2013 LABOR MARKET AND ECONOMIC REPORT

U.S. economy
Washington's economy
Seasonal employment
Unemployment
Employment projections
Income and wages

Employment Security Department
WASHINGTON STATE

Labor Market and Performance Analysis
April 2014

2013 Labor Market and Economic Report

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Further analysis and detailed statistics are available from the Employment Security Department upon request. For more information or copies of this report in alternate formats, please call 360-407-4500 or 800-215-1617.

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Labor market fast facts

Fast facts 1. Labor force and unemployment, not seasonally adjusted
Washington state, annual data 1980 through June 2013
Source: Employment Security Department/LMPA; U.S. Bureau of Labor Statistics, Local Area Unemployment Statistics

Year	Labor Force	Employed	Unemployed	Unemployment rate
1980	1,972,373	1,815,717	156,656	7.9%
1985	2,102,321	1,926,816	175,505	8.3%
1990	2,537,037	2,406,444	130,594	5.1%
1995	2,812,611	2,636,011	176,600	6.3%
2000	3,050,021	2,898,677	151,344	5.0%
2005	3,255,527	3,075,972	179,555	5.5%
2006	3,319,252	3,155,384	163,868	4.9%
2007	3,392,363	3,235,735	156,628	4.6%
2008	3,478,425	3,286,973	191,452	5.5%
2009	3,534,392	3,205,644	328,748	9.3%
2010	3,531,626	3,192,117	339,509	9.6%
2011	3,482,053	3,154,162	327,891	9.4%
2012	3,495,924	3,209,052	286,871	8.2%
2013 January through June	3,479,438	3,222,488	256,951	7.4%

Fast facts 2. Labor force and unemployment, not seasonally adjusted
Washington state metropolitan areas, January through June 2013
Source: Employment Security Department/LMPA; U.S. Bureau of Labor Statistics, Local Area Unemployment Statistics

Metropolitan area	Labor Force	Employed	Unemployed	Unemployment rate
Washington state	3,479,612	3,222,475	257,137	7.4%
Bellingham	103,700	95,783	7,900	7.6%
Bremerton	117,833	109,100	8,750	7.4%
Kennewick-Pasco-Richland	131,050	118,800	12,250	9.3%
Longview-Kelso	42,367	37,733	4,633	10.9%
Mount Vernon-Anacortes	56,133	51,000	5,100	9.1%
Olympia	126,517	116,917	9,650	7.6%
Seattle-Bellevue-Everett MD*	1,527,969	1,447,040	80,929	5.3%
Spokane	230,467	210,633	19,817	8.6%
Tacoma MD * (Pierce)	383,762	350,374	33,389	8.7%
Wenatchee	59,033	54,183	4,850	8.2%
Yakima	121,900	109,217	12,683	10.4%

*Metropolitan Division

Fast facts 3. Projected industry average annual growth rates
Washington state, 2011 to 2021
Source: Employment Security Department/LMPA; U.S. Bureau of Labor Statistics

NAICS	Industry sector	2012 Q2 to 2014 Q2	2011 to 2016	2016 to 2021
	Total nonfarm	1.8%	1.8%	1.1%
23	Construction	4.0%	4.7%	2.1%
31-33	Manufacturing	1.6%	1.8%	0.5%
42	Wholesale trade	0.7%	1.2%	1.0%
44-45	Retail trade	1.4%	1.2%	0.5%
22, 48, 49	Transportation, warehousing and utilities	2.1%	2.2%	1.0%
51	Information	1.9%	1.8%	1.8%
52	Financial activities	1.4%	1.0%	0.2%
54-56	Professional and business services	3.9%	3.8%	2.2%
61-62	Education and health services	2.4%	2.3%	1.9%
71-72	Leisure and hospitality	1.8%	1.7%	0.6%
GOV	Government	0.2%	0.2%	0.8%

Fast facts 4. Wages and employment by industry
Washington state, fourth-quarter 2013 (preliminary)
Source: Employment Security Department/LMPA; U.S. Bureau of Labor Statistics, Quarterly Census of Employment and Wages

NAICS	Industry sector	Average number **of firms**	Wages paid **first-quarter** 2013	Average employment 2013	Average weekly wage 2013
	Total	216,733	$38,390,022,888	2,870,146	$1,029
GOV	Government	2,082	$6,846,427,616	518,951	$1,015
62	Healthcare and social assistance	14,539	$3,910,704,876	331,329	$908
44-45	Retail trade	14,004	$2,639,789,270	313,255	$648
31-33	Manufacturing	6,716	$5,400,945,142	279,567	$1,486
72	Accommodation and food services	12,801	$1,050,898,274	224,342	$360
54-55	Professional, scientific and tech. services	19,151	$3,423,853,554	169,838	$1,551
81	Other services (exc. public administration)	74,394	$849,981,203	129,570	$505
23	Construction	19,224	$1,668,339,237	128,172	$1,001
56	Admin., support, waste mgmt. and remediation svcs.	9,643	$1,523,373,415	135,969	$862
42	Wholesale trade	13,075	$2,143,632,412	121,892	$1,353
51	Information	2,629	$2,975,931,887	103,891	$2,203
52	Finance and insurance	5,406	$2,056,924,768	89,211	$1,774
48-49	Transportation and warehousing	3,975	$1,099,165,300	81,817	$1,033
11	Agriculture, forestry, fishing and hunting	6,975	$498,140,786	72,615	$528
53	Real estate, rental and leasing	6,012	$491,828,012	43,293	$874
71	Arts, entertainment and recreation	2,420	$260,446,030	43,422	$461
61	Educational services	2,677	$330,198,377	37,943	$669
55	Management of companies and enterprises	650	$1,077,887,167	38,461	$2,156
22	Utilities	228	$114,782,652	4,811	$1,835
21	Mining	132	$26,772,910	1,798	$1,145

Executive summary

U.S. economy and labor market

The pace of economic growth in the United States remained in the 2 percent range through the first two quarters of 2013. The constraints that limited the rate of recovery include:

- Modest consumer-spending growth relative to previous expansions,
- Cautious business investment in construction and other industries,
- A decline in the rate of labor-force participation, plus slower growth in labor productivity and
- Cutbacks in federal government purchases of goods and services.

Total nonfarm employment in the United States in June 2013 increased 1.7 percent from June 2012. Private-sector-job growth was up 2.0 percent. Since reaching a post-recession low in February 2010, private-sector employment has increased 6.7 percent, 1.6 percent below the peak of January 2008. Also as of June 2013, construction employment was down 25 percent from its April 2006 peak. (Construction employment peaked in 2006 because the housing bubble collapsed before the start of the Great Recession.)

Public-sector employment dropped 0.3 percent from June 2012 to June 2013. The June 2013 level was 3.6 percent lower than the sector's April 2009 peak.

Washington state's economy and labor market

Using state gross domestic product as the comparison measure, economic growth in Washington between June 2011 and June 2013 was greater than that of the rest of the nation. From June 2012 to June 2013, annual inflation-adjusted personal income in the state increased 2.1 percent, as compared to 1.9 percent nationally. Consistent with that, total nonfarm employment during the same time period increased 2.0 percent, compared to 1.7 percent nationally.

From February 2008 to February 2010, total nonfarm employment in the state fell by about 199,400, equal to a 6.7 percent decline from the February 2008 peak. After that, total nonfarm employment rose by 153,300, or 5.5 percent, through June 2013, compared to 5.1 percent nationally. From the trough of the recession in February 2010 through June 2013, Washington regained roughly 77 percent of the jobs lost in the downturn.

Seasonal, structural and cyclical industry employment in Washington state

Industries in Washington that are most sensitive to seasonal forces are agriculture and tourism. Structural forces such as productivity improvement, policy changes and population trends have heavily influenced employment in software publishing and healthcare-related industries. Crop production, mining and tourism are industries also heavily affected by short-term changes in economic growth.

Unemployment in Washington

The seasonally adjusted unemployment rate in Washington was 6.8 percent in June 2013, down from the June 2012 rate of 8.4 percent. The number of unemployment recipients was 113,880 in June 2013, down from 143,880 in June 2012. At the peak in January 2010, 305,000 unemployed workers drew unemployment benefits from Washington.

The construction industry was the most severely affected industry during the recession, and accounted for a disproportionate share of the workers who exhausted unemployment benefits from July 2012 to June 2013.

Mass layoffs and separations increased from second-quarter 2012 to first-quarter 2013. Washington employers reported 171 mass layoffs during that time.

