Working in Oregon

…Now and in the Future

WORKSOURCE OREGON
EMPLOYMENT DEPARTMENT

Oregon Employment Department
Workforce and Economic Research

875 Union Street NE Room 207
Salem, OR 97311

To order a copy of this publication, contact us at:
lmipubs.emp@state.or.us
or (503) 947-1204

Outline

Chapter 1:
Oregon's Economy in 2008

- Over the past year, job growth slowed and unemployment rates rose.
- Since 2005, regions' growth rates converged,
- Average and median wages kept up with inflation,
- Construction and health services gained prominence.
- Short-term outlook: slow to moderate job growth.

Chapter 2:
Employment in Oregon:
Preparing for the Likely Future

- Ten-year outlook: moderate job growth overall.
- Many replacement openings are expected due to retirements.
- Most job openings do not require post-high-school training, but
- Advanced training is needed for most high-wage, high-demand openings.
- Most future jobs will be very similar to current jobs.
- Employers want employees with higher work ethic and better job skills.

Chapter 3:
Let's Aim High for Oregon:
40-40-20 Education Goals

- Education is key to prosperity.
- The era of the high-paying, low-skill job is over.
- More education brings economic rewards for individuals and states.
- Oregon boosted education in the mid-1900s and reaped big rewards.
- Increasing global competition demands greater educational attainment.

Executive Summary

Oregonians receive a great deal of information about the state's economy and workforce. Often the information presents a consistent portrait of the state's outlook. Occasionally mixed, even contradictory, signals are sent. Is the state's current economy holding steady or on the brink of recession? Will there be dramatic changes in Oregon's workforce needs over the next ten years or will those changes be minor and incremental? Should Oregon's education and training systems be geared toward the jobs we know about or toward a vision for a better, higher-wage Oregon of the future?

This report attempts to answer these questions and others. Two authors from the Employment Department assess Oregon's current economic condition and the most likely jobs outlook over the next ten years. Two authors from the private sector present the education-focused approach most favored by many policy-makers to ensure that Oregon is well-placed to attract high-paying, high-skill jobs in the future.

Chapter 1:
Oregon's Economy in 2008

Art Ayre is the Oregon Employment Department's state employment economist.
He can be reached at (503) 947-1268, or Art.L.Ayre@state.or.us

Overview

The recent past included slowing job growth and rising unemployment rate. Following a moderate recession from 2001 to 2003, Oregon added jobs at a rapid pace until the middle of 2006. By early 2008, the pace of job growth slowed almost to a standstill.

Construction employment grew rapidly between 2003 and mid-2006 but slowed and turned downward by mid-2007. Financial activities followed a similar trend. Durable goods manufacturing followed a similar pattern, but began turning downward even earlier, in late 2006.

The Oregon unemployment rate edged up from 5.0 percent in early 2007 to 5.5 percent in early 2008. Central Oregon saw a substantial rise in unemployment rates. Southern and eastern Oregon counties also saw increases. Willamette Valley counties showed little or no increase.

Average wages have been rising in Oregon at least as fast as consumer prices. Although average wages in Oregon's moderately diversified economy are lower than the average for the nation as a whole, they are typical of similar-sized economies on the West Coast.

The near future should bring a return to moderate job growth. The most recent state economic forecast predicts a return to job growth by the end of 2008 and slightly stronger growth in 2009. Service-providing sectors are expected to grow faster than goods-producing sectors.

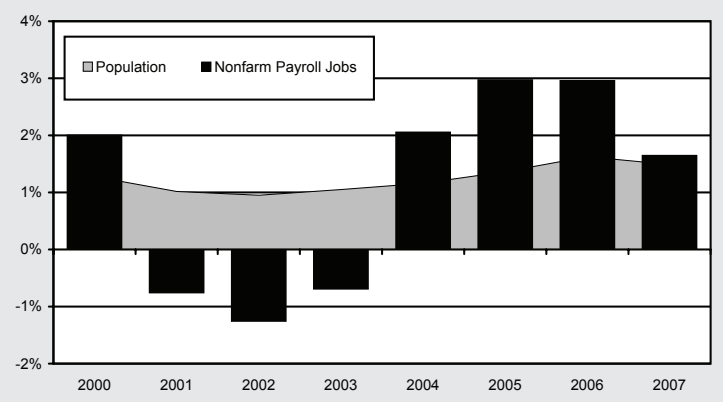
The Recent Past: Slowing Job Growth

Between 2000 and 2007, Oregon added about 7 percent more nonfarm wage and salary jobs. Meanwhile, population grew by about 9 percent. The seven-year period included job loss and slightly slower population growth from 2001 to mid-2003 and a period of rapid job growth and rising population growth from mid-2003 to mid-2006 (Graph 1). Since then, the pace of job and population growth has slowed.

The recent pace of growth in Oregon's economy has been slower than in 2007. The state added only 12,900 jobs from April 2007 to April 2008, less than half the number it added over the prior year. Employment estimates showed no job growth during the five months ending in April 2008 after adjustment for normal seasonal trends.

A decline in construction employment was a major reason for the recent slowdown in total

Oregon Population and Nonfarm Payroll Jobs
Percent Change From Prior Year



Source: Oregon population from Portland State University Population Research Center

Graph 1

Graph 2

job growth. Between mid-2007 and early 2008, construction employment declined by 8,100 jobs after adjustment for normal seasonal variations, a loss of more than 7 percent. Privately owned residential building permits peaked in 2005 and then retreated in 2006 and 2007 (Graph 2). This reduction in permits should keep construction employment from growing rapidly. Indeed, the current forecast for construction employment in Oregon is a decline in 2008 before stabilizing in 2009.

Industries closely related to residential building permits and construction include financial activities (including both mortgage lenders and real estate brokers), wood product manufacturing, and logging. All of these have shown recent employment weakness. However, building-related weaknesses were largely offset by recent net job gains in leisure and hospitality; educational and health services; professional and business services; trade, transportation, and utilities; and government.

The annual average unemployment rate displays almost the mirror image of the pace of job growth (Graph 3). It rose from 2001 to mid-2003 and declined from mid-2003 to mid-2006. In 2007 the state's unemployment rate was 5.2 percent, almost the same as in 2000. In part, the low unemployment rate reflects a recent decline in the participation of young people in the workforce.

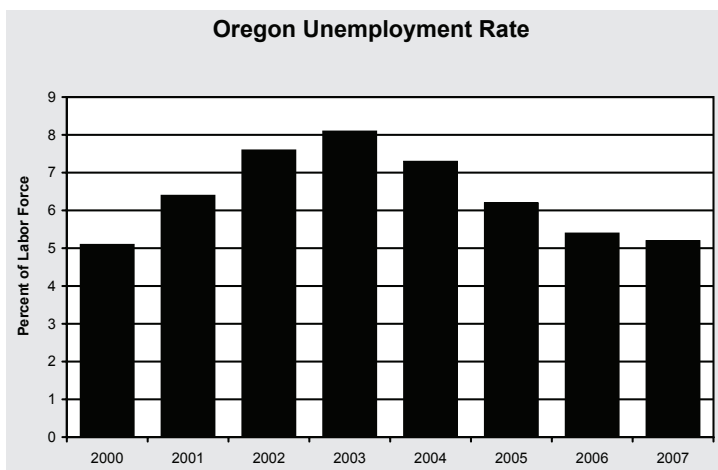
By early 2008, the unemployment rate had risen slowly for almost one year since it reached a low point in early 2007.

