

## NATIONAL, STATE, AND LOCAL ECONOMIC TRENDS AND CONDITIONS

This report section summarizes long and intermediate-term trends at the national, state, and local level that will influence economic conditions in Clackamas County over the planning period. This section is intended to provide an economic context for growth projections and establish a socioeconomic profile of the Clackamas County region. This report's national evaluation has a focus on potential changes in structural socioeconomic conditions both nationally and globally. Our localized analysis considers local growth trends, demographics, and economic performance.

### NATIONAL TRENDS

The most commonly used metric by which economic prosperity is evaluated is real gross domestic product per capita. The basic principal being that increased purchasing power of the population translates into greater investment in health care, education, housing, leisure, and many other factors<sup>2</sup>. Interestingly, the U.S. economy has exhibited surprisingly stable real GDP per capita growth with relatively little variability. Spanning over a 100+ year period, only modest and temporary deviations from an average 1.8% growth rate have been exhibited in any given decade<sup>3</sup>. This outcome has been realized in light of considerable shifts in economic and social conditions—a finding that suggests long-term economic growth has structural underpinnings relating to demographics and investment in physical and human capital. In other words: monetary, economic, and fiscal policy may influence growth in relation to potential economic output of a given business cycle, but long-term growth stems out of capital investment, demographic conditions, and global influences.

Considering this preface, this section of our analysis provides a foundation of how these factors can be expected to influence economic conditions on a national and local scale during the planning period.

### Demographic Factors and Labor Force Participation

The aging of the Baby Boomers into their retirement years will perhaps be the greatest challenge to the U.S. economy over the planning period. By 2035, the share of the population age 65 and over will have grown to 21% from 14.5% today<sup>4</sup>. Despite the fact that an increasing number of Boomers expect to work at least part time past age 65, the impact of this demographic shift on the labor force participation rate, and by extension potential output will be considerable. Such a demographic shift will undoubtedly reduce the size of the workforce considerably over the next 20 years.

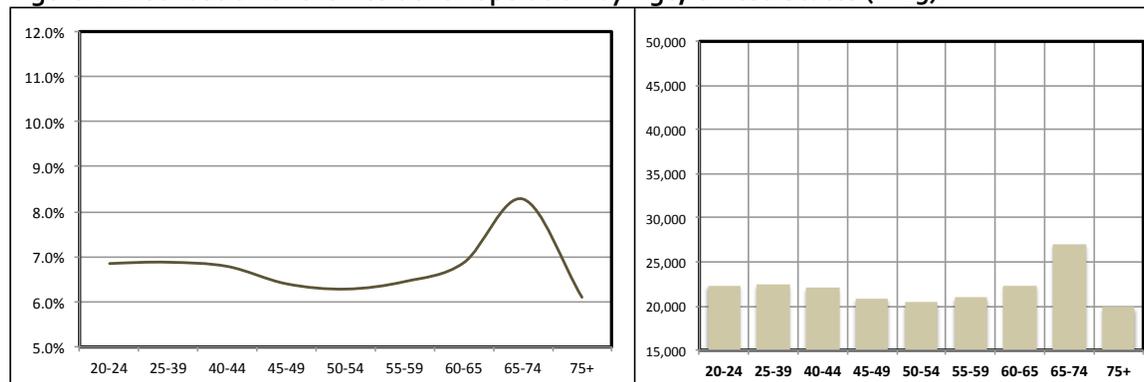
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<sup>2</sup> We acknowledge however that many other factors influence quality of life, such and social and economic equality, crime, environmental factors, etc.

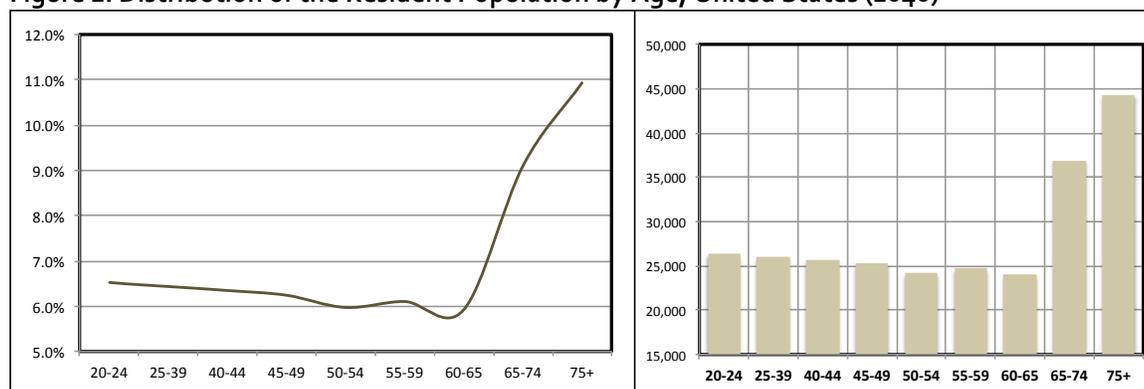
<sup>3</sup> Elwell, Craig. CRS Report to Congress: Long-Term Growth of the U.S. Economy: Significance, Determinants, and Policy (2006).

<sup>4</sup> U.S. Census Bureau Population Estimates Program

**Figure 1: Distribution of the Resident Population by Age, United States (2015)**



**Figure 2: Distribution of the Resident Population by Age, United States (2040)**



Boomers however, are not the whole story. Labor force participation is also likely to shift within some cohorts. On the positive side, persons aged under 25 years, discouraged in recent years by a dismal labor market, fled to colleges and universities across the country. The enrollment rate for 18-24 year olds increased from 37.3% to 42.0% between 2006 and 2011<sup>5</sup>. They are expected to return with vigor and an enhanced productive capacity from their educational endeavors. However, growth in the labor force participation rate among women in their most productive working years (25-54), a segment that has grown steadily over the last half century, has likely reached its peak. To a lesser degree, labor force growth will also be modestly tempered by changes in people’s economic incentives associated with the Affordable Care Act<sup>6</sup>.

Over the near-term, an improved economic landscape and positive wage pressure will incentivize a return to the workforce for some workers, narrowing the gap between actual and potential output. However, the aforementioned structural factors will generally limit long-term growth in productive capacity to a rate below that exhibited in previous expansions.

### Global Impacts on Migration

Rising globalization has driven growth in emerging economies over the last twenty years, specifically in China, Southeast Asia, India, Latin America and some African countries. This growth has delivered increased incomes and purchasing power in many parts of the world. With incomes in emerging

<sup>5</sup> National Center for Education Statistics, Digest of Education Statistics (2013)

<sup>6</sup> Congressional Budget Office, The Budget and Economic Outlook: 2014 – 2024 (Feb 2014).

economies expected to grow at an accelerated rate relative to the U.S. over at least the next 50 years, the differential between domestic and foreign incomes and standard of living will certainly decrease. While undoubtedly a positive for reducing poverty and increasing global demand for goods and services (some of which produced are the United States), the improved incomes of emerging countries will reduce the competitive labor advantages of those nations, resulting in lower rates of international migration to the U.S. Over the last 25 years roughly 35% of population growth in the U.S. was derived from international migration<sup>7</sup>.

Taken together with domestic demographic trends, the U.S. labor force could be facing the dual impacts of aging demographics and lower migration. One estimate suggests these combined factors could result in a reduction of the domestic labor force of 15% by 2060<sup>8</sup>. In this context future gains in per-capita GDP will be increasingly dependent on gains in productivity, skills, innovation, and technical knowledge. In a way, this shift could favor U.S. economic strengths; provided the United States maintains its competitive advantage in education and innovation.

### Shifting Industrial Patterns

The pressure on innovation to drive growth will continue to support the on-going shift in domestic industrial composition. Over the next ten years, service providing industries are expected to account for 92% of non-agricultural wage and salary growth in the United States<sup>9</sup>.