Employment projections

The report detailing occupational employment projections through 2021 was published in July 2013. Total nonfarm employment is expected to grow at an average annual rate of 1.8 percent through 2016 and 1.15 percent from 2016 to 2021. The occupational groups likely to experience the fastest growth rates are construction and extraction and computer and mathematical.

Income and wages

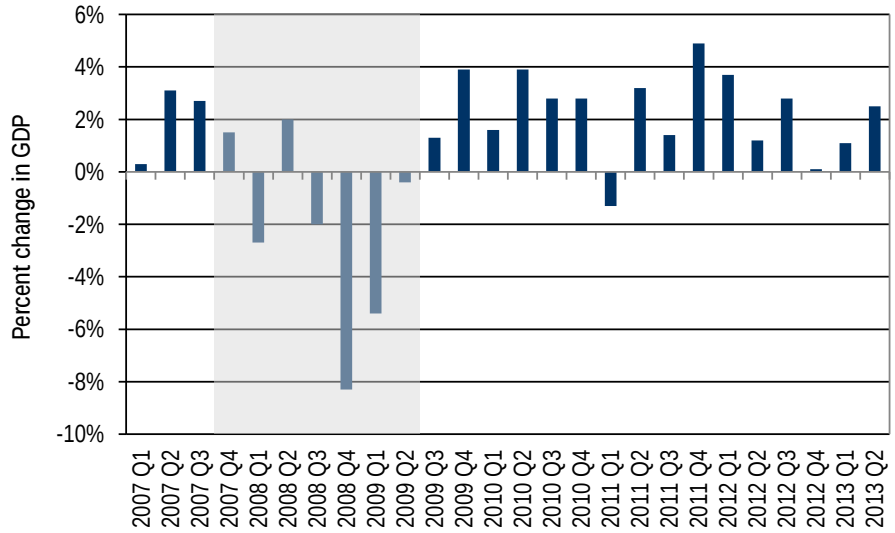
Recently released data show the median household income measured in 2012 dollars in Washington fell 6.5 percent from 2008 to 2012. The drop in household income contributed to a decline in the home-ownership rate, and increases in both the poverty rate and the share of households that received food stamps. From 2007 to 2012, the number of occupied jobs with hourly wages less than $36 by 89,500. The number of occupied jobs with hourly wages of $48 or more increased by 46,209. Unemployment benefits peaked in 2010 at $4.5 billion before receding during the recovery. In 2012, $2.5 billion in unemployment benefits were paid.

Chapter 1: U.S. economy and labor market

The recession that gripped the nation beginning in December 2007 officially ended in June 2009.[1] The next four years of economic recovery had sustained, below-trend economic growth over all four years. Gross domestic product (GDP), the measure of the output of goods and services in the economy over a period of time, rose by 2.5 percent from first-quarter 2013 to second-quarter 2013. GDP growth, shown in *Figure 1-1*, has risen at a 2.2 percent pace since the recession ended, which is a full percentage point below the pace averaged during the 25 years prior to the recession. The rate of recovery is being constrained by several factors. They include:

- Modest consumer spending growth relative to previous expansions,
- Cautious business investment,
- Demographic trends that have led to a decline in the labor-force participation rate, along with slower labor productivity growth, and
- Cutbacks in federal government purchases of goods and services to address budget shortfalls.

Figure 1-1. U.S. gross domestic product (chained 2009 dollars), quarterly percent change, seasonally adjusted annualized rate
United States, first-quarter 2007 through second-quarter 2013
Source: U.S. Bureau of Economic Analysis



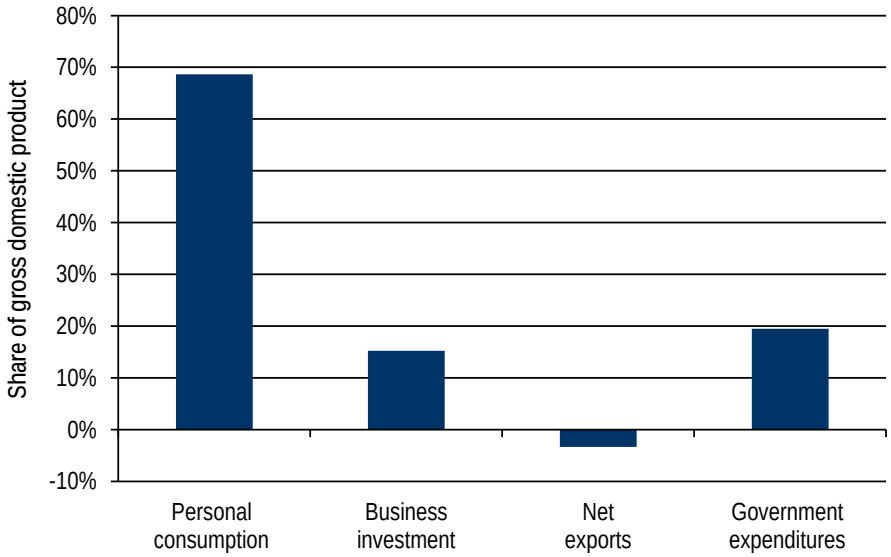
U.S. recessions are shaded in gray.

The U.S. economy has been growing at a slow pace since the recession officially ended in June 2009.

[1] National Bureau of Economic Research, Business Cycle Dating Committee

There are two primary ways to account for GDP. The income approach sums up the earnings the economy generates within a specific time period, while the expenditure approach adds up what has been spent. Both measures should arrive at the same total. The expenditure method is the more common approach and is calculated by adding total personal consumption spending by households, investment spending by businesses, government spending on projects and programs and spending by the international community on domestic products (*Figure 1-2*)

Figure 1-2. Expenditure components of gross domestic product, seasonally adjusted United States, 2012
Source: U.S. Bureau of Economic Analysis



Consumption expenditures account for the greatest share of GDP.

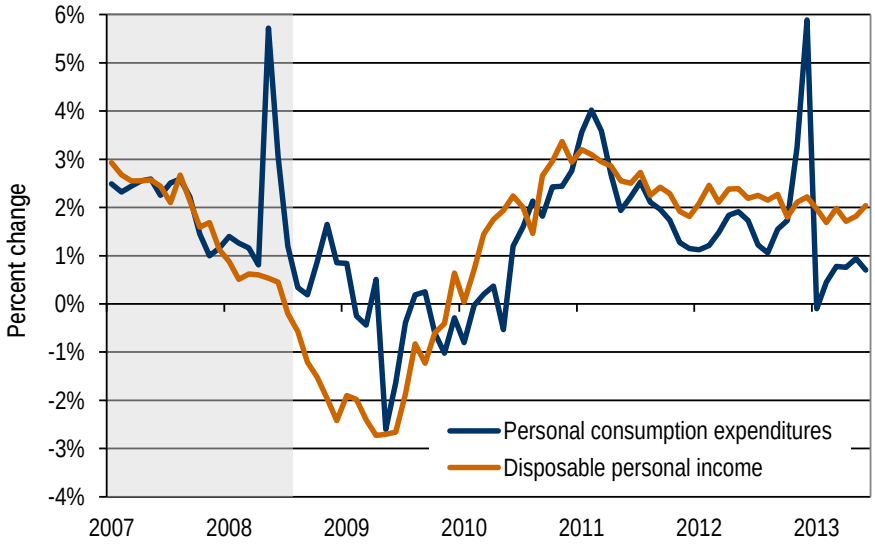
Consumer spending growth averaging 2 percent

Consumer spending makes the greatest dollar-wise contribution to GDP. As such, consumer spending (technically, personal consumption) has seen modest growth consistent with GDP. Inflation-adjusted consumption has grown at only 2.2 percent on average since the recession ended, down from the 3.0 percent pace preceding the recession. The main drivers of this slow growth have been the greater depth of job losses during this recession combined with tighter credit conditions and the erosion of household wealth.

Personal consumption over the first half of 2013 was weaker than that of a year earlier (*Figure 1-3*). Personal consumption averaged around 2.0 percent compared to an average of 2.4 percent in the first half of 2012. Two tax-policy changes made at the beginning of 2013 in the wake of the fiscal-cliff debates provide the most likely rationale for this weakened growth. The temporary 2 percent payroll tax cut expired at the beginning of January, and income taxes were raised for individuals making more than $400,000 and for joint filers earning more than $450,000.

Disposable-income growth surged by 9 percent in November and December 2012 combined, but grew by just 1.1 percent from January through March 2013, as individuals realized dividend and capital-gains income at the end of 2012 to avoid higher 2013 tax rates. Other than that, personal consumption growth has exceeded income growth since second-quarter 2011.