Regions See Similar Growth Rates

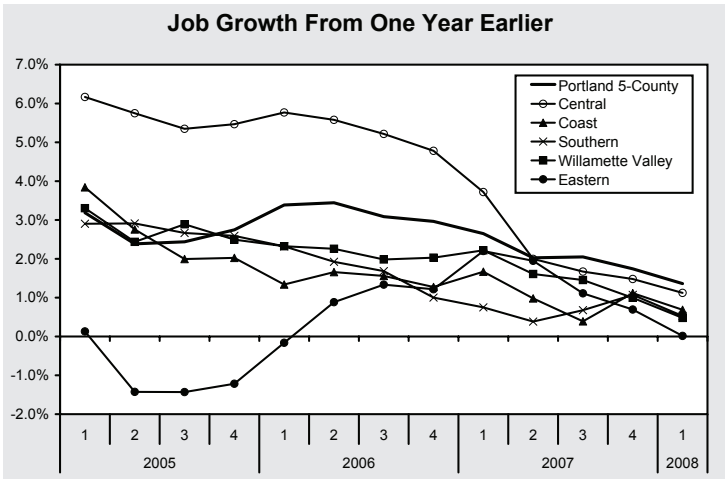
By early 2008, all regions of Oregon were showing some indication of slowing job growth. Central, Eastern, and Southern Oregon have felt the slowdown most keenly. In Central Oregon – known for rapid job growth – the pace of growth slowed in 2007 to less than that of the Portland area (Graph 4). Crook County was one of the most affected. Its employment fell below the year-ago level in August 2007 and was about 4 percent below as of April 2008.

Eastern Oregon, which had suffered a net loss of jobs in 2005, gained jobs in most of 2006 and 2007 but slowed to a standstill by early 2008. Estimates show a remarkable similarity in the six regions' recent growth patterns.

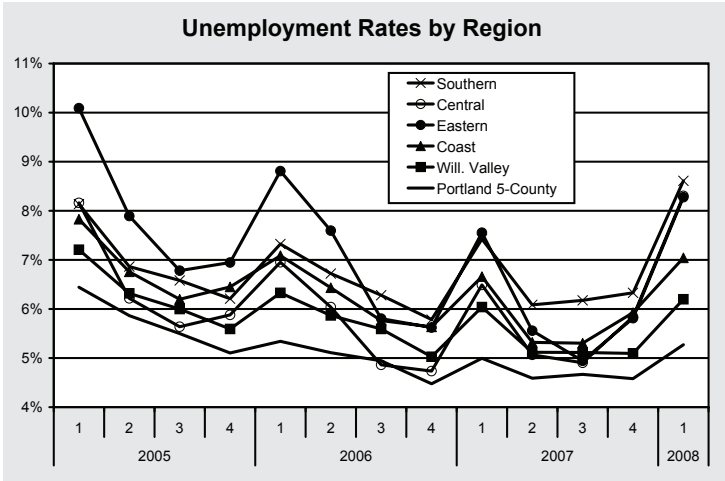
With slowing job growth and continued population growth, Oregon's unemployment rate inched up between early 2007 and early 2008. County and metro area unemployment rates show some evidence of increase as of early



Graph 3



Graph 4



Graph 5

2008. In particular, Central, Southern, and Eastern Oregon regions had higher rates in early 2008 than in early 2007 (Graph 5). Crook County's unemployment rate was 3 percentage points higher in February and March than one year earlier. The Willamette Valley – from Eugene to Portland – was less affected by the slowdown as of early 2008. This region's unemployment rates were only slightly higher than one year earlier. Eastern Oregon no longer had the state's highest regional unemployment rate; Southern Oregon – Douglas, Jackson, and Josephine counties – acquired that position.

Unemployment rates differ substantially among Oregon's counties. The 2007 annual average unemployment rate was roughly twice as high in Grant County as it was in Benton County (Table 1). In general, the more rural counties were more likely to have above-average unemployment rates while more urban counties had rates close to or below the state average.

Average Wages Beat Inflation

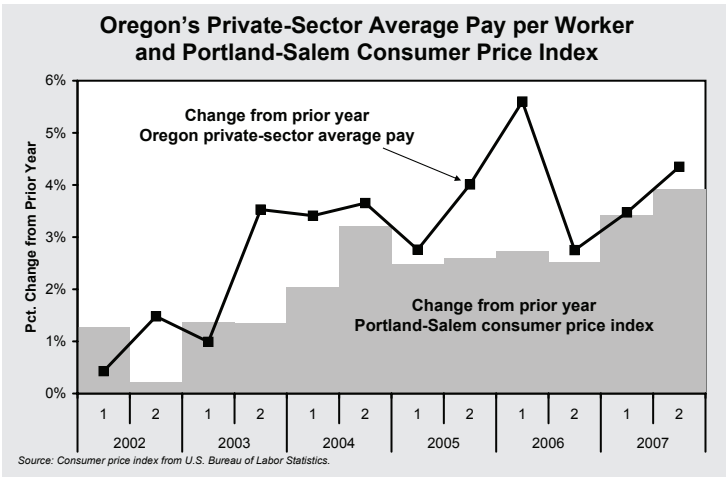
Wage gains since 2002 have generally equaled or exceeded consumer price inflation (Graph 6). This may change, however. Inflation surged to 3.9 percent in the second half of 2007 and rising food and energy prices remained in the news in early 2008.

While gains in *average* pay per worker could reflect gains primarily for a small number of high income earners, gains in median wages per worker are more representative of the typical worker. Oregon's median wages for each of five earnings quintiles (the lowest-earning one-fifth of wage-earners to the highest-earning one-fifth) rose more rapidly than inflation for almost all quintiles in each year from 2002 to 2005. In 2006, percentage increases in median earnings fell slightly short of inflation in all but the highest quintile, and

Annual Average Unemployment Rates by County, 2007 (sorted by rate)

Oregon	***5.2***				
Benton	4.1	Yamhill	5.1	Wallowa	6.2
Washington	4.3	Lane	5.3	Crook	6.3
Clackamas	4.6	Morrow	5.4	Linn	6.4
Hood River	4.6	Marion	5.5	Coos	6.7
Gilliam	4.7	Lincoln	5.6	Curry	6.8
Clatsop	4.8	Union	5.6	Jefferson	6.8
Multnomah	4.9	Columbia	5.7	Klamath	7.0
Sherman	4.9	Jackson	5.7	Josephine	7.2
Deschutes	5.0	Malheur	5.7	Lake	7.3
Tillamook	5.0	Wheeler	5.7	Harney	7.4
Wasco	5.0	Umatilla	5.9	Douglas	7.8
Polk	5.1	Baker	6.0	Grant	8.2

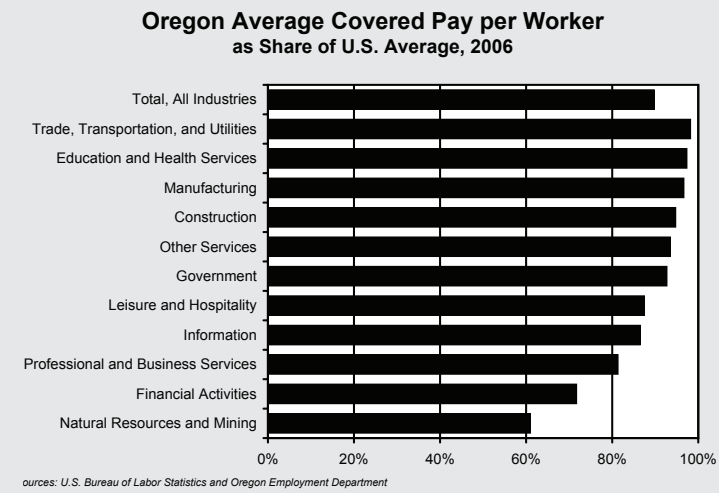
Table 1



Graph 6

even the median of the highest quintile barely exceeded inflation.

