's median household income in recent years has reach historic highs, even after adjusting for inflation. More importantly, it now stands 2.6 percent higher than the U.S. overall as of 2021. In recent years, this marks the first time in more than 50 years that Oregonian incomes for the typical household or family are higher than the nation. The fact that the strong regional growth translated into more money in the pockets of Oregonians, and regained the ground lost decades ago is one of the most important economic trends in recent generations. 2022 data will be released by the Census Bureau on September 14th. Our office will update on our website at that time, and in the next quarterly forecast.