Figure 1-3. Percent change in inflation-adjusted disposable income and personal consumption expenditures, seasonally adjusted annualized rate
United States, January 2007 through June 2013
Source: U.S. Bureau of Economic Analysis

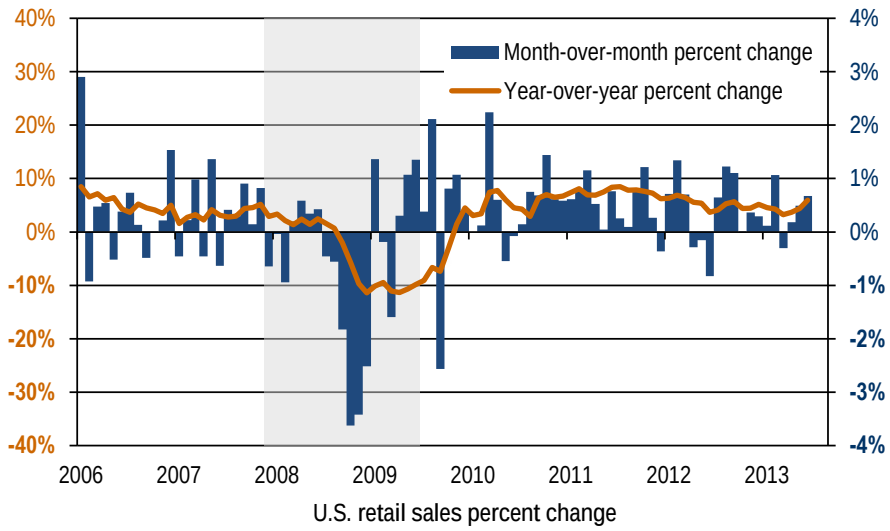


U.S. recessions are shaded in gray.

Growth in personal consumption has outpaced income gains.

Retail sales are a component of personal consumption expenditures and have similarly reached and held steady at pre-recession levels (*Figure 1-4*).

Figure 1-4. U.S. retail sales, month-over month and year-over-year percent change
United States, January 2006 through June 2013
Source: U.S. Census Bureau, Monthly and Annual Retail Trade Report



U.S. recessions are shaded in gray.

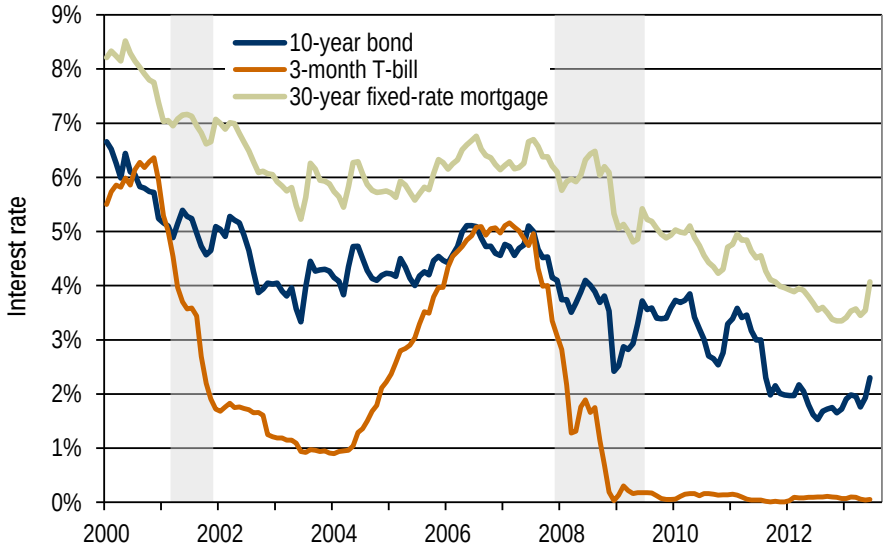
Increases in retail sales have been consistent with pre-recession levels.

Federal Reserve prolongs stimulus

The Federal Reserve Board (Fed) typically stimulates the economy by reducing short-term interest rates to encourage more lending and spending. Should this approach prove to not have the desired effect, the Fed has the latitude to turn to the less conventional tool of quantitative easing (QE). This approach allows the Fed to purchase financial assets such as long-term Treasury securities or mortgage-backed securities from commercial banks and other financial institutions. This pumps money into the U.S. economy and reduces long-term interest rates further. The Fed has turned to quantitative easing in the wake of the recent recession,[2] which seems to have had the desired effect on interest rates (*Figure 1-5*). Although longer-term interest rates increased recently, they have remained historically low overall.

[2] "Monetary Policy Report," Board of Governors of the Federal Reserve System, July 17, 2013: www.federalreserve.gov/monetarypolicy/files/20130717_mprfullreport.pdf.

Figure 1-5. Selected interest rates
United States, January 2000 through June 2013
Source: Federal Reserve Board



U.S. recessions are shaded in gray.

Federal Reserve Board policy measures seem to have sustained low interest rates.

Construction activity slowly responding to low interest rates

Business investment has gradually been regaining its footing. The level of inflation-adjusted total private fixed investment spending rose by 6.6 percent from second-quarter 2012 through second-quarter 2013.[3]

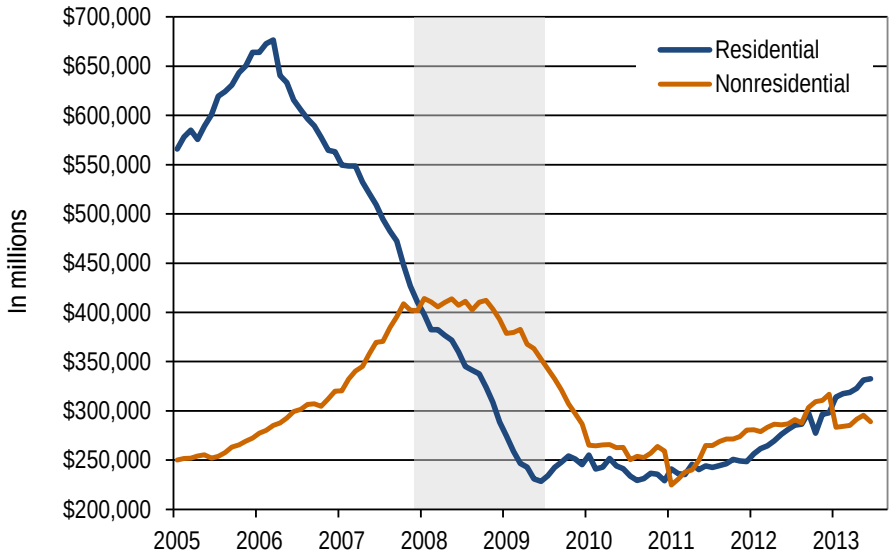
An important category of private fixed investment is the construction of new residential and nonresidential buildings. Construction is recovering, although slowly (*Figure 1-6*), bolstered by low interest rates.

Residential construction reached its pre-recession monthly peak in early 2006, when it added $676 billion to the economy. It reached a low in 2009, moved along the bottom through 2011, before slowly beginning to recover to roughly $335 billion in 2013. Most of the gains have come from apartment construction. Starts of single-family homes have taken longer to get back on track even though the availability of existing homes for sale remains low and the sale of new homes has been improving.

[3] Distribution of Gross Domestic Product Table F.6, Federal Reserve Statistical Release: www.federalreserve.gov/releases/z1/current/accessible/f6.htm.

Nonresidential construction makes up a significant portion of business investment and includes shopping centers, office buildings, hotels, medical facilities and buildings used for education. Nonresidential construction investment peaked during the recession but began declining before the recession ended. Many of these capital investment projects are longer term in nature, reflecting longer start-up horizons, financial feasibility studies and zoning approvals.

Figure 1-6. Value of private construction, millions of dollars, seasonally adjusted annualized rate
United States, January 2005 through June 2013
Source: U.S. Census Bureau, Construction Spending



U.S. recessions are shaded in gray.