As of 2006, Oregon's average covered pay per worker was about 90 percent of the comparable U.S. average (Graph 7). The Oregon average was especially low in natural resources and mining; Oregon lacks the nation's concentration in high-wage mining activities. Many industries have higher wages in large urban areas such as Los Angeles, San Francisco, and Seattle – where large company headquarters typically locate – than in smaller cities and rural areas. Oregon's economy tends to show lower average wages that are typical of the wages in smaller counties in both California and Washington.



Graph 7

Industry Mix Shifts Toward Construction, Services

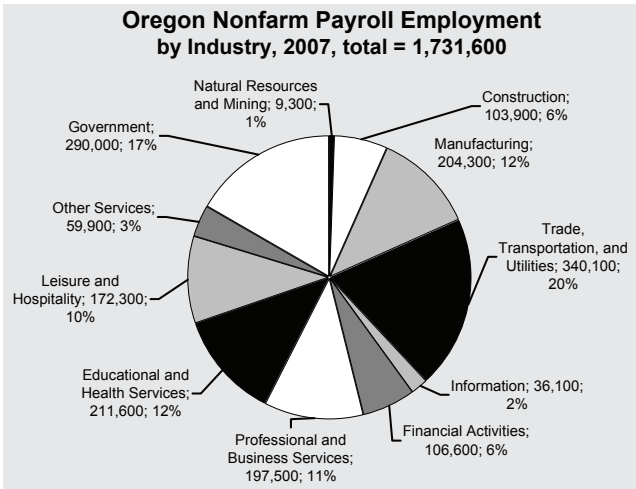
Table 2 shows changes in industry employment between 2000 and 2007. Both construction and the private educational and health services industry added almost one-quarter to their total employment during the seven-year period. Leisure and hospitality and financial activities also exceeded the overall average of 7-percent growth. Meanwhile, both manufacturing and information had 9 percent fewer jobs in 2007 than in 2000, even after partly recovering from deeper declines in the recession. Three other industries fell short of the average growth: natural resources and mining; trade, transportation, and utilities; and government.

Oregon has a moderately diversified economy (Graph 8). Among all states, it ranks near the middle on a measure of similarity to the nation's fully diversified economic structure. Of course, Oregon employment is somewhat concentrated in a few sectors compared to the nation's economy. These include above-average percentages of employment in greenhouse and nursery production, logging and forestry, fruit and vegetable preserving, wood and paper product manufacturing, and semiconductor

Oregon Nonfarm Payroll Employment by Industry

	2000	2007	Percent Change
Natural resources and mining	9,800	9,300	-5%
Construction	83,600	103,900	24%
Manufacturing	225,000	204,300	-9%
Trade, transportation, and utilities	326,400	340,100	4%
Information	39,800	36,100	-9%
Financial activities	95,300	106,600	12%
Professional and business services	183,600	197,500	8%
Educational and health services	172,300	211,600	23%
Leisure and hospitality	148,100	172,300	16%
Other services	55,300	59,900	8%
Government	278,600	290,000	4%

Table 2



Graph 8

and electronic component manufacturing. Oregon has below-average concentrations of petroleum and coal mining, textile and apparel manufacturing, chemical and pharmaceutical manufacturing, spectator sports organizations, and amusement parks and arcades, among other under-represented industries.

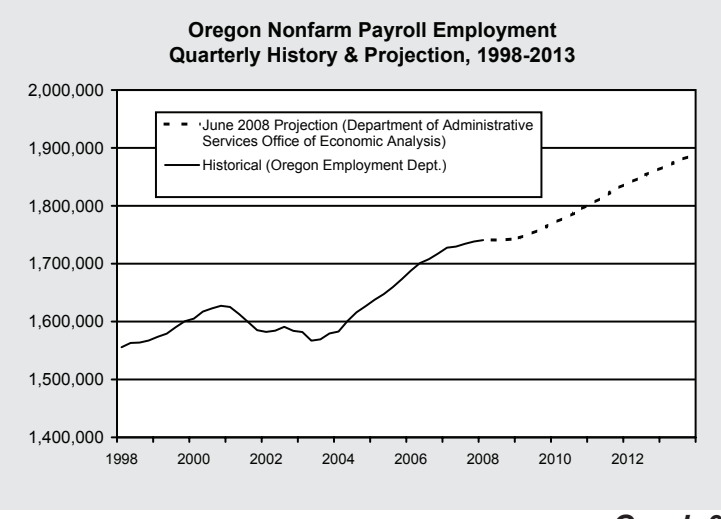
The Near Future: A Mild Slowdown, Then Moderate Job Growth

Opinions vary widely on the economy's immediate future. Some see doom and gloom on the horizon; others say "not to worry." The official state forecast as of June 2008 shows 2008 as the period of slowest job growth, followed by a return to moderate growth in 2009 (Graph 9).

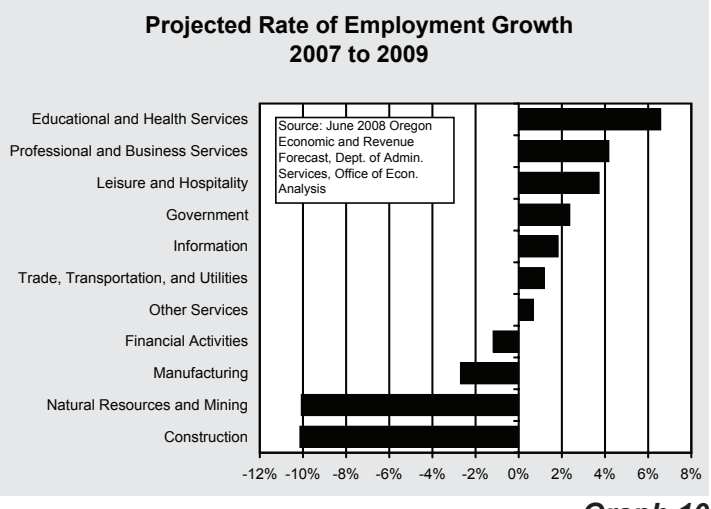
In addition to this outlook of a moderate-duration and mild slowdown, the forecast mentions numerous risks that could pull the economy lower, such as a more severe housing downturn or credit crisis than it expects. The forecast also says, "This outlook faces heightened risks for a much deeper downturn in 2008 and 2009."

The service-providing portion of the economy is expected to grow faster than the goods-producing portion. The forecast calls for two-year growth of about 6 percent in educational and health services and of 4 percent in professional and business services and in leisure and hospitality (Graph 10). It also expects job losses between 2007 and 2009 in construction, natural resources (logging) and mining, manufacturing, and financial activities.