### Reshoring Prospects

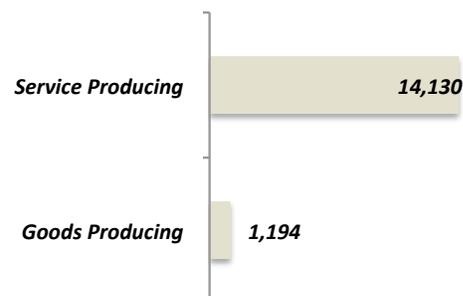
The offshoring trend that occurred over the last half century saw firms capitalize on the cost advantages of labor and to some extent materials in foreign markets, resulting in a shift in production and investment abroad. This phenomenon extended beyond production activities and into some back office functions (i.e. call centers, IT Services, etc.) to shift millions of jobs abroad.

This offshoring trend began to decline over the last decade, with companies facing mounting challenges to their offshore productive functions. This has lead many economists to speculate on the prospects of a pending renaissance of manufacturing activity in America. To be sure, some level of reshoring of manufacturing activities is likely to occur over the next few business cycles.

Abroad, some industries are facing mounting foreign production challenges. To begin with, as mentioned previously, the labor cost competitive advantage in some counties is quickly deteriorating. A shift in manufacturing processes for many industries to be increasingly reliant on more technically skilled labor is also challenging. Other issues such as value chain management and intellectual property rights are also growing concerns.

Domestically, firms looking to reshore are finding labor force availability to be the primary limitation. Further, the regulatory process and costs for getting production facilities up and running are

National Employment Forecast (2012-2022)



\*(figures in thousands)

SOURCE: Bureau of Labor Statistics

<sup>7</sup> Migration Policy Institute tabulation of data from the United Nations, Department of Economic and Social Affairs (2013).

<sup>8</sup> OECD (2014), "Shifting Gear: Policy Challenges for the next 50 Years", OECD Economics Department Policy Notes, No. 24 July 2014.

<sup>9</sup> Bureau of Labor Statistics, Occupational Employment Projections (2012-2022)

considerably higher. This is a particularly relevant condition locally in the context of industrial land availability.

In the end, reshoring is likely to occur on some level, but will be limited to sectors where it is most advantageous. Firms with low labor force utilization in their production activities that can capitalize on the United States' growing energy advantage will see the biggest shift. Firms with less reliance on foreign demand will also be a factor. Generally, these industries include, (but are not limited to) early value chain products such as metals, glass, chemicals, machinery, plastics, and some technology products.

### Global Factors Influencing Growth

In addition to the aforementioned conditions, the following global dynamics are expected to influence economic conditions nationally and locally over the planning period.

- Concurrent with the narrowing of cross-country economic gaps, trade linkages between nations are likely to increase, resulting in a rise in global value chain linkages. This will influence global demand for domestic products as well as the balance of trade between the United States and its trading partners.
- Rising global demand is expected to benefit the primary sectors of resource rich countries to the greatest degree. This bodes well for U.S. energy and agricultural markets, provided the U.S. can keep pace with supporting export capacity.
- An ancillary benefit of rising global interdependency is a dilution of risk associated with domestic shocks, a product of which should lead to enhanced global stability.

### Other Factors Influencing Growth

- Increased life expectancy along with demographic shifts will continue to support growth in demand for health care services while placing additional pressure on the transfers of income necessary to support federal obligations for Social Security and Medicare.
- The impacts of lower international migration have the potential to adversely impact innovation in America. Immigrants are twice as likely to start a business compared to domestic residents<sup>10</sup>. This is especially the case in the high-tech sector where 25% of U.S. technology and engineering companies started over the last 20 years had at least one immigrant founder<sup>11</sup>.
- Lower domestic energy costs, specifically derived from natural gas, are expected to increase manufacturing competitiveness in some industries. As it exists today, export capacity and oceanic transport of natural gas is limited, making domestic supply increases largely captive. As a result, natural gas is expected to maintain a cost advantage over the planning period. Industries that can capitalize on this shift (and their supply chain derivatives), including power generation, fleet transportation, chemicals, and metals are in the best position to increase cost competitiveness.

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<sup>10</sup> Kaufman Index of Entrepreneurial Activity

<sup>11</sup> Wadhwa, Vivek, et al. *America's New Immigrant Entrepreneurs*, 2007

- Global climate change has the potential to reduce global GDP by as much as 1.5% and almost 6% in Southeast Asia if unmitigated (Elwell 2006).
- The negative impacts of the “Great Recession” will be long lasting on potential output. Over the intermediate-term potential output will grow at a rate below average due to deterioration of skills from the long-term unemployed.

### OREGON TRENDS

Factors affecting growth in the State of Oregon can be evaluated in the context of broad economic conditions previously discussed. Here, we consider some of these factors, among others. Further, this section draws on some observations explicitly addressed in the Oregon Office of Economic Analysis’ (OEA) most recent economic forecast<sup>12</sup>.

**Continued in-migration from other states** will maintain sustained growth in population and labor force. An acceleration of net-migration rates is increasingly likely in the context of resource constraints in California and the U.S. Southwest. Water resources in these regions in particular are considerably constrained under existing conditions. The ability of southwestern states to accommodate projected growth is questionable, with Oregon being a likely outlet for growth transfer.

**Urbanization:** Within Oregon, the broader trend of increased urbanization is likely to continue. A larger share of the world’s population is living in urban areas and Oregon is no different. The share of Oregon residents living in the Willamette Valley is expected to reach 71% by 2040<sup>13</sup>.

**Housing:** Oregon should maintain its competitive advantage in housing and cost of living in relation to other west coast markets such as San Francisco and Seattle. In the near-term, housing investment and construction is expected to continue to support Oregon’s emergence from the Great Recession.

**Shifting Industrial Composition:** Oregon has exhibited a decades long shift away from natural resource based industries toward more value-added manufacturing activities such as technology, machinery, equipment, and fabricated metals. This trend is expected to continue. More so, Oregon should continue to follow the national trend of growth in service-oriented industries outpacing goods production.

**Exports:** With port capacity and a position along the Pacific Rim, Oregon is well positioned to build global markets and increase exports considerably. Oregon exports are primarily concentrated in computers & electronics, equipment and machinery, and agriculture. China and Canada are Oregon’s major trading partners, with Japan, Korea, and Malaysia also accounting for a measurable share. The Portland Metropolitan Area has the highest export intensity in the United States (24.4% of GDP compared to 13.2% nationally). The Portland region has established a strategy to double exports in five years.

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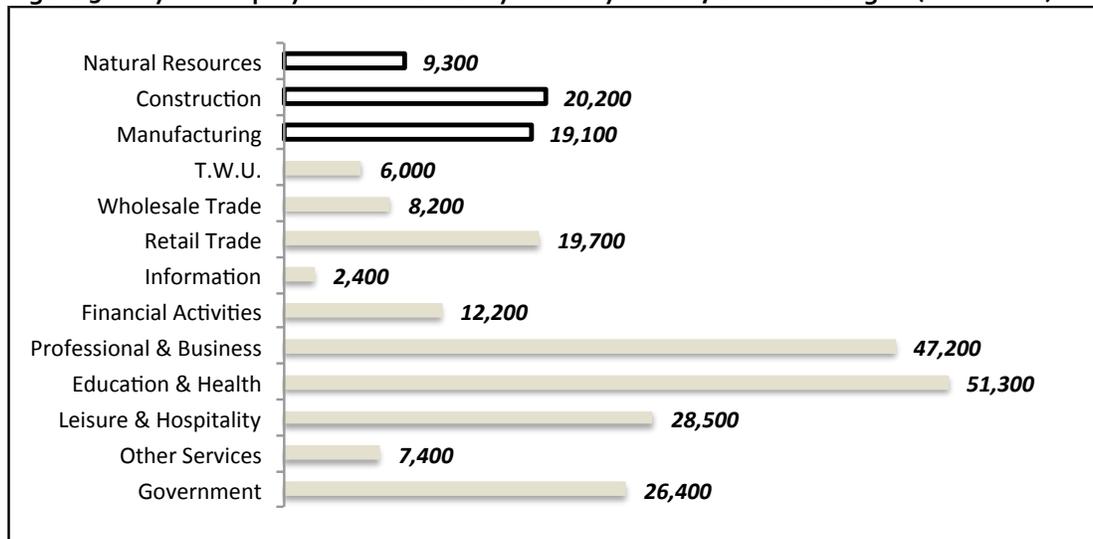
<sup>12</sup> Oregon Office of Economic Analysis, “Oregon Economic and Revenue Forecast (June 2014).