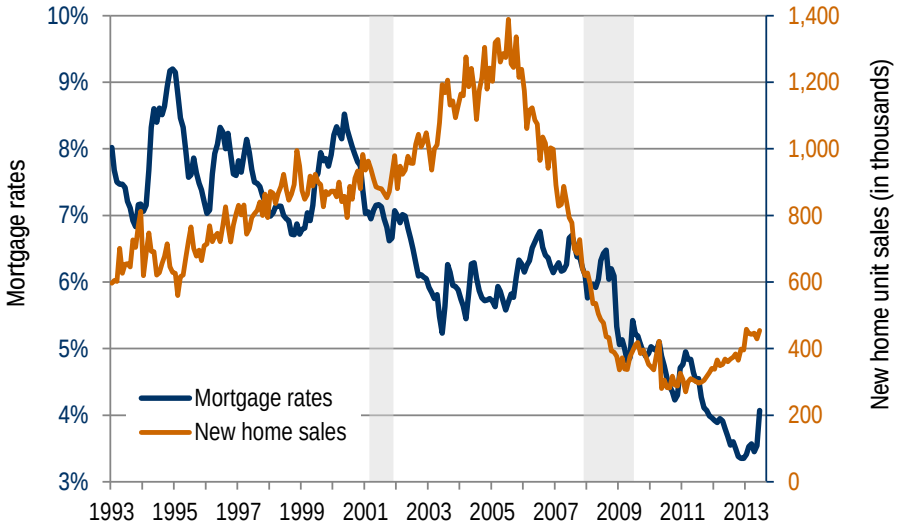
Construction activity has been slowly rebounding since the recession ended.

Housing recovery still on track despite short-term setback

Mortgage rates on housing moved lower as the housing market collapsed. The Federal Reserve Board's monetary policies drove them even lower. As economic conditions began improving, mortgage rates stayed low and lending conditions became less stringent,[4] the housing market began its long road back to recovery. New home sales improved as the number of foreclosed and lender-owned properties began to dwindle (*Figure1-7*).

However, recent developments in the mortgage markets have dampened the recovery. This was acknowledged by the Fed at its October 2013 meeting, when it noted that the recovery in the housing sector had slowed in recent months. Much of this was due to mortgage rates rising a full percentage point into the summer when markets speculated that the Fed would begin winding down its quantitative easing. Home sales pulled back somewhat abruptly (*Figure 1-7*), raising doubts about how many households were actually prepared to become homeowners.

Figure 1-7. Conventional 30-year mortgage rates and new home sales, thousands of units, seasonally adjusted annualized rate
United States, January 1993 through June 2013
Source: Federal Housing Finance Agency; U.S. Bureau of Economic Analysis, New Residential Sales



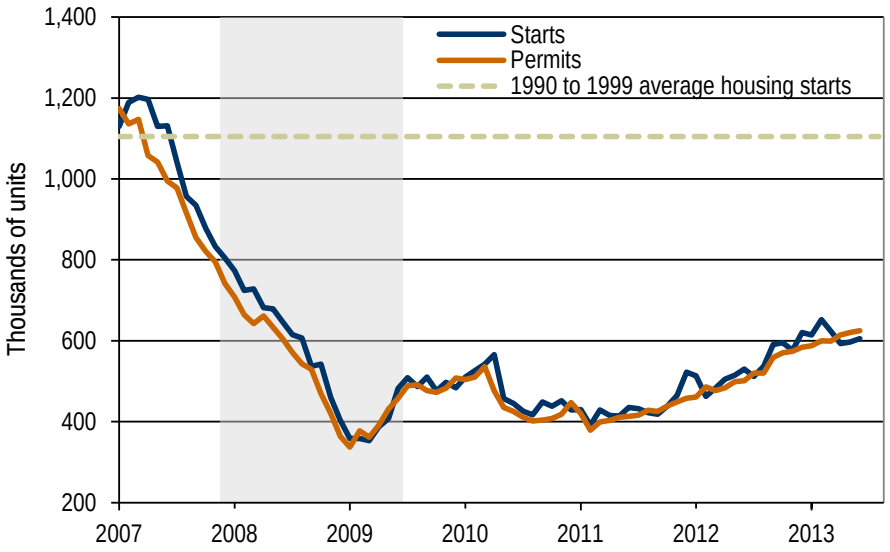
U.S. recessions are shaded in gray.

Sales of new homes have been improving but have been very sensitive to mortgage rates.

[4] The July 2013 Senior Loan Officer Opinion Survey on Bank Lending Practices, The Federal Reserve Board, July 2013: www.federalreserve.gov/boarddocs/snloansurvey/201308/default.htm.

Builder sentiment has risen in response to low interest rates and home price appreciation,[5] and this has been evidenced in an increasing number of housing permits and starts (*Figure 1-8*). The number of starts and permits began to increase in 2009, regressed slightly in 2011 but then rose above 2010 levels. Although a positive development, the level of housing starts has considerable room to improve just to reach the levels averaged during the 1990s.

Figure 1-8. Single-family housing starts and permits, thousands of units, seasonally adjusted annualized rate
United States, January 2007 through June 2013
Source: U.S. Census Bureau, Building Permits Survey and Survey of Construction



U.S. recessions are shaded in gray.

Home construction levels have been slowly improving during recovery.

[5] 2Q 2013, House Price Index, Federal Housing Finance Agency, August 22, 2013: www.fhfa.gov/webfiles/25483/2013Q2HPI82213Final.pdf.

Government (public sector) spending a weak spot in the economy

State and local governments were particularly hit hard by the recent recession. Due to the lag in tax collections, state tax receipts at first rose at the beginning of the recession, but began falling in fourth-quarter 2008. Sales taxes were the first to fall, but income taxes ultimately fell harder and faster. At their low points in second-quarter 2009, state tax receipts were 17 percent below their level one year earlier, while state personal income tax receipts were 27 percent lower. Federal stimulus, provided through the American Recovery and Reinvestment Act of 2009, offset at least some of those losses in the short term.[6]

State and local governments are generally expected to balance their budgets. To address the budget shortfalls, most state and local governments cut spending. The spending reductions, along with increased tax revenues from economic improvement in the private sector, have helped to improve state and local government finances. However, state and local governments continue to face short- and long-term fiscal challenges.[7]

Federal revenues also decreased as a result of the recession. Unlike states, the federal government has been able to borrow money to cover its proposed spending which resulted in increased federal deficits. Those deficits have begun to decrease, in part due to reduced federal spending.[8] Those reductions have included across-the-board federal spending cuts, also referred to as "sequestration," enacted in the federal Budget Control Act of 2011.

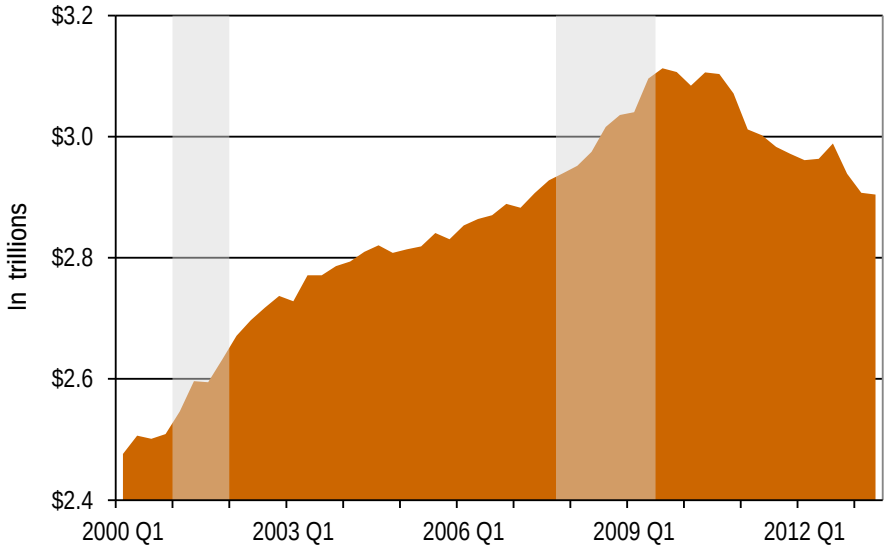
[7] "State and Local Budgets and the Great Recession," Gordon, Tracy, Brookings Institution, December 2012: www.brookings.edu/research/articles/2012/12/state-local-budgets-gordon.

[8] "State and Local Budgets and the Great Recession," Gordon, Tracy, Brookings Institution, December 2012; "State and Local Governments' Fiscal Outlook," U.S. Government Accountability Office, April 2013 Update: www.gao.gov/assets/660/654255.pdf.

[8] "Monthly Budget Review – Summary for Fiscal Year 2013," Congressional Budget Office, November 7, 2013: www.cbo.gov/sites/default/files/cbofiles/attachments/44716-%20MBR_FY2013_0.pdf.

After a post-recession peak, overall federal, state and local government spending has decreased (*Figure 1-9*).