The forecast shows housing starts declining yet again in 2008 before rising slightly in 2009. Consumer price inflation should moderate to 3.3 percent in 2008 and 2.2 percent in 2009. Average wages per worker should rise enough in both years to beat inflation.



Graph 9



Graph 10

Chapter 2:
Employment in Oregon: Preparing for the Likely Future

Graham Slater is the administrator of the Oregon Employment Department's Workforce & Economic Research Division. He can be reached at (503) 947-1212, or Graham.J.Slater@state.or.us.

Introduction

Chapter One closed with a message of "moderate growth" predicted for Oregon's near future. Understanding this near-term trend is important for those most impacted by the threats of recession, the possibilities of recovery, and the benefits and challenges of economic growth.

But for many, including students, adults considering career change, education planners, and policy-makers, the trends over the longer term are sometimes more important. Their question isn't whether or not a particular industry will grow or decline next year, but whether a particular occupation is likely to exist 10, or even 20, years from now; whether there will be demand for workers in the job they're training for; and whether the skills they're building will be valuable across a range of occupations that are likely to provide reliable employment throughout a career.

To address this topic, we'll look at employment projections for the time period between 2006 and 2016. These projections were based on a variety of factors, including current employment levels, employment trends of the recent past, projections from varied state and national sources, and healthy doses of analyst judgment and debate.

Moderate Growth Expected

One of the first themes that emerges from these projections is summarized by words we've already used: "moderate growth." Not explosive or stunning growth. Just moderate growth.

The Employment Department's Workforce and Economic Research Division projects a 14-percent increase in total employment between 2006 and 2016, about on par with the actual growth experienced during the 1996 through 2006 period, but slower than many of Oregon's 10-year historical periods. Some may feel that this growth rate seems too cautious, but our experience has shown that periods of super-strong economic growth are not sustained (or even sustainable) over the long term, and in this coming decade, we don't see any particular industries which will cause surging employment gains – nothing like the lumber and construction impetus of the 1970s or the semi-conductor momentum of the 1990s. There are certainly some industries which are creating great excitement and enthusiasm in the state – many relating to sustainability, others relating to technology – but at this point, it appears unlikely that any of these would produce the tens of thousands of new jobs that would significantly impact overall employment growth rates. The Research Division's projections do reflect some of the growth trends those industries are showing, spread across a wide variety of industries and occupations. Oregon's projected 14-percent growth rate significantly outpaces that of the nation, at an even more moderate 10.4 percent.

Table 3 shows the projected employment growth trends for Oregon's industry super sectors. The one at the top – educational and health services – is dominated by the health component, whose growth reflects the aging of Oregon's population, the continuing influx

of older residents to Oregon, and a related increase in demand for various types of health care.

Oregon: Employment Forecast
By Broad Industry, 2006-2016

Broad Industry	2006	2016	Change	Percent Change
Total nonfarm employment	1,702,500	1,943,600	241,100	14%
Educational and health services	205,200	262,700	57,500	28%
Professional and business services	193,100	232,800	39,700	21%
Leisure and hospitality	165,300	197,500	32,200	19%
Construction	100,300	115,000	14,700	15%
Trade, transportation, and utilities	336,200	379,800	43,600	13%
Other services	59,000	66,500	7,500	13%
Financial activities	105,800	117,900	12,100	11%
Information	35,000	38,800	3,800	11%
Government	286,500	314,200	27,700	10%
Manufacturing	206,800	209,100	2,300	1%
Natural resources and mining	9,200	9,300	100	1%

Table 3

The other clear outliers on this table are manufacturing and natural resources and mining, the latter including Oregon's logging industry. In both cases, a 1 percent growth projection over a 10-year period may seem pretty dismal, but in contrast with national projections for these industries, even tiny growth is encouraging. Oregon continues to outperform the nation in terms of manufacturing employment, a trend that may require significant attention from Oregon's workforce and training policy-makers if it is to continue.

What do these projected industry trends portend for growth in various occupations? Many of Oregon's new jobs will be in the relatively low-wage service and administrative support occupational groups. This comes as a shock to those who are used to hearing only about the need for increased education for the "high-skilled jobs of the future." Oregon will also add many jobs in professional services – occupations such as attorney, accountant, teacher – and health care, both of which are much more likely to offer high-wage jobs and require significant amounts of education.

Of the more than 700 occupations for which employment projections were developed, 40 are expected to employ fewer individuals in 2016 than they do now. But, with just five exceptions, even those occupations will require newly trained workers in the next 10 years, to compensate for those who retire.

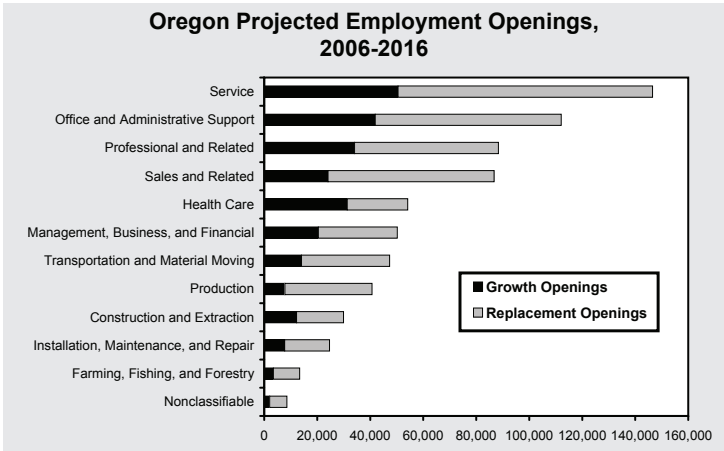
Baby Boomers Will Retire

By an almost 2-to-1 margin, discussions of Oregon's future need for trained workers should focus on what we call "replacement openings" rather than on "growth openings."

Growth openings are – not surprisingly – those created when an industry or occupation increases in employment size over a time period. They are created when new jobs at new or expanding companies exceed the jobs lost at closing or declining companies. We expect roughly 250,000 growth openings between 2006 and 2016.

Replacement openings are – equally unsurprisingly – those created when workers permanently leave the occupations they're currently working in. If a worker dies or becomes permanently disabled, a replacement opening is created. If a worker permanently leaves an occupation for a different one, a replacement opening is created. And of course, if a worker retires, a replacement opening is created. We expect roughly 450,000 replacement openings between 2006 and 2016.

While growth openings alone may be of paramount importance in discussions of economic development and economic and budget forecasts, growth and replacement openings combined are of most importance to discussions of workforce availability, training, and skills preparation.



Graph 11

Let's use "production workers" as an example (Graph 11). If we look only at growth openings, it appears that Oregon will need fewer than 8,000 new production workers in 10 years. Compared with growth of more than 30,000 health care workers and 50,000 service employees, Oregon's young people might well take away the impression that production occupations are not something worthy of consideration in their career plans.