<sup>13</sup> Oregon Office of Economic Analysis: Demographic Forecast (2012)

**Green Technology:** Among the strategic opportunities Oregon faces is leading growth in green energy and technology. The initiative to increase energy efficiency, reduce carbon emissions, and develop alternative means of energy have resulted in increased investment across a range of industries. Oregon has competitive advantage in many of these arenas, including biofuels, wind and wave energy, and solar energy.

**Other Long-Term Advantages:** Oregon holds many other long-term competitive advantages on both a national and global scale, including but not limited to its relatively low electricity costs, strategic economic location on the Pacific Rim and proximity to Vancouver B.C., California, and Asia. Relative to these markets communities in Oregon boast clean water supplies, cost of living advantages, and lower space rents.

**Figure 3: 10-year Employment Forecast by Industry Sector, State of Oregon (2012-2022)**



SOURCE: Oregon Employment Department

### Economic Risks

The economic outlook for Oregon is not without risks, particularly over the long-term planning period. Those risks recently identified by the June 2014 OEA include:

**Federal Fiscal Policy**—On-going effects of the 2013 spending reductions and sequester. Oregon has minimal risk due to low federal presence.

**Housing Market Recovery**—In the near-term housing is expected to be a catalyst for growth to achieve escape velocity from recent lackluster economic growth. Rising interest rates, stringent credit, and low inventories threaten the breadth of housing investment.

**European Debt**—While domestic credit markets are easing, problems in the Eurozone persist, with the threat of financial market contagion not fully abated.

**Commodity Prices**—While trending downward, commodity prices remain high and any demand driven commodity price inflation would threaten global expansion.

**Other Global Spillovers**—Political stability in the Middle East, Ukraine, and Israel, viral outbreaks or health crises in West Africa, growth in the Chinese economy, and inflation in emerging markets.

**Real Wage Growth**—Oregon’s growth in real wages has been stagnant for over a decade.

#### LOCAL TRENDS

Local economic growth over the planning period will be, in part, functionally representative of demographic and economic trends observed locally and in the region. A review of these conditions provides a useful context for establishing a baseline expectation of future growth in Clackamas County. In this section we consider local demographic and workforce conditions, recent business activity, and the overall performance of the economy in recent years.

#### Population Growth

During the last decade Clackamas County added over 37,600 new residents at a rate of roughly 1.1% per year. This rate was slightly below the regional average but roughly on par with statewide growth. In the first three years of the ensuing decade, population growth has decelerated at the state, regional, and local level. Over this interval Clackamas County captured 19.2% of regional growth, roughly consistent with its 10-year capture rate during the 2000s. However, the region is poised to enter housing development cycle, and Clackamas County has a seemingly strong advantage in its ability to absorb ensuing housing demand. Our assessment of near and long-term planned housing capacity indicates that 44% of regional single-family lot inventory is in Clackamas County.

**Figure 4: Recent Population Growth Trends, Oregon, Clackamas County**

Geography	YEAR			'00-'10			'10-'13		
	2000	2010	2013	#	%	AAGR	#	%	AAGR
OREGON	3,421,399	3,831,074	3,919,020	409,675	12%	1.1%	87,946	2.3%	0.8%
Region*	1,444,219	1,641,036	1,693,600	196,817	14%	1.3%	52,564	3.2%	1.1%
Multnomah	660,486	735,334	756,530	74,848	11%	1.1%	21,196	2.9%	1.0%
Washington	445,342	529,710	550,990	84,368	19%	1.8%	21,280	4.0%	1.3%
Clackamas	<b>338,391</b>	<b>375,992</b>	<b>386,080</b>	<b>37,601</b>	<b>11%</b>	<b>1.1%</b>	<b>10,088</b>	<b>2.7%</b>	<b>0.9%</b>

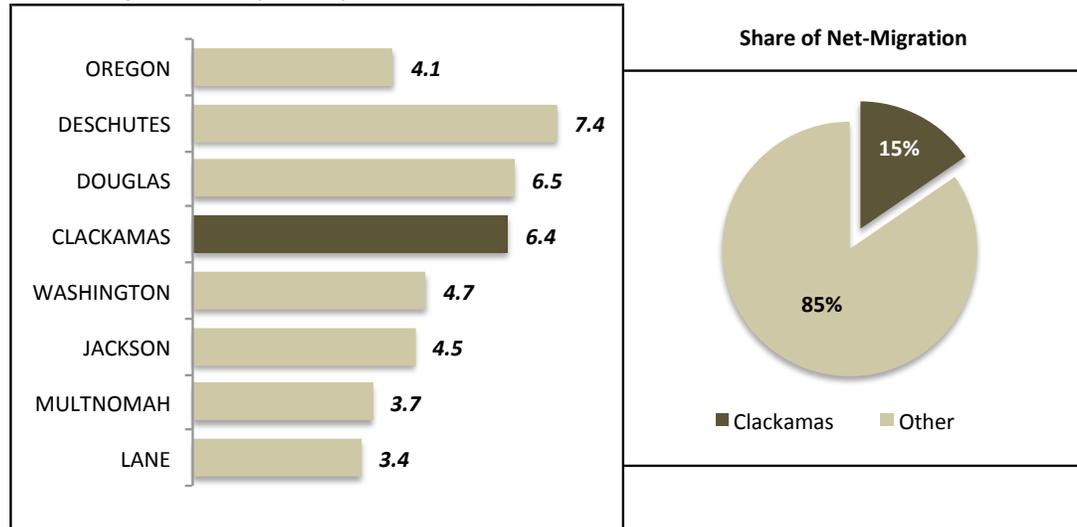
\* Clackamas, Multnomah, & Washington County Combined

SOURCE: Portland State Population Research Center

#### Migration

In the current expansionary cycle, accelerated net in-migration is a driving force of the economic recovery. Statewide, Oregon is adding 4.1 persons per 1,000 residents annually from new migrants. In Clackamas County, this rate 6.4 persons per 1,000, good for third among Oregon’s larger counties. Clackamas County is actually capturing 15% of **new residents** moving to Oregon for employment, retirement, or otherwise. The 3-county region is actually split fairly evenly, with Washington, Clackamas, and Multnomah County each capturing roughly one-third of new migrants on net.