Figure 1-9. Government purchases and gross investment, trillions of dollars adjusted for inflation, seasonally adjusted annualized rate
United States, first-quarter 2000 through second-quarter 2013
Source: U.S. Bureau of Economic Analysis, Government Current Receipts and Expenditures



U.S. recessions are shaded in gray.

After a post-recession peak, government spending has been on the decline.

Public-sector employment a weak spot in the national labor market

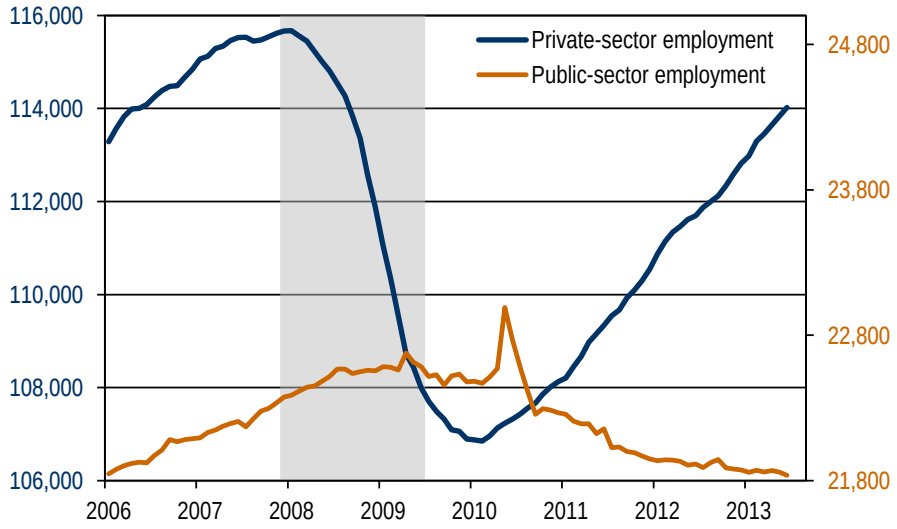
Two surveys are used by the U.S. Bureau of Labor Statistics (BLS) to measure national labor market trends. The establishment survey provides an estimate of the number of occupied jobs in the private and public sectors (federal, state and local government). The survey of households, which numbers roughly 50,000 to 55,000 households out of 115 million households in the country, is an estimate of the number of people either employed or unemployed but searching for a job.[9]

According to the establishment survey, total nonfarm employment reached 135.9 million in June 2013, up by 1.7 percent from June 2012. Total nonfarm employment peaked in January 2008 at 138.1 million so June 2013 employment is 1.6 percent below the peak.

[9] The estimate of the number of households in the United States comes from the quarterly Homeownership and Vacancy report published by the U.S. Census Bureau.

Figure 1-10 shows divergent trends in employment in the private and public sectors. While employment within the public sector has been languishing, private-sector employment has been steadily improving. Employment in the private sector bottomed in February 2010. Since then, employment has increased for 40 consecutive months through June 2013. Relative to the trough, the private sector has gained back 81 percent of the 8.8 million occupied jobs lost during the recession. In the public sector, improving state and local government payrolls have helped offset losses in federal employment, reducing the overall decline in government employment.

Figure 1-10. Total private and public nonfarm employment, in thousands, seasonally adjusted
United States, January 2006 through June 2013
Source: U.S. Bureau of Labor Statistics, Current Employment Statistics



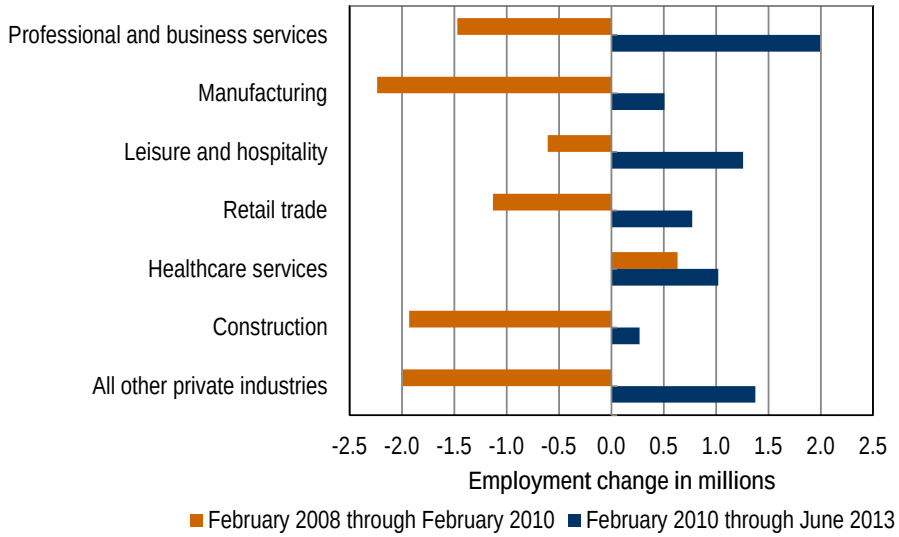
U.S. recessions are shaded in gray.

Private-sector employment has been recovering, but public-sector employment has declined back to pre-recession levels.

Figure 1-11 shows how employment by industries fared during the recession and the post-recession recovery period. Total nonfarm employment began declining from its peak in February 2008 and reached its trough in February 2010. Several key points should be made:

- Professional and business services and leisure and hospitality employment gains have exceeded the losses during the recession,
- Healthcare services employment did not fall during the recession and
- Construction and manufacturing employment have been slow to recover.

Figure 1-11. Change in private-sector employment by industry, in millions
United States, February 2008 through June 2013
Source: U.S. Bureau of Labor Statistics, Current Employment Statistics

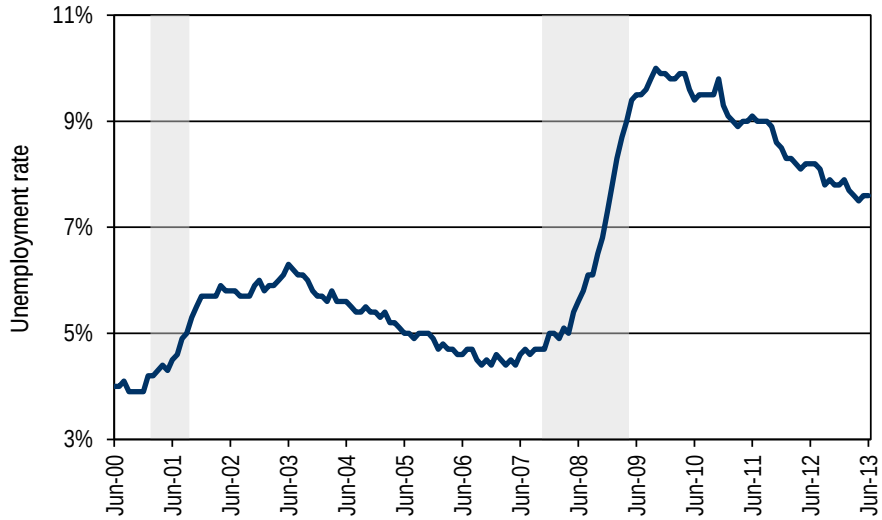


Private-sector employment has been bouncing back in services industries, but goods-producing industries (i.e., manufacturing, construction) have lagged behind.

Downward trend for unemployment rate

The unemployment rate is based on the national household survey and is perhaps the most widely used measure of the labor market. As of June 2013, the unemployment rate was 7.6 percent, down from 8.2 percent in June 2012 and down from the recession peak of 10 percent in October 2009 (*Figure 1-12*). This drop in the unemployment rate has been consistent with past recoveries, including that following the 2001 recession.

Figure 1-12. Monthly unemployment rate, seasonally adjusted
United States, June 2000 through June 2013
Source: U.S. Bureau of Labor Statistics, Local Area Unemployment Statistics



U.S. recessions are shaded in gray.

The decline in the unemployment rate during the recovery has been consistent with the last recovery period.