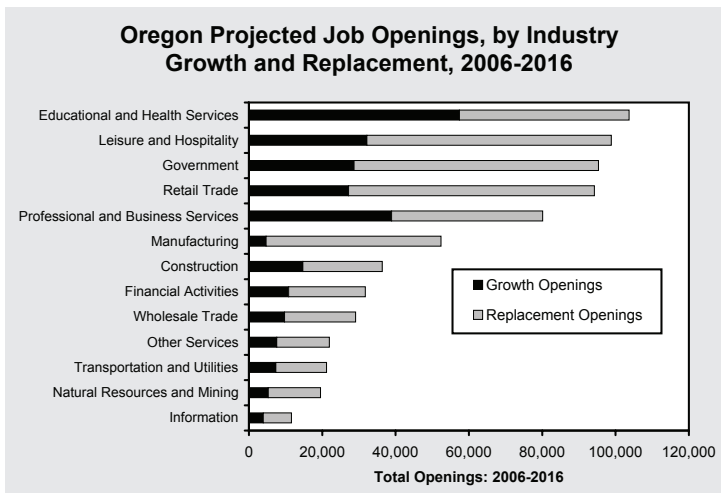
But add in replacement openings – driven in part by a significant number of production workers who will approach or enter retirement in this coming decade – and the picture changes considerably. Oregon will need roughly 40,000 new production workers to fill both growth and replacement openings. This figure is still relatively small compared with service and administrative support occupations, but those last two often pay lower wages and provide few benefits; production jobs are often in companies with at least moderate wage levels and decent benefits such as health insurance.

If we apply this growth and replacement discussion to Oregon's industries, rather than occupations, additional interesting consequences become apparent (Graph 12). Manufacturing is a terrific example.

As shown earlier, manufacturing is expected to grow by just one percent over the 10-year period, adding fewer than 5,000 new jobs. But when we consider the likely retirements from the industry, we find that Oregon's manufacturing sector will need more than 50,000 new workers in the coming 10 years – a completely different scenario.

Here's the challenge for Oregon's workforce and training policy-makers. Many agree that maintaining a strong and sustainable manufacturing sector is in Oregon's interest. If manufacturing firms leave Oregon for a plethora of reasons unrelated to the workforce – transportation infrastructure, availability of raw materials, the tax and regulatory structure – the workforce system may not be able to do much to help. But 10 years from now, if manufacturing firms tell us that all those other factors were just fine, but they left Oregon because they simply could not find job-ready and skilled workers, what a terrible shame that would be.

The focus is not just on manufacturing, of course. Oregon will need trained workers to replace those who retire from construction, health care, financial services, and every other industry group.



Graph 12

Wages and Education – Things Change Slowly

There's sometimes a tendency to treat every "trend" as a crisis. Over the years, some examples of this type of thinking have included:

- CRISIS: All the new jobs are "bad" jobs. Bad, in this context, implied low-wage, low-skill, low-benefits, and/or part-time.
- CRISIS: Without an advanced education, young people will not be qualified for the jobs of the future. In this crisis, the new jobs were presumably all high-wage and high-skill.
- CRISIS: When the baby boomers retire, there won't be enough workers.

In reality, this huge thing called Oregon's workforce – made up of almost two million workers – changes slowly. Employment Department projections suggest that most occupational groups will make up roughly the same percent of the overall workforce 10 years from now as they do today. For example, the management, business, and financial group makes up 8.6 percent of all Oregon's jobs today, and it will likely make up essentially that same fraction 10 years from now. It's true that a few occupations' share of total employment will change more significantly (e.g., health care is likely to rise from 6.5% to 7.2%, while production occupations will shrink from 7.6% to 7.0%), but none of these changes are massive.

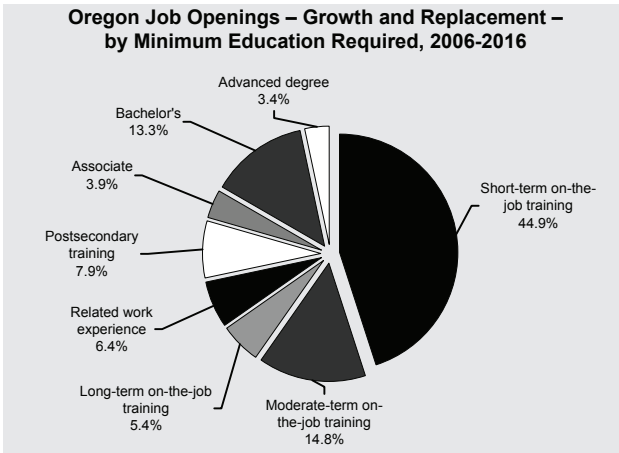
In other words, the occupational make-up of Oregon's economy will change only slowly in coming years and this implies the same will be true of the relative numbers of low-, medium-, and high-wage jobs. The Employment Department estimates that 29.5 percent of Oregon's current jobs pay $45,000 or more on an annualized basis and we project the same level in 2016 after adjustment for inflation.

This doesn't mean we shouldn't be carefully watching the major short- and long-term trends that may or will impact our economy; it just means we should keep them in perspective, and realize that long-term employment trends are like a very large ship: there's a great deal of momentum in the current direction and changes – even significant ones – will take a while to make a huge difference.

For those who are at this moment thinking we're completely ignoring some exciting and rapidly-developing "new" industries, rest assured, we're not. Let's take "clean energy" as an example. Yes, Oregon is showing remarkable leadership and will likely see strong growth in this area. But many of the jobs created in these companies will be in occupations that already exist: managers, secretaries, accountants, sales. Other jobs in these companies will be in occupations that already exist, but we'll need to add a few skills for those workers. In regard to the "green building" trend, *An Analysis of Clean Energy Workforce Needs and Programs in Oregon* stated, "With the growth of green building, more and more sectors of the construction industry now overlap with the clean energy sector. These include the more obvious examples of solar hot water installers and HVAC experts to less intuitive positions such as framers with expertise in energy efficient advanced framing …." Occupations mentioned by "green" companies surveyed for that report include machine operators, assemblers, plumbers, meteorologists, geologists, well drillers, test engineers, and others. And yes, there will be some completely new occupations, such as wind turbine technician.

Defining the Education Requirements of Tomorrow's Jobs

As the second "crisis" example above indicates, some individuals believe that at least a post-secondary education will be essential for today's young people to qualify for the jobs of the future. While this – as is fully explained in the third chapter of this report – may be a laudable goal as we seek to improve the



Graph 13

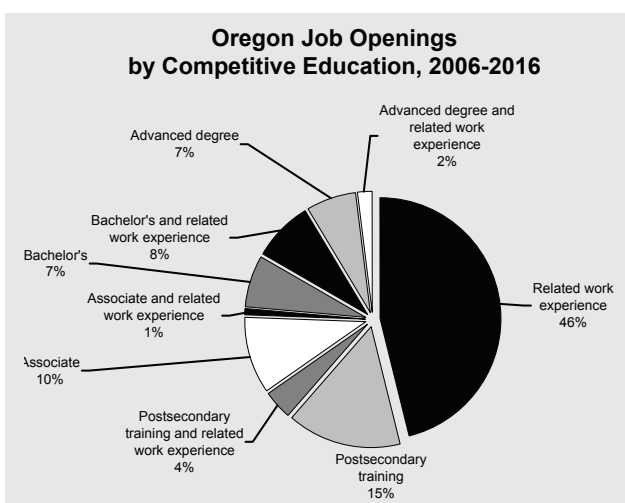
standard of living for future Oregonians, it is not a requirement for the likely jobs of the future, based on the known current trends of Oregon's economy.