**Figure 5: Clackamas County Net-Migration Rate, 2010-2013**  
Migration Rate (persons per 1,000 residents)



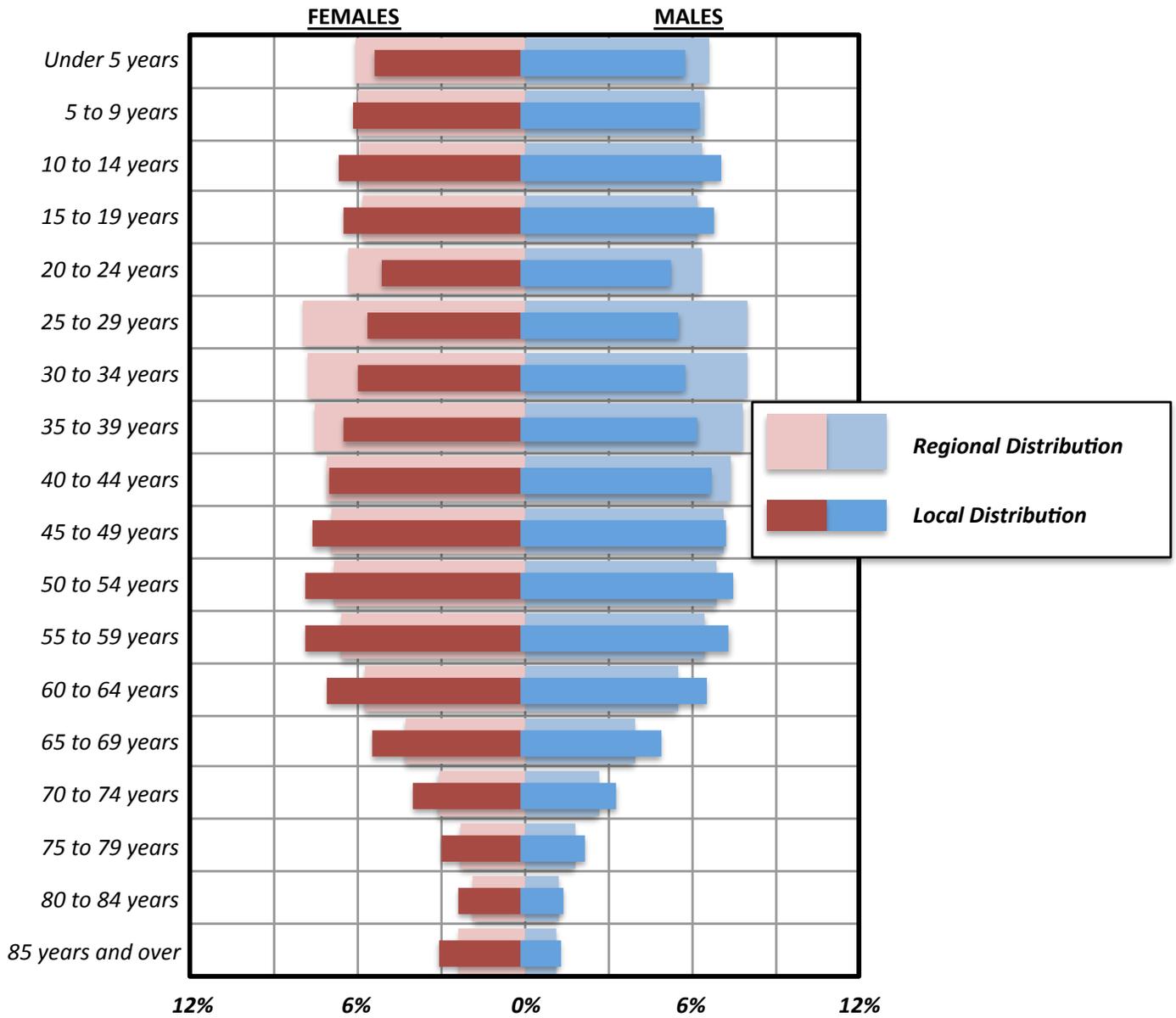
SOURCE: PSU Population Research Center

### Population Distribution

The distribution of Clackamas County's population deviates somewhat from regional averages in some cohorts. Specifically, Clackamas County is generally older on average with a considerably larger concentration of pre-retirees (50-64) and early retirees (65-74). Consequently, Clackamas County has fewer younger residents on average, particularly in the 20 to 39 year age groups. This segment makes up 23% of the local populace compared to 30% regionally. This condition is a potential economic speed bump for Clackamas County, as this demographic segment is among the most productive subsets of the labor force. Further, younger age groups are innately more likely to absorb greater economic risk, an inherent requirement for entrepreneurship and innovation. Strong concentrations in the middle bound age cohorts are generally correlated with challenges to the status quo in the business community through innovative and entrepreneurial behavior.

However, in the context of Clackamas County's migration advantage, we expect this to be an improving condition locally. Recent mobility data from the U.S. Census' American Community Survey suggest that new migrants to the region are generally younger and more educated than the existing populace.

Figure 6: Clackamas County Population Distribution, 2012



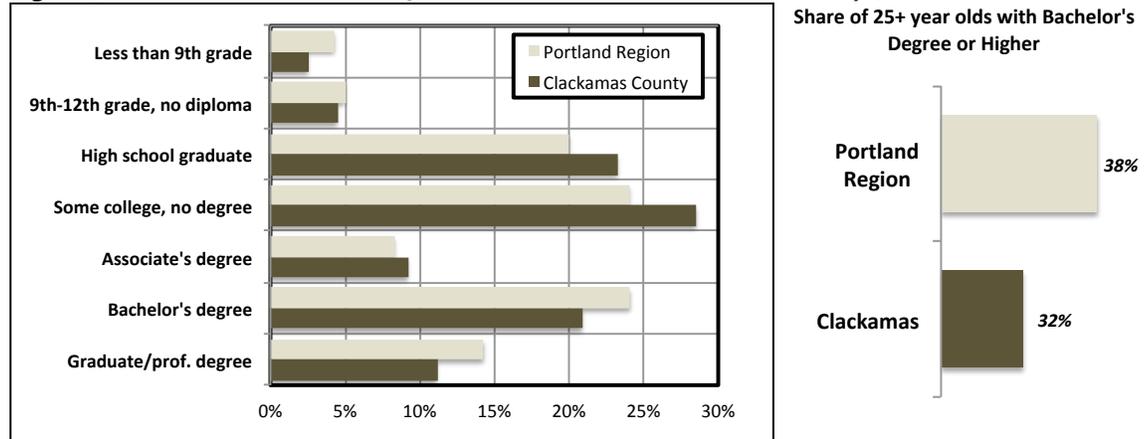
SOURCE: U.S. Census Bureau American Community Survey (2012)

### Education

Education is a measure of the collective skills and knowledge of a populace. In theory, populations with greater skills and knowledge should translate into a heightened capacity for innovation. Moreover, the ability of firms to find adequately trained labor is an important factor to economic and productivity growth. Clackamas County exhibits slightly below average rates of educational attainment in terms of four-year degrees or higher.

However, Many of the industries that drive Clackamas County’s economy are trending toward a different form of skilled labor. A recent study conducted by USA Today detailed the shifting nature of skill requirements and technical training to get there<sup>14</sup>. Over just the next few years U.S. firms are expected to hire over 2.5 million workers to family wage occupations requiring “medium skills”, defined as workers with an education level of a high school diploma or some postsecondary training but less than a bachelor's degree<sup>15</sup>.

Figure 7: Educational Attainment, United States and Clackamas County (2012)

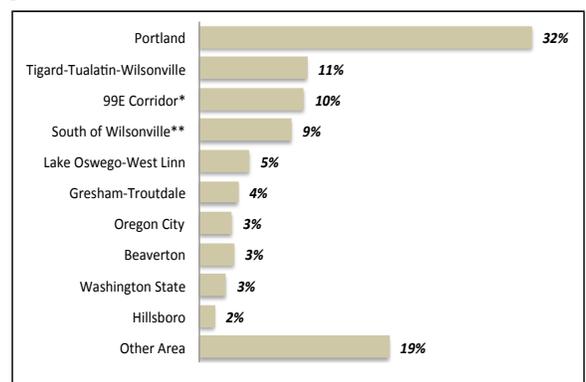


SOURCE: U.S. Census Bureau, American Community Survey (2013)

### Commute Trends

An important characteristic of the labor force is the extent to which workers are residing locally or commuting from other areas. Clackamas County is a large area, and it is difficult to estimate the extent to which residents are working locally. However, we do estimate the communities or employment areas that Clackamas County residents are working in. We estimate that 32% are working in the jurisdictional boundaries of Portland, followed by Tigard-Tualatin-Wilsonville (12%), the Hwy 99E corridor (10%) and areas south of Wilsonville (9%). Based on this analysis in Figure 8, Clackamas County commuting patterns are roughly consistent with regional trends.