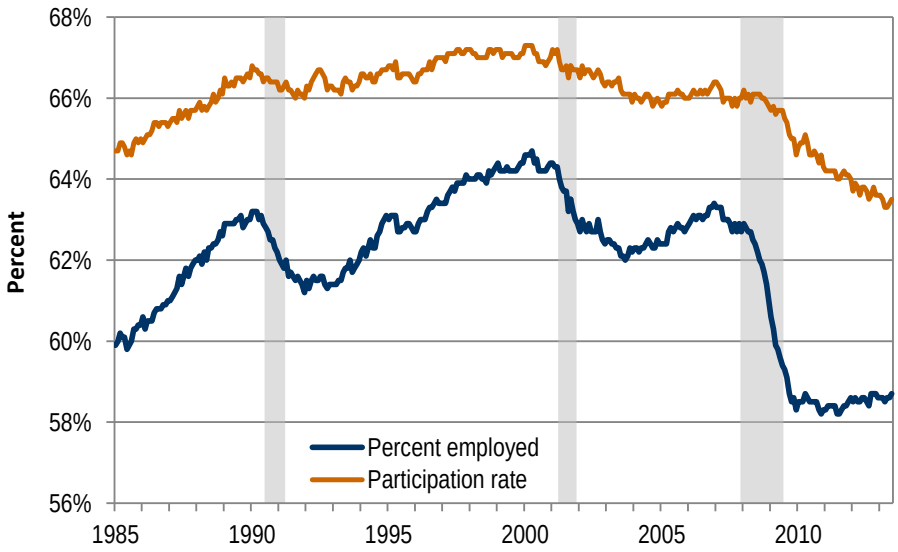
Typically, a drop in the unemployment rate occurs because of an increase in hiring. However, the recent slide in the unemployment rate seems to reflect other factors beyond the strength of the economy. Hiring has been slow and the rate of job creation, roughly 2 percent annually, correlates closely with the rate of economic growth during the recovery. Yet the unemployment rate looks to have experienced a faster rate of decline than what might be expected given the circumstances.

Slower hiring conditions discourage workers from entering or staying in the labor force. This is reflected in the labor force participation rate. During past recoveries, the unemployment rate, employment and labor force participation rate were consistent. A drop in the unemployment rate matched an increase in the overall employment and labor-force participation trend. In this recovery, however, these three have not been consistent.

Figure 1-13 shows the recent downward trend in the labor-force participation rate along with a similar, although greater, decline in a related measure: the employment-to-population ratio, shown as percent employed. The labor-force participation rate measures the number of people in the workforce – employed or seeking work – relative to the total number of working age people in the population. The employment-to-population ratio measures the number of people employed relative to the total number of working age people in the population.

The gap between the two measures widened following the recent recession as a larger percent of the working-age population became unemployed. The increase in the gap corresponds closely with the recession, suggesting that at least part of the reason is attributable to cyclical unemployment. As the economy has gradually improved, the gap has modestly narrowed. Demographic factors, including retiring baby boomers, have also likely contributed to the labor-force participation and employment decrease, but it is difficult to determine what proportion of the retirements were voluntary or were prompted by diminished hiring prospects.

Figure 1-13. Labor force participation rate and employment-to-population ratio, seasonally adjusted annualized rate
United States, January 1985 through June 2013
Source: U.S. Bureau of Labor Statistics, Current Population Survey



U.S. recessions are shaded in gray.

Even as employment rates are gradually increasing, more people are electing to leave or stay out of the labor force.

Chapter 2: Washington's economy and labor market

Economic events that affect and shape the national economy have very similar effects on state economies. States are connected economically through the free flow of commerce across state lines and through the mobility of labor. Consequently, national recessions and recoveries are typically experienced by all states, though the degree to which they are felt might differ between states.

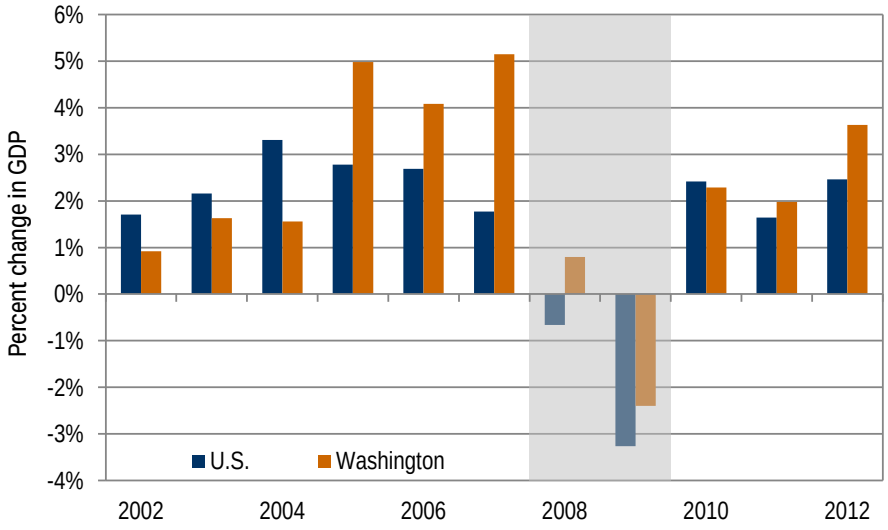
Washington's level of economic activity can be measured by the value of the goods and services it produces at some point in time. This measure of the economic output of the state, formerly known as gross state product and now known as state gross domestic product (GDP), is the sum of all value added by industries within the state. It is the counterpart to the nation's GDP.

The U.S. Bureau of Economic Analysis computes state GDP annually. Changes in state GDP can be used as a measure of state economic growth, much as changes in national GDP are used to measure national economic growth.

Washington state's economy, in terms of GDP, ranked 14th among all U.S. states and territories in 2012. Its GDP expanded by 3.6 percent in 2012 (*Figure 2-1*), which outpaced the 2.5 percent growth achieved by the nation. The state underwent the same downturn that occurred at the national level, although it was less pronounced. Washington's rate of economic growth, as measured by the change in state GDP, held up well as the nation's GDP began to decline heading into the recession.

Washington's GDP followed the U.S GDP into decline in 2009 before moving back into positive territory in 2010 along with the national GDP. Washington's economy has outperformed the national economy the last two years.

Figure 2-1. U.S. and Washington state gross domestic product, (chained 2009 dollars), annual percent change, seasonally adjusted annualized rate
United States and Washington state, 2002 through 2012
Source: U.S. Bureau of Economic Analysis



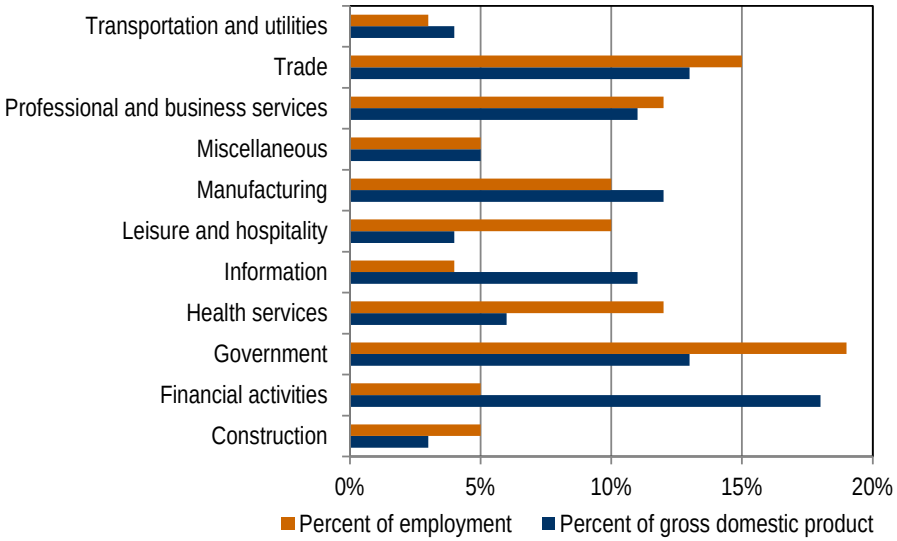
U.S. recessions are shaded in gray.

Washington's economy has grown faster than the national average the past two years.

Figure 2-2 shows the contributions each major industry made to state GDP and total nonfarm employment, respectively, in 2012.[10]

In the private sector, financial activities made up the greatest portion of the state's GDP, followed by trade and manufacturing. Government made up the greatest portion of employment, but includes all of the public sector – that is, all federal, state and local government establishments that provide services to the general public (e.g., federal and state hospitals, federal and state agencies, and state and local schools). Both the financial and information industries employed a relatively small proportion of workers relative to their contributions to state GDP. Since an industry's contribution to state GDP includes their employees' wages and salaries, these sectors tend to consist of higher-wage occupations than other industries.