Let's be specific. And please, stay with us through this whole discussion. Taking any of the following statements out of context would badly misrepresent what we're trying to explain about the educational requirements for Oregon's jobs of the future. **Only about one-fourth of Oregon's projected job openings (including both growth and replacement openings) will require post-secondary education in order to meet the minimum requirement for the job (Graph 13)**. This comes as a huge shock to those who believe higher levels of education are more and more essential, but think about the current economy: for every high-skill, high-education engineer, attorney, or physician opening, there are several lower-wage, lower-skill sales, administrative support, service, or laborer openings. To better understand this, scan your local newspaper's classified ads and business news stories for a while. Compare the number of new hospitals or manufacturing plants to the number of new retail stores or hotels. We're not making value judgments here; the fact is there are many job openings that do not require post-secondary education.

What do we mean by the "minimum" requirement for the job? Well, one way to think of this is that a job applicant probably wouldn't even get an interview without that level of education. The minimum educational requirement would be most relevant during times when businesses were desperate for workers, either in a short-term economic surge or, as some have suggested, during the long-term market adjustment to baby boom retirements. In that case, one could argue that the "minimum" is a very relevant level on which to consider the education requirements of Oregon's future jobs.

But setting "minimum" educational requirements as the overall goal seems somewhat less than ambitious. Perhaps a better approach would be to consider "competitive" educational requirements, the education level which would make job applicants excellent candidates for a position and businesses delighted to hire them. **More than half of Oregon's projected job openings will require post-secondary education if the job applicant wants to be really competitive for the position (Graph 14)**.

Even that falls far short of the levels of advanced education that many policy-makers believe we should be striving for. So yet another approach is to consider the educational requirements of only certain jobs, perhaps those that have characteristics deemed as desirable by education and workforce policy-makers.



Graph 14

In the spring of 2007, the Oregon Workforce Investment Board, working through its Business and Economic Development committee, along with the Oregon Employment Department's Research Division, developed a set of criteria for high-wage and high-demand jobs in Oregon.

In a nutshell, an occupation was deemed "high-demand" if it was projected to have at least the median number of openings (now 283 statewide) per year and "high-wage" if its estimated wage was higher than the median wage (now $15.22 per hour, statewide). These designations were clearly somewhat arbitrary – one could easily argue for higher thresholds – but having been settled on a year ago, they serve a useful purpose of allowing many different groups to analyze occupational data using the same definitions.

Applying these criteria to the statewide occupational projections, Research staff found that 222 occupations (out of 721 total) made the list of high-demand (and) high-wage occupations. And these 222 occupations account for 266,000 of the roughly 700,000 projected growth and replacement openings.

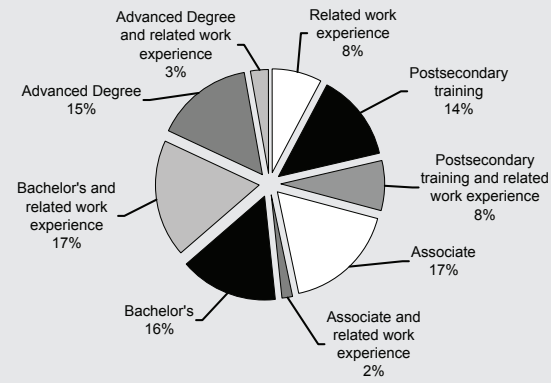
Let's not bother with the minimum education requirements for these high-wage, high-demand jobs. After all, surely we're not going to set our sights on the least possible education for the best jobs in the state?

Let's look at the competitive educational requirements for these jobs: More than 90 percent of Oregon's projected high-demand, high-wage job openings will require at least post-secondary education in order for the job applicant to be really competitive for the position (Graph 15).

The Take-Home Messages

1. Oregon employment will grow at a moderate pace between 2006 and 2016.
2. Broad workforce trends are gradual … but that doesn't mean we shouldn't be paying attention and taking action.

Oregon Total Openings for High-Wage, High-Demand Occupations by Competitive Education, 2006-2016 (Median Wage: $15.22, Median Total Openings: 283)



Graph 15

3. Just over one-fourth of Oregon's projected growth and replacement job openings will require post-secondary education or more as the minimum preparation.
4. More than half of Oregon's projected growth and replacement openings will demand post-secondary education or more from candidates who really want to be competitive for the positions.
5. More than 90 percent of Oregon's high-demand, high-wage openings will require post-secondary education or more from job applicants who want to be competitive.

Three Final Thoughts

1. We can talk all we want about a labor shortage when baby boomers retire and we can talk all we want about new industries such as clean energy and their potential for growth and need for workers. But the reality is, we face a shortage – and a serious one – right now. Over and over again, employers report that their labor shortage starts with the most basic "work ethic" skills – showing up on time, willingness to work hard, willingness to learn, basic communication and teamwork skills.
2. And once we solve the basic work ethic challenge, we also have to tackle what in some cases is a skills shortage and in other cases is a skills mis-match. There's no doubt that some of Oregon's current high-demand, high-wage jobs are going unfilled,

not because there aren't enough individuals to fill them, but because there are insufficient applicants **with the right skills**.

3. It may be a very smart move for policy-makers to target scarce training resources to particular, high-value types of occupations. It makes sense to say that high-demand, high-wage jobs will receive a higher priority for workforce and training funding than occupations that pay low wages or are declining. But a focus on high-demand, high-wage occupations means we're targeting resources to less than 40 percent of all the projected job openings. That's not a bad thing; but it is something that should be kept in mind and considered. The same applies to any other type of targeting: clusters, traded sectors, the manufacturing industry, health care, technology. All may be excellent methods to target and prioritize scarce resources, but it's just as important to understand what's being left out as to understand what's being included.

So that's a picture of the Oregon future we believe is most likely. Others are hard at work setting higher goals for our state, dreaming of greater things, and developing plans to help us achieve those dreams. Chapter 3 presents an overview of a concept informally known as 40-40-20 … a concept that would push Oregon to dramatically increase the education levels of its citizenry.

Chapter 3:
Let's Aim High For Oregon: 40-40-20 Education Goals

Joe Cortright is vice-president and economist at Impresa Consulting. He can be reached at 503-213-4443, or jcortright@impresaconsulting.com.

Duncan Wyse is president of the Oregon Business Council. He can be reached at 503-220-0691, or dwyse@orbusinesscouncil.org.

"If you want to know what the state of our state will be 5, 10, or even 20 years down the road, tell me what the state of our commitment to education is right now – today!"

Governor Ted Kulongoski
State of the State Address
January 2008

Governor Kulongoski has challenged Oregon to raise the bar for education attainment – establishing what have become known as his 40-40-20 goals. In the not too distant future, he envisions 40 percent of Oregonians having a four-year degree or more (it's 25% now), another 40 percent having a post-high school certificate (it's at most 34 percent now) and the remaining 20 percent having a high quality high school diploma or equivalent (about 15% of Oregonians don't have a high school degree today).

Oregon will become a much more prosperous state if we rally around the Governor's leadership. Our incomes will climb. Our economy will be more resilient and adaptive. More dollars will flow for public services and fewer dollars will be directed to welfare and prisons because there will be fewer people in poverty and fewer people turning to crime. Oregonians will be more informed citizens and we will be more capable of taking care of ourselves. And, we will have a deeper understanding of the world around us and a wider appreciation of the arts, sciences and humanities.