Figure 8: Commute Balance, Clackamas Co. (2011)



\* Milwaukie, Gladstone, Oak Grove, Jennings Lodge, Oatfield

\*\* Woodburn, Salem, Eugene

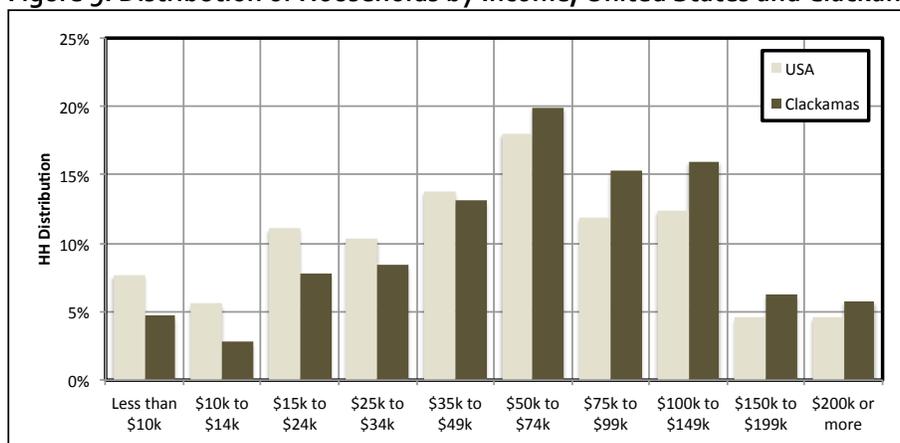
<sup>14</sup> USA Today Report. Where the Jobs Are, Part 1 (Oct. 2014)

<sup>15</sup> Bureau of Labor Statistics

### Income

On net, Clackamas County is more affluent than the national average, with a median household income of \$66,750 compared to \$51,370 nationally. Looking at the distribution of households by income, the share of local households earning between \$50,000 and \$150,000 in Clackamas County is 51% compared to a 42% national average.

Figure 9: Distribution of Households by Income, United States and Clackamas County, (2012)



SOURCE: U.S. Census Bureau, American Community Survey (2012)

### Relative Economic Performance

Figure 10 exemplifies relative economic performance of the Portland Metro Area's three principal counties across a range of business performance metrics. These metrics are commonly correlated to economic growth. These metrics are derived from QCEW covered employment data dating back to 2001:

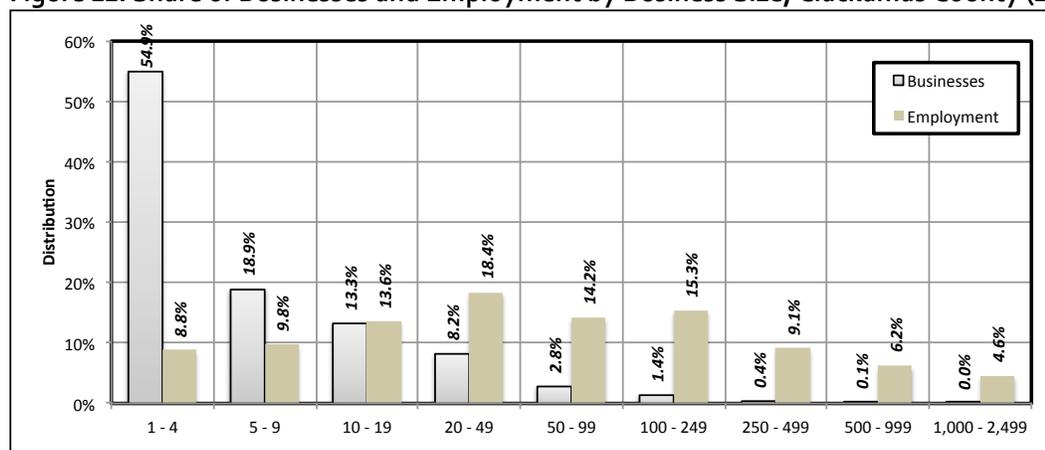
Figure 10: Relative Economic Performance, Three-County Region (2001-2013)



### Average Business Size

- The average size of a business across the entire region has trended downward over the past two business cycles—indicating a structural trend toward increased worker productivity.
- The cyclical dip in business size during the recession is indicative of reduced payrolls (jobs declined at nearly twice the rate as business decline). While Washington County has recovered to pre-recession levels, the recoveries in both Multnomah and Clackamas have been more tempered.
- Clackamas County is certainly more of a small business community compared to the rest of the region. The average business in Clackamas County has 10.5 employees with 68% of all private sector firms having less than 10 employees, compared to 60% regionally.
- However, these small businesses account for only 18.6% of employment. Roughly half of all jobs in Clackamas County are in firms with 50 or more employees.

Figure 11: Share of Businesses and Employment by Business Size, Clackamas County (2012)



SOURCE: Oregon Employment Department and Johnson Economics

### Annual New Business Creation

- The rate of new business formation is indicative rates of market entry, which has a high correlation to innovation and economic growth. On net, all three counties have trended similarly, with Clackamas County exhibiting more destruction during the recession and a slightly more tempered recovery.
- In 2013 there were 471 more private sector businesses in Clackamas County compared to the 2010 business cycle trough.

### Private Sector Employment

- Much like business formation, employment growth in all three counties trend similarly, with Clackamas County exhibiting a greater decline during the recession and thus far a more tepid recovery. However, the long-term trend indicates that dating back to 2001 Clackamas County (0.67% AAGR) has been slightly outpaced by Washington County (0.87% AAGR) but has outperformed Multnomah County, which has exhibited zero net private sector employment growth over the 12-year period.

### Income and Wages

- Despite relatively high incomes among residents, Clackamas County private sector employees earn wages (\$45,278) well below the regional average (\$59,930).
- Nominal incomes in Clackamas County have increased at an average annual rate of 2.5% of the last 12 years, on par with Multnomah County but trailing Washington County (2.9%).
- In the three-year recovery, both Clackamas (2.4%) and Washington (3.3%) County have been exhibiting greater wage growth than Multnomah (2.3%) on average. This has led to a narrowing of the wage differential with Multnomah County firms but Washington County expanding with wage advantage over the region.

### Business Cycle Inflection & Recovery

With most economies experiencing the cyclical inflection point coming out of the recent recession and entering a slow by steady recovery, we evaluate Clackamas County's recovery and which sectors are driving local economic expansion as an indicator of local economic strengths and early growth prospects.

Figure 12 exhibits industry sector performance in the Clackamas County economy during the recent recession (2007-2010) and a three-year recovery period (2010-2013). The x-axis exhibits how an industry performed during the recession, with negative values indicating job losses and positive values indicating job gains. Similarly, the y-axis tracks losses and gains during the three-year recovery (the size of the bubbles indicate the relative size of the sector in terms of employment). By comparing the two axes, we can classify industry sectors into one of four performance quadrants:

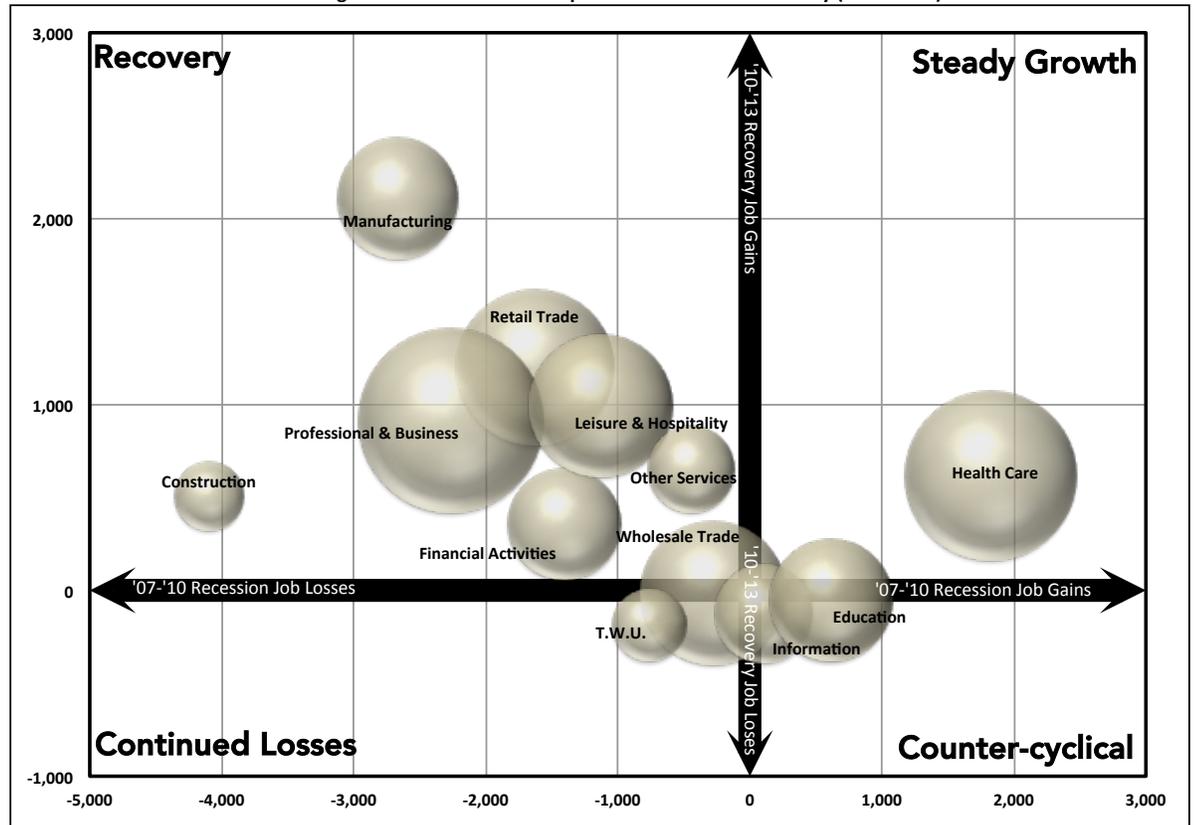
**Recovery:** Industries that lost jobs during the recession but have since recovered some of previous losses.

**Continued Losses:** Industries that lost jobs during the recession and have continued on a downward trend during the recovery.

**Counter-Cyclical:** Industries that gained jobs during the recession but have since exhibited losses during the recovery.

**Steady Growth:** Industries that gained jobs during the recession and have since continued on an upward trend.

**Figure 12: Industry Sector Performance, Clackamas County, (2013)**  
Job Change from 2007 to 2010 Compared to Three Year Recovery (2010-2013)



Over the course of the recession and subsequent economic recovery some sectors have clearly outperformed others. During the recession, the professional & business, manufacturing, and construction sectors were hit the hardest, accounting for 75% of private sector jobs losses. Health care, information, and education were the only two sectors that did not decline during the recession at the county level. Across all industries, some have recovered much stronger than others. In addition to education and health care, only the other services sector has recovered fully to exceed pre-recession employment levels.

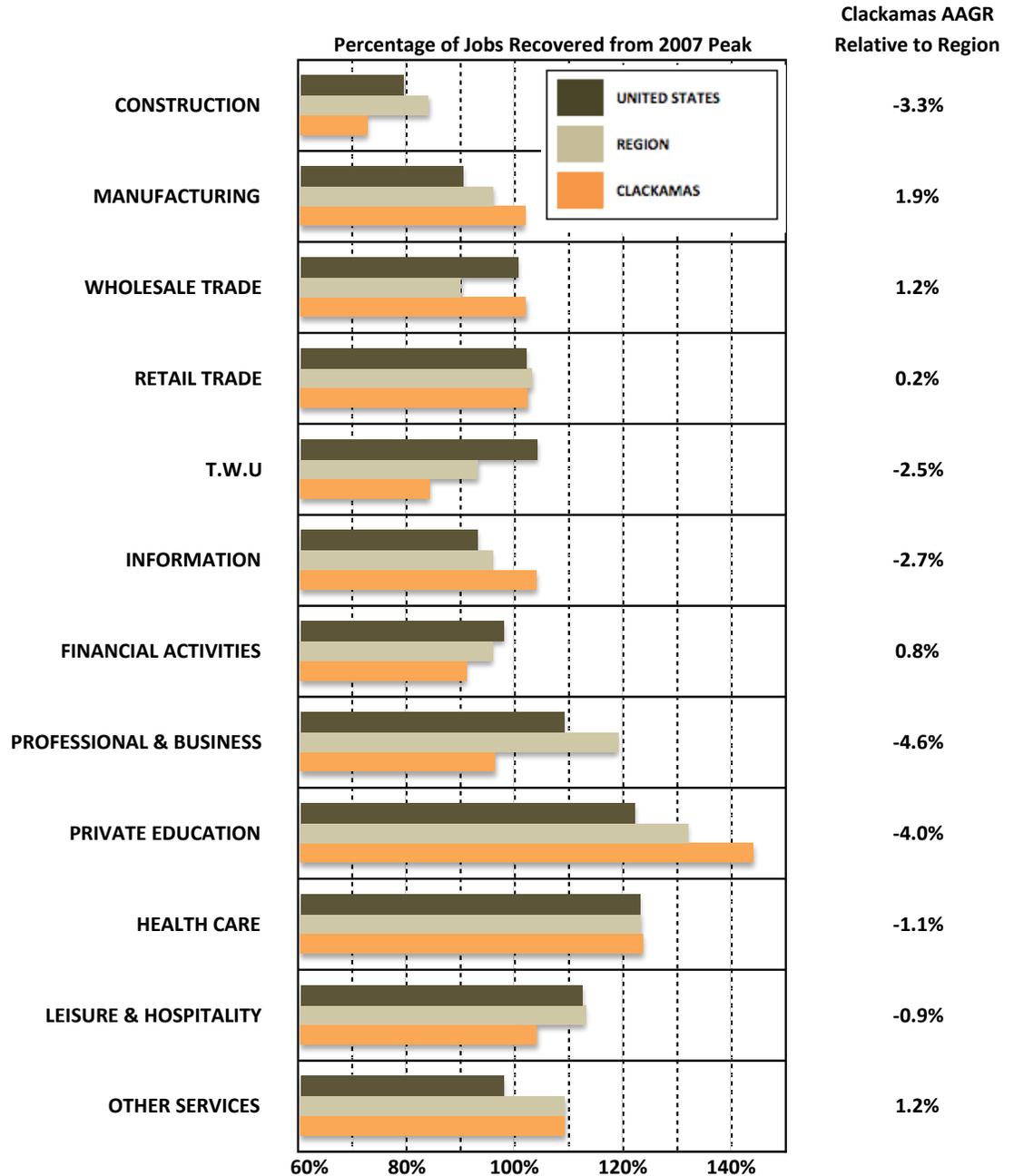
### Conclusions on Economic Performance

Much has been made locally about the recent economic recovery, and where jobs are being created geographically in the region. It is a fact that since 2010, 85% of new business creation and 87% of job creation has happened in Washington and Multnomah County. However, considering gross figures alone is erroneous in the context of the recovery's composition.

During the "Great Recession", two of the economic sectors that saw the greatest contraction were construction and real estate. These two sectors have also famously been sluggish in their recovery during the early phases of the expansion cycle. Unfortunately, in Clackamas County these two sectors comprise an unusually large share of the economy. In other words, much of Clackamas County's perceived "lagging" recovery is isolated in a few sectors that have been structurally challenged.

In fact, across most sectors, Clackamas County is performing on par or better than the region, adjusting for baseline size of the economy. This would suggest that Clackamas County is not at fundamental disadvantage regionally, rather, its economic fragilities are pronounced in a few industries. We consider each sector individually:

**Figure 13: Current Employment as a Percentage of Peak Employment and Relative Growth Rate During the Three Year Recovery, Clackamas County, Portland Region, and United States (2007-2013)**



#### Construction

Clackamas County's worst performing sector. Employment is still 3,500 jobs below peak having recovered to only 71% of previous employed level.

#### Manufacturing

Clackamas County is outperforming the region in terms of job recovery and growth rate since 2010. The employed level has recovered to 97% of peak after growing at 4.3% annually, which is good for 1.9 percentage points faster than the region.

#### Wholesale Trade

Clackamas County is again outperforming the region by a considerable margin. Job loses were not pronounced during the recession, and Clackamas has held near 97% of peak employment. Meanwhile, the region is contracting at 1.3% annually.