Figure 2-2. Percent of nonfarm employment and state gross domestic product by industry
Washington state, 2012
Source: Employment Security Department/LMPA; U.S. Bureau of Labor Statistics, Current Employment Statistics; U.S. Bureau of Economic Analysis



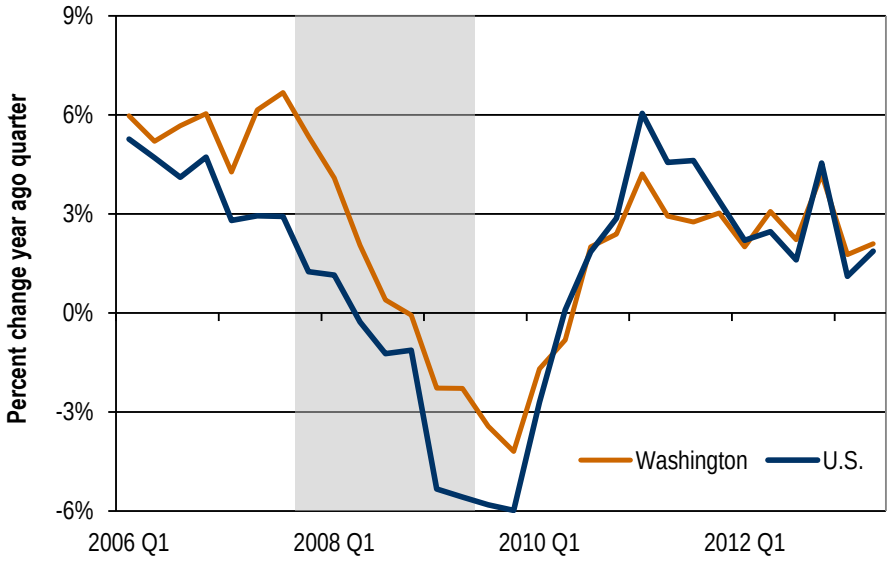
Financial activities represented the largest share of state GDP, but a much smaller share of employment, in 2012.

[10]"In *Figure 2-2*, trade combines wholesale and retail trade. Miscellaneous consists of the remaining industries, including private educational services, mining and logging, and the industry group known as "other services."

Personal income is gradually increasing

Personal income in Washington state increased during the recovery as economic activity and employment increased. Income growth in Washington overtook national income growth starting in 2012 (*Figure 2-3*). Personal income in Washington state rose by 2.1 percent from second-quarter 2012 to second-quarter 2013 compared to 1.9 percent nationally, adjusted for inflation.

Figure 2-3. Personal income, adjusted for inflation, percent change year ago quarter
United States and Washington state, first-quarter 2006 through second-quarter 2013
Source: U.S. Bureau of Economic Analysis, State Personal Income



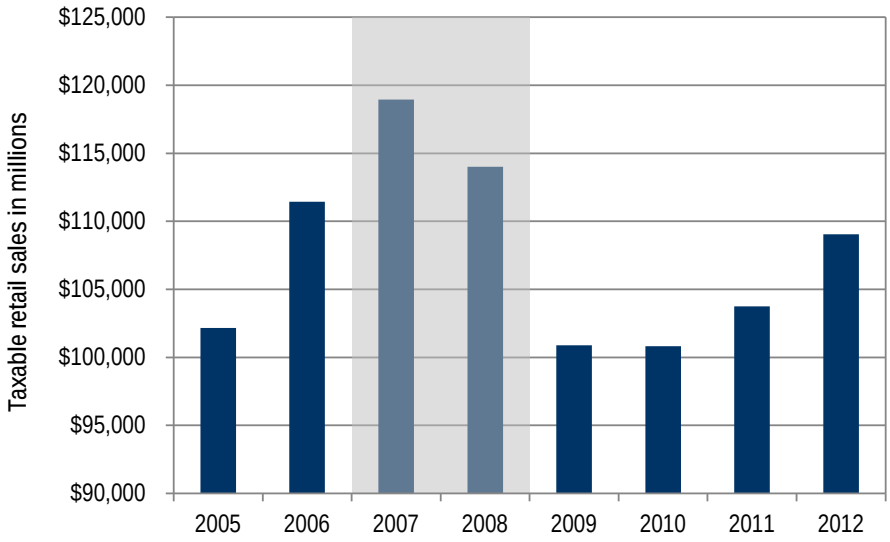
U.S. recessions are shaded in gray.

Washington's income growth surpassed the nation in 2012.

Income growth supported greater spending

Local consumer spending patterns are reflected in taxable retail sales. *Figure 2-4* shows how taxable sales were affected by the recession and the extent to which they are recovering after the recession. Annual sales receipts peaked in 2007 at about $119 billion right before the recession settled in. Their levels declined during the recession by roughly 15 percent from 2009 through 2010 before increasing in 2011 and 2012. Sales volume in 2012 was roughly 8 percent off its peak in 2007.

Figure 2-4. Annual taxable retail sales, millions of dollars
Washington state, 2005 through 2012
Source: Washington State Department of Revenue



U.S. recessions are shaded in gray.

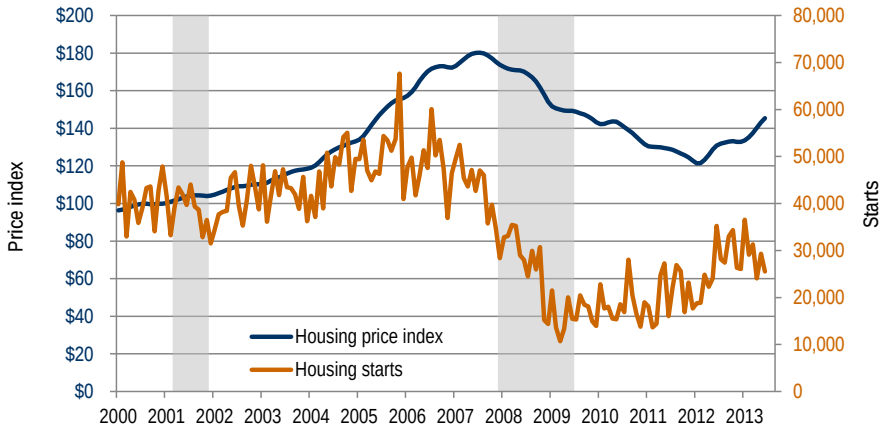
Retail sales grew again in both 2011 and 2012..

Washington housing market following national trend

Low interest rates, population growth and improving employment conditions are helping to revive household formation. Household formation is the creation of a new household, which is simply defined as a group of individuals who live together, regardless of family structure. Household formation suggests more people getting jobs and getting apartments or perhaps getting married or having children, which then compels them to leave their shared housing arrangements.

The recent increase in mortgage rates took some momentum away from the housing rebound in Washington state, although home prices continued to rebound solidly (*Figure 2-5*). Rising home prices are an important factor for sustaining the housing recovery. They serve as an indication that excess inventories are being sold, which then also bolsters the purchasing confidence of potential homebuyers.

Figure 2-5. Housing price index and housing starts, seasonally adjusted, December 2000 = 100
Washington state, January 2000 through June 2013
Source: Federal Home Loan Mortgage Corporation

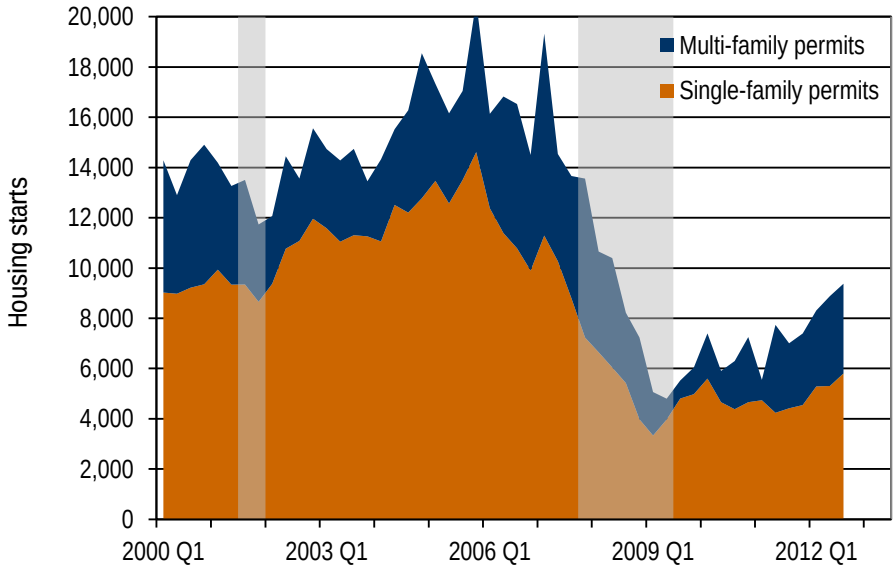


U.S. recessions are shaded in gray.