How Education Shapes Our Economic Future

In this article, we focus on the connection between education and the economy. Our conclusion is simple: Educational attainment is the biggest single factor influencing the prosperity of individual Oregonians, the state's economy, and also state and local governments' fiscal health and ability to provide essential public services. The more education that citizens acquire, the better their job prospects and income, the stronger the labor force, the more competitive the economy, and the more adequate the government revenues from individual and business taxes.

In the previous chapters of this report, our friends and colleagues at the Oregon Employment Department have amassed a wealth of detailed and revealing information about the jobs and industries that make up the Oregon economy today. Their projections show the kinds of jobs Oregonians work at now, and the kind of skills that Oregon workers bring to these jobs. This is a legitimate and useful exercise for understanding where we are today and to understand immediate job openings. But in our view, it doesn't address the critical question of where we want to be tomorrow.

To help understand our perspective, we ask the reader to try this exercise.

The year is 1960, and you are asked to set the economic and education policy for a small, poor island that has recently become independent from Great Britain. You interview

employers about their needs, and they tell you they need the kind of people they are employing right now – poorly educated people who work long hours at low wages. No one tells you they need well-educated people. Given these facts, what would be your education policy?

Now consider the actual cases of two island economies that were both closely connected to the British Commonwealth – Singapore and Jamaica. In 1960, both places had about the same level of per capita income and about the same levels of education. Few employers were clamoring for education. Over the next few decades they embarked on very different economic strategies. Jamaica billed itself as a tourism destination and neglected education. Singapore invested massively in the education of its young people. Today the results are striking. Jamaica's per capita income is only one-sixth that of Singapore. Singapore is an economic powerhouse in Asia.

This tale of two islands illustrates why we believe it is a mistake to focus too much on short-term forecasts when setting education and workforce policy. Current needs and short-term forecasts do not necessarily establish the right long-term policy direction for education and training. This is especially true if you are not content with the wages and incomes generated by the current economy. In the long term, an economy can rise or fall to the level of education found in a community.

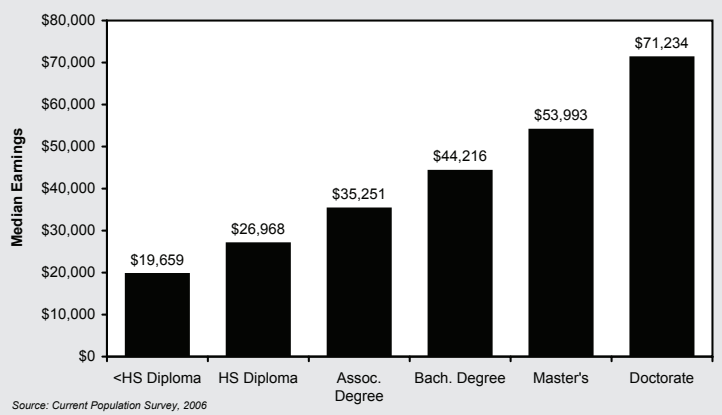
The Data is Unequivocal: Education Matters More Than Ever

In a market economy, the best way to really understand demand for a product or service is to look at the price people are willing to pay for it. On this measure, the data about labor demand is unequivocal. Oregon employers are willing to pay a widening premium for highly educated and trained people. Individuals with higher levels of education can get better jobs, earn more income, and run a lower risk of being unemployed or in poverty. Therefore, if our goals are to raise incomes and reduce poverty – the key economic goals established by the Oregon Progress Board – then education becomes a critically important part of the answer.

There's one thing we know with statistical certainty when it comes to education: More is better. This relationship has become ever stronger over the past few decades. Historically, a high school dropout could get a good-paying job in a mill or factory. Those days are long gone. Repetitive, routine, low-skill work has gone global and no longer commands high wages. Increasingly, the jobs that pay well are those that entail a high level of skill and ability.

For individuals today, the amount of education completed is the best single predictor of economic success. Overall, persons with at least a four-year college degree earn 64 percent more than persons with just a high school diploma. The more education a person has, the higher the typical level of earnings. Data from the Census Bureau show a steep "staircase" of annual earnings related to higher levels of education (Graph 16). Persons without a high school diploma average less than $20,000 in annual income; those with just a high school degree about $27,000. An associate degree or some college moves income above

Earnings in 2005 by Educational Attainment, Employed Persons Ages 25 to 64, U.S.



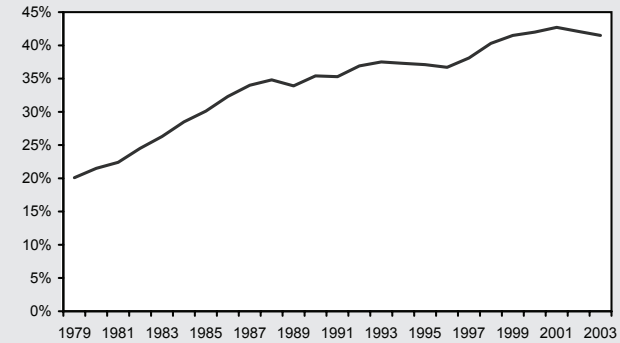
Source: Current Population Survey, 2006

Graph 16

$35,000 per year. Those with just a bachelor's degree average more than $44,000 annually. Those with graduate and professional degrees earn, respectively, $54,000 and more than $70,000, on average.

One trend is unmistakably clear: Education matters more today than it ever has. The ratio of a college graduate's earnings to those of a high school graduate have been increasing steadily for decades (Graph 17). In the 1970s, a college graduate earned only 20 percent more than a high school educated peer. Today, the wage premium for the college educated is more than double that.

Economic Value of College Degree Increasing
Wage Premium of College (4-year degree only) to High School Earnings, U.S.

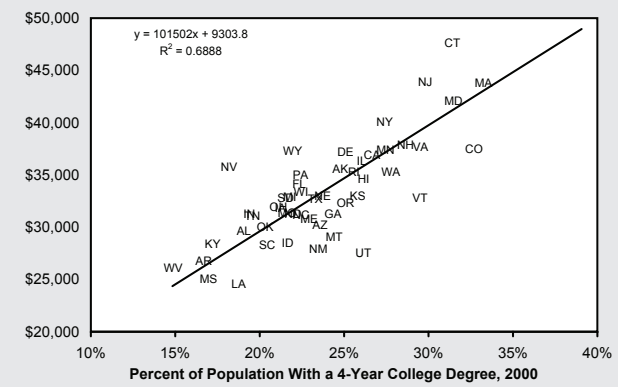


Source: Economic Policy Institute

Graph 17

And what is true for individuals is true for states as well. States with well-educated populations have higher levels of income than states with poorly educated populations. The reason that Mississippi and West Virginia are chronically poor and that Massachusetts and Maryland have consistently high income has everything to do with the level of education of each state's population. Differences in education levels statistically explain almost 70 percent of the variation in state incomes (Graph 18).

Education Explains Most Differences in State Income
Annual Per Capita Income, 2005



Sources: BEA (Income), Census (Education)

Graph 18

And education isn't just about economic returns – there are important fiscal returns as well. In general, the education level of the population has a profound influence on public finance. Because of its reliance on the income tax, Oregon gets a disproportionate share of its tax revenue from relatively well-educated persons. And the state's biggest public service costs – for welfare, corrections, and medical care – are disproportionately driven by the number of citizens with the lowest levels of education, particularly those with a high school diploma or less education.