#### Retail Trade

All three geographies are performing roughly the same, having recovered to pre-recession levels after averaging roughly 2.4% average annual growth.

#### Transportation, Warehousing, & Utilities

This sector accounts for roughly 4% of the Clackamas County economy roughly on par with the region. During the recession this sector contracted by 15%, losing 760 jobs. This sector is Clackamas County's only sector that has exhibited continued loses into the recovery. In the context of structural recovery in the industry, this is a concern for Clackamas County's competitiveness that we will explore later in this analysis.

#### Information

In Clackamas County, the Information sector ran countercyclical during the recession, meaning that it actually expanded during the recession in terms of employment. However, since 2010, the information sector has given back 128 jobs locally. On net, this sector has outperformed the region since 2007 as a percentage of the economy.

#### Financial Activities

Real estate and rental leasing makes up a large share of this sector in Clackamas County, much more so than other parts of the region. Similar to the construction sector, these industries contracted severely during the recession. In Clackamas County, the employed level is still over 1,000 jobs off peak employment, having recovered to 87% of the peak compared to 94% regionally. However, since the 2010 expansion began, the financial sector in Clackamas County has grown at 1.7%, nearly twice the rate exhibited regionally (0.9%).

#### Professional & Business Services

Aside from construction, this is perhaps the most troubling sector of the Clackamas County economy in that it has been recovering at a far slower rate than both the regional and national average. The County has recovered to only 87% of peak employment while the region has surpassed its peak by nearly 15,000 jobs. The growth rate Clackamas County (2.0% AAGR) has been less than one-third the regional rate (6.6% AAGR). If there is a competitiveness concern in Clackamas County, it's in this sector. Later analysis in this report will explore this finding in greater detail.

#### Private Education

Like the information sector, private education ran countercyclical in Clackamas County, continuing a strong expansion during the recession and moderating since. Given that current employment is 145% of pre-recession levels, we'd conclude this sector is on sound footing.

#### Health Care

In most geographies the health care sector continued its expansion during the recession and immediately afterward. Clackamas County and the Portland region is no different. Both have employed levels at 122% of pre recession levels. Growth has been more accelerated elsewhere in the region, however.

#### Leisure & Hospitality

This sector is heavily concentrated in food services, which, similar to retail, generally moves with overall economy. The sector is underperforming relative to the region but not by a considerable margin.

#### Other Services

Both Clackamas County and the region have recovered to about 110% of their pre-recession peak. Because the sector was hit harder in Clackamas County it's taken 3.9% average annual growth to get there compared to 2.8% in the region. Other services is a strongly performing sector.

### **Knowledge Based Metrics**

Earlier in this report we identified gains in productivity, knowledge, and technology to be critical elements for future economic growth. The influence of knowledge-based industries is proliferating globally; with communities across the country increasingly adopting cluster based economic development strategies. By extension, the geographic integration of knowledge-based institutions throughout a community's economic fabric is being successfully utilized as a vehicle for spreading knowledge, providing resources, and recruiting capital in a knowledge driven economic development strategy. Here, we discuss some key metrics regionally and locally that impact Clackamas County's advancement in high knowledge based industrial growth.

### **Venture Capital**

Venture capital is an important mechanism for firms to advance new ideas and bring them to market. As it related to increasing productivity through innovation, this is especially the case in early stage, angel, and seed funding levels.

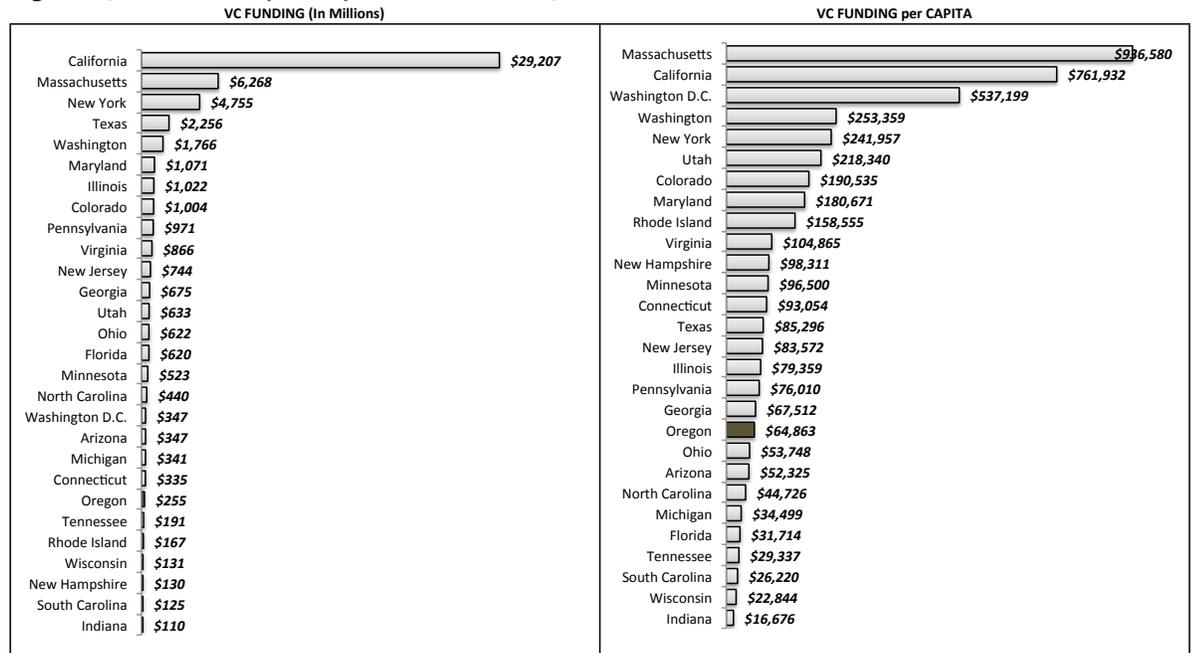
Our research found nearly 50 active venture capital funders in Oregon, funding deals ranging from \$25,000 seed money to \$30+ million later stage deals.

Figure 14: Active Venture Capital Firms in Oregon

Ventur Capital Firms in Oregon		
- Oregon Angel Fund	- DFJ Frontier	- Nth Power
- Portland Angel Network	- Emergence Capital	- Oregon Investment Fund
- OEN Angel Oregon	- Epic Ventures	- Oregon VC Fundraising Successes
- Portland Seed Fund	- Equilibrium Capital Group	- OVP
- The Indus Entrepreneur (TIE), TIE Oregon Angels	- Firelake Capital	- Pivotal Investments
- Clean Tech Open: Accelerator for cleantech	- Foundry Group	- Prairie Gold Ventures
- Oregon BEST	- Globespan Capital Partners	- Reference Capital
- Nike Accelerator	- Intel Capital	- Rocket Ventures
- OHSU Innovation and Seed Fund	- Invite Investments	- RPM Ventures
- Oregon Nanoscience and Microtechnologies Institute	- Keating Capital	- Saffron Hill Ventures
- Portland Incubator Experiment (PIE)	- Kleiner Perkins Caulfield & Buyers	- Seven Peaks Ventures
- PSU University Venture Development Fund	- Madrona	- SmartForest Ventures
- Anthem Venture Partners	- Millennium Technology Value Partners	- True Ventures
- August Capital	- Mohr Davidow Ventures	- Voyager Capital
- Birchmere Ventures	- Mt. Hood Equity Partners	- Walden Venture Capital
- Capybara Ventures	- Northwest Technology Ventures	
- Chrysalix Energy Venture Capital	- Norwest Venture Partners	

However, Oregon is not a powerhouse in the venture capital world, ranking 22<sup>nd</sup> in venture capital dollars and 19<sup>th</sup> in venture capital per capita over the last two years. At the MSA level, since 2005 the Portland MSA has averaged \$10.55 in V.C. investment per \$10,000 in GDP<sup>16</sup>. By comparison, Portland ranks 14<sup>th</sup> among similar MSA's, with V.C. rates 1/7<sup>th</sup> the size of Austin and 1/4<sup>th</sup> the rate achieved in Seattle.