Conversations with businesses confirm what we see in the data. When we talk with employers, we consistently hear that the only constant in the world of business is change. Few, if any, businesses in Oregon are succeeding by doing the same things they were doing twenty, ten, or even five years ago. Only those businesses that embrace change – that develop new products, relentlessly improve efficiency, find better ways to improve quality, and better satisfy customers – can be successful. And the ability to change depends directly on the skills of workers and their ability to adapt and learn.

In our view, we ought to view the education and skills of our workforce not as a set of minimum requirements or thresholds that we need to meet but as a decisive asset that can give Oregon a huge competitive advantage in the global economy. We want a workforce that is not just minimally adequate to today's

standards – we want a workforce that gives tomorrow's businesses a compelling reason to start, locate and expand in Oregon. Only if we aim high – by making Oregon's education standards measurably higher than in competing locations – can we hope to capitalize on this strategy.

Using Education to Once Again Shape Our Future

Earlier we described how Jamaica and Singapore took different paths in the 1950s and 60s. Oregon made some important choices back then, too.

During the 1950s, nearly one in three Oregon jobs were in manufacturing, and most of these were in wood products. Wages were relatively high and Oregon boasted a strong middle class. Yet only about 50 percent of adults had a high school education and only about 10 percent had a bachelor's degree.

Given the economy of the time, we could have been complacent about the need for investment in education. But we didn't do that. In the 1950s and 1960s, Oregon, like most states, made huge investments in increasing the quality and capacity of its system of higher education. We dramatically expanded the state's largest universities: Oregon, Oregon State, and Portland State. We created a whole new system of community colleges from scratch. And we dramatically raised the number and share of all citizens attending higher education.

The investments we made in our education system then produced the large, well-educated workforce that enabled Oregon to embark on its transformation from a resource-based economy to one with a much more diverse array of knowledge-based industries. And the higher level of skill in the workforce enabled the most innovative firms in the resource sector to develop and competitively manufacture innovative new products – like engineered wood products.

In the 1980s, increases in education attainment stalled. Rather than ramping up further our expectations for education attainment, the percentage of young people achieving high school diplomas leveled off. The percentage of young people receiving a four-year degree actually declined slightly, even as the demand for highly skilled people escalated. In Oregon, highly educated people choosing to move to our state increasingly have taken high-wage jobs.

The data for expansion of education is far more compelling today than it was in the 1950s. The rewards are higher. The penalties are greater. Employers are clamoring for talent in sectors as diverse as software, health care, and manufacturing.

Some will doubt that Oregon is capable of achieving such a standard. But to suggest that we set a goal of 40-40-20 is hardly farfetched. Many U.S. states are already quite close to achieving higher education levels of this distribution. Massachusetts is nearly there today, with 37 percent of its residents having at least a bachelor's degree. Colorado, a state about the same size as Oregon, has gotten to more than 34 percent of its population with a four-year degree or higher level of education. Oregon high schools are preparing more students than ever for participation in four-year programs. And the newly approved Opportunity Grants promise financial support for those who otherwise could not afford a four-year degree.

We also see promising efforts to help Oregonians find the technical jobs that demand some education and training beyond high school. High schools and community colleges are working together to address these opportunities. While we have more work to do, we can create the pathways to help place Oregonians into high-wage jobs.

The Costs of Neglecting Education

The alternative of accepting a lower standard actually imposes real costs that Oregonians – and their children – will have to bear for decades. At home, setting too low a target for the skills of our children creates a real danger that they will be unprepared to compete with new migrants to Oregon. Over the past decade, Oregon's quality of life has attracted large numbers of highly skilled workers. Many of these migrants bring credentials from top-notch colleges and substantial work experience. Native Oregonians who don't get a solid education will have a hard time competing for the most desirable jobs.

Moreover, today, no one is so naive as to assume that our children will compete only against other Americans. We now know that we compete in a truly global economy. The rest of the world has adopted the strategy that led to decades of American prosperity in the 20th Century – improving one's economy by investing in the education of one's children.

Americans used to be proud that 80 percent of our population had completed high school. Now 70 percent of Indian and Chinese youngsters have a high school education. Among the 88 million college students in the world, only 14 million live in the United States. Even English is no longer our exclusive domain. There are more English speakers outside North America than living here, and by some estimates, more English speakers in China than in the U.S.

The implication is clear. Plenty of places around the world have a ready supply of hard-working, English-speaking workers with at least a basic level of skills and education. What once was sufficient to give U.S. workers an edge is now commonplace throughout the world.

Global competition and technological change are raising the bar for the level of education that Oregon's citizens need to be successful and prosperous. Most newly created jobs demand higher skills than in the past, and the skill requirements of existing jobs continue to rise. Today, a majority of Oregon workers routinely use computers at work, including 70 percent of those who earn more than $30,000 per year. Moreover, to be successful in competing at the high end of the global marketplace, Oregon employers now depend more than ever on the skills of their workers to develop new products, improve quality, increase efficiency, and deliver better customer service. On the other hand, low-skill jobs that pay relatively well have declined steeply in recent decades and have all but disappeared as career options for new entrants to the workforce.

We can't know with certainty exactly what level of education will be required to be economically prosperous in the future. But we can be sure that the risks of too little education are more costly than getting too much education. An under-educated state is more likely to have higher levels of poverty, be more vulnerable to economic disruption, and find it harder to compete in the global economy. It would be hard to identify any comparable risks from being "over-educated." Setting too low a target for the skills of our workforce could expose Oregon to the risk of losing out big on the new and ever-changing opportunities and demands of the global marketplace.

But what about low-skill work? Is there a danger that we will have too few entry level workers? There seems little risk that this poses any serious problems to the Oregon economy. Time and again, the availability of skilled workers has enabled employers to become more productive and efficient. In contrast, deciding that we will give a certain fraction of Oregon's workers only a minimal level of skills automatically limits their economic opportunity. And because racial and ethnic minorities have historically had lower levels of education, adopting a low estimate of skill needs would affect their opportunities disproportionately.

The Fiscal Stakes are Also Enormous

The economic payback from higher education attainment is enormous. If Oregon today were at the higher attainment levels envisioned above, we estimate the total personal income of Oregonians would be $5 billion higher annually. Increased attainment would also recast public finance, generating additional tax revenues and lowering the cost of expensive programs in welfare, corrections, and the Oregon Health Plan – where caseloads overwhelmingly reflect low client education levels. The alternative is to stick with current policy while our population continues to struggle with greater competition from the rest of the world. If we choose this path, we risk falling even further behind those places that are making the educational investments today to ensure their citizens a competitive edge in the future.

Some may argue that the cost of raising educational standards will be too high to bear. But this stance ignores the cost of not acting. Letting other states and nations move ahead while Oregon moves slowly – or stands still – invites fiscal disaster.

Let's Aim High

The decades ahead will be challenging and unpredictable. Developing projections about the kinds of skills Oregon workers should have is central to thinking about the future, and squaring our educational investments with our economic ambitions. Embracing the minimum poses substantial risks to our well-being. The global economy offers unparalleled opportunities for our state to pioneer new ideas that will make life better not only for us but for many around the world as well. But if we're to realize the promise, Oregon must aim high.

WorkSource Oregon
Employment Department
www.WorkingInOregon.org
RSPUB256 (0608)