Figure 15: Venture Capital by State (2012-2013)



SOURCE: PricewaterhouseCoopers/National Venture Capital Association MoneyTree™ Report

<sup>16</sup> Venture Capital Investment compared to the size of the overall economy is another strong indicator of innovation health.

We further considered where venture capital in Oregon is going. As it turns out, some Clackamas County communities have firms attracting large national and regional capital. Since 2011, firms in Lake Oswego, Oregon City, and Happy Valley have landed V.C. investments.

**Note: Figure 16 includes communities with “0%”. This is indicative of either rounding or deals that had unreported investment amounts.**

### Broadband Access

Broadband Internet access provides high-speed connections to businesses, individuals, institutions, and consumers. High-speed access has a direct link to economic performance, as the Internet has become an essential tool in spreading, accessing, and sharing ideas globally and remotely. The availability of high-speed Internet is common in most central city metro areas. However, we highlight the importance here as communities in the Portland Metro Area have recently been named a candidate location for Google Fiber. Without getting too technical, Google Fiber replaces copper based telecommunications connections within a community with fiber-optic lines. This infrastructure allows connection speeds of up to 100 times the average speed in America<sup>17</sup>. Such a leap in infrastructure and productivity is likely to result in innovation that we can’t even imagine today, similar to the way the transition from dial-up to broadband gave birth to the internet economy.

The service is already available in several peer cities, including Kansas City, Provo, and Austin. In Kansas City, the investment itself encouraged the development of an innovation task force (K.C. Digital Drive) to explore ways to leverage faster connectivity in education, workforce, and economic development.

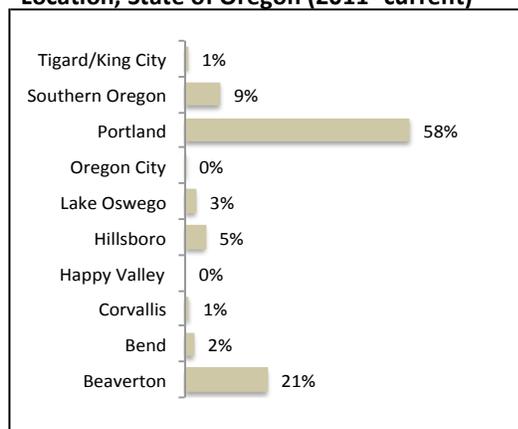
This infrastructure investment would yield a considerable competitive advantage both for the region and internally within the region across a broad range of industries including software, film and media, advanced manufacturing, research & development, and health care, among others.

### Patent Activity

Patent activity is perhaps the most commonly used metric to measure innovation. Intuitively this makes sense, as it is a direct measure of new products, design, and services. Patent data is derived from the U.S. Patent Office and is coded at the MSA and county level.

At the MSA level, the Portland-Vancouver-Beaverton MSA ranks adequately high on the patent scale, ranking 15<sup>th</sup> and 16<sup>th</sup> respectively in total patents and per-capita patents over the last five years (across all metro areas, in the fifteen year-sample of peer cities only Portland ranked 9th).

**Figure 16: Share of Venture Capital by Location, State of Oregon (2011- current)**

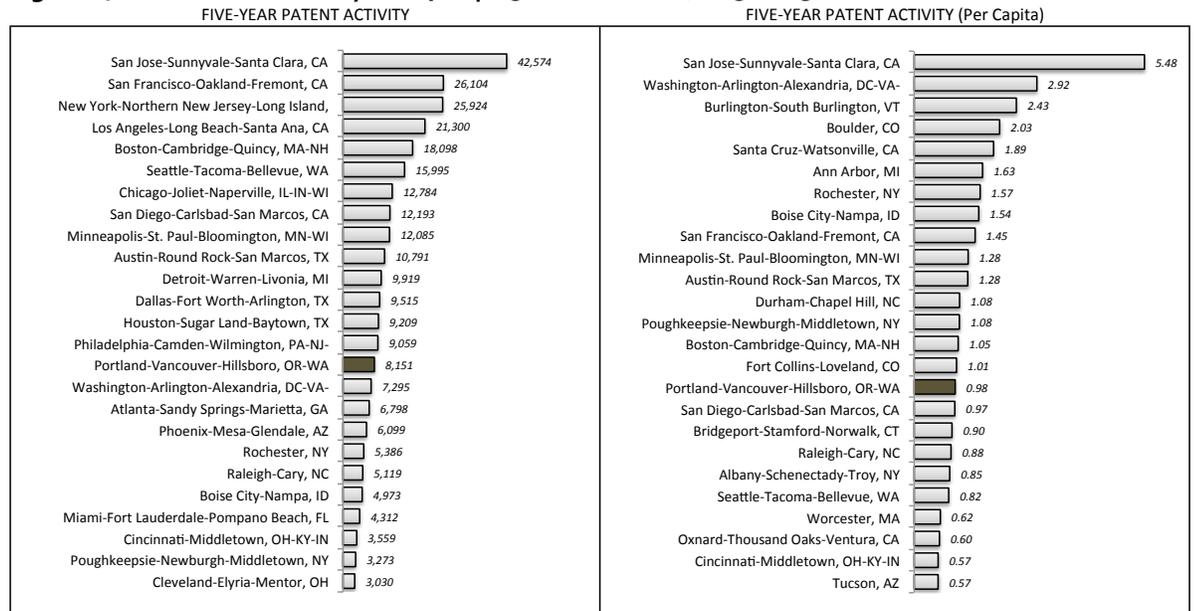


SOURCE: PricewaterhouseCooper



<sup>17</sup> Based on 9.8 Mbps (Akamai 2013)

Figure 17: Patents Granted by MSA, Top 25 Metro Areas (2009-2013)

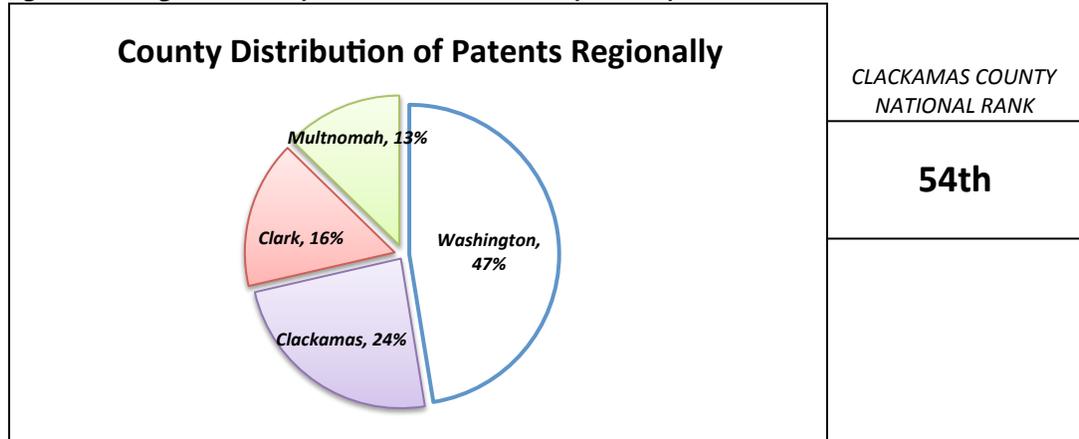


SOURCE: USPTO

However, a deeper look into the data would indicate that this metric, as it commonly does, overestimates the true innovative climate of a community. For example, 55% of all utility patents issued over the last 10-years in the MSA were given to just five companies (Intel, Sharp, Hewlett-Packard, Digimarc, and Nike). Intel alone accounted for 38% of regional patent activity.

However, Clackamas County ranks 54<sup>th</sup> nationally among all counties in the number of patents issued to companies. Regionally Clackamas County trails only Washington County in this metric, accounting for 24% of all patents in the region<sup>18</sup>.

Figure 18: Regional Utility Patent Distribution by County (2000-2011)



SOURCE: USPTO

<sup>18</sup> Including Clark County