Housing prices have begun to rise and home building activity has started to follow.

Most residential activity has been aimed at construction of single-family units compared with multi-family residences (*Figure 2-6*). However, there has been a greater rebound in multi-family unit construction, including apartments and condominiums, after the recession. Some of the reasons for the shift toward apartment residency can be attributed to sluggish household formation and a lackluster job market, particularly among young adults. More young adults lived at home with an older family member during the recession, resulting in pent-up demand for apartment space.[11] Apartment construction has been particularly strong within the Seattle-Bellevue-Tacoma area, where multi-family permits were up 87 percent from 2011 to 2012.

Figure 2-6. Residential building permits by type of unit, seasonally adjusted annualized rate
Washington state, first-quarter 2000 through second-quarter 2013
Source: U.S. Census Bureau, Building Permits Survey



U.S. recessions are shaded in gray.

Demand for multi-family units has increased, but single-family units remained most often built.

[11] See www.pewsocialtrends.org/2009/11/24/home-for-the-holidays-and-every-other-day/

International trade, an important part of the state economy

Washington was the fourth-largest exporting state in the country in 2012 and maintained a positive trade balance, with the value of exports exceeding imports.[12] Aerospace, particularly commercial aircraft, made up the dominant share of the state's exports (*Figure 2-7*). Agricultural commodities collectively comprised the next largest share of the state's exports, accounting for roughly 17.6 percent of total exports.

Figure 2-7. Top 10 export commodities
Washington state, 2012
Source: U.S. Census Bureau, State Trade Data

Commodity	Millions of dollars 2012	Percent share of state exports 2012
Civilian aircraft, engines and parts	$36,724	48.6%
Soybeans, not either specified or included	$5,478	7.2%
Wheat (other than durum wheat) and meslin	$2,821	3.4%
Oil (not crude) from petrol and bitum mineral	$2,300	3.0%
Corn (maize) other than seed corn	$1,649	2.2%
Light oils and prep (not crude) from petroleum and bitum	$1,213	1.3%
Apples, fresh	$825	1.1%
Potatoes, prepared etc., no vinegar, frozen	$752	1.0%
Coniferous wood in the rough, not treated	$732	1.0%
Ultrasonic scanning apparatus	$663	0.9%

Aerospace has dominated Washington's export market.

China largest destination for Washington state exports

The dollar value of exports from Washington has risen each year since 2009. From 2011 to 2012, they rose by 17 percent. Washington's geographic orientation toward the Asian Pacific Rim, along with its coastal ports, provides a strong basis for international trade. The two largest economies in that area are China and Japan and together they account for more than 30 percent of Washington's export market (*Figure 2-8*).

[12] United States Census Bureau, State Trade Data.

Figure 2-8. Top 10 destination countries for Washington state exports, based on 2012 ranking
Washington state, 2009 through 2012
Source: U.S. Census Bureau, State Trade Data

	Millions of dollars					
Country	2009	2010	2011	2012	Percent share 2012	Percent change 2011 to 2012
China	$9,113	$10,305	$11,236	$14,156	18.7%	26%
Japan	$5,573	$6,135	$6,467	$9,025	11.9%	40%
Canada	$6,792	$6,983	$8,551	$8,382	11.1%	-2%
United Arab Emirates	$2,893	$962	$2,753	$5,059	6.7%	84%
South Korea	$2,039	$2,695	$3,261	$3,384	4.5%	4%
Mexico	$1,062	$990	$1,372	$2,864	3.8%	109%
Hong Kong	$1,741	$1,041	$2,079	$2,152	2.8%	4%
Germany	$1,437	$1,660	$1,415	$1,876	2.5%	33%
Australia	$983	$940	$1,719	$1,698	2.2%	-1%
United Kingdom	$1,436	$1,253	$2,017	$1,610	2.1%	-20%

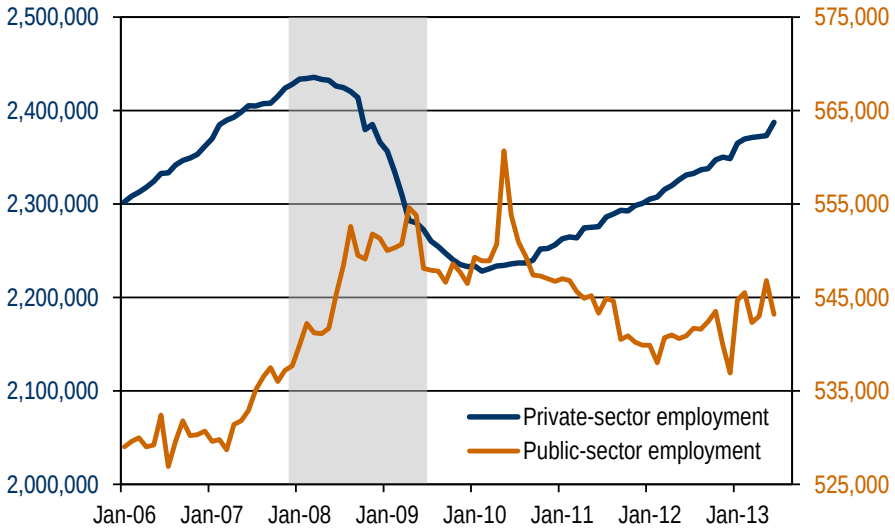
China has consistently been the top trade destination for Washington exports.

Public sector a weak spot in the Washington state labor market

Washington's employment trends during the recession and recent recovery have been similar to what has been taking place at the national level (*Figure 1-10*). *Figure 2-9* shows the split between a re-energizing private sector and a public sector just starting to regain its footing. Employment in the private sector has been on an upward path since reaching its trough in February 2010. Private-sector employment grew by 2.4 percent from June 2012 to June 2013. This outpaced the national rate, which expanded by 2.1 percent over the same period.

Public-sector employment peaked in 2010. State and local revenues often decline in an economic downturn, leading to potential employment loss. Federal grants may help to offset these losses and, in this past recession, the American Recovery and Reinvestment Act of 2009 (also known as "the stimulus") directed unprecedented fiscal relief to states and localities. The stimulus helped to provide additional payments for highways and other infrastructure as well as education and unemployment benefits.[13] Once the stimulus funds were spent, employment losses accumulated. State tax collections have recently increased as private-sector employment conditions and spending patterns improved. This enabled state and local governments to increase public employment since June 2012, but by less than 1 percent.

Figure 2-9. Total private- and public-sector nonfarm employment, seasonally adjusted
Washington state, January 2006 through June 2013
Source: Employment Security Department/LMPA; U.S. Bureau of Labor Statistics, Current Employment Statistics



U.S. recessions are shaded in gray.

The employment recovery has been more prevalent in the private sector.

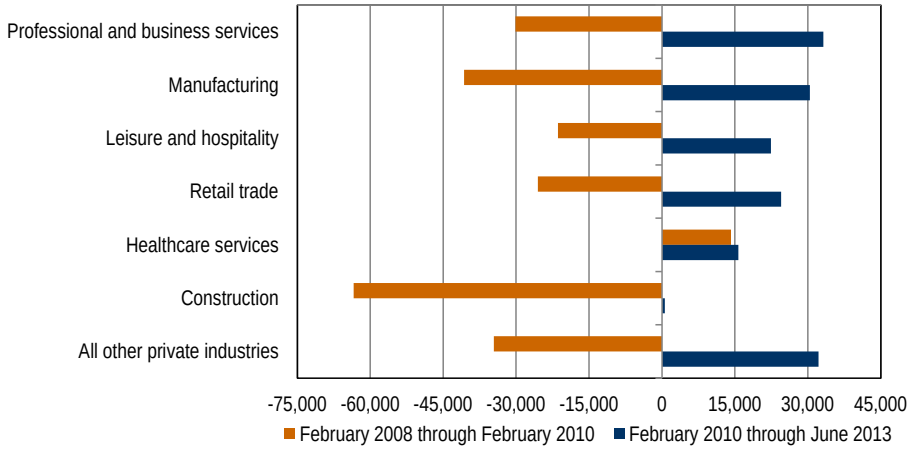
[13] "State and Local Budgets and the Great Recession," Gordon, Tracy, Brookings Institution, December 2012: www.brookings.edu/research/articles/2012/12/state-local-budgets-gordon.

The data in *Figure 2-10* depict the extent of recovery in employment by industry since reaching a trough during the recession. In total, private-sector employment has recovered by 84 percent through June 2013. There are three similarities to what has taken place nationally.

- Professional and business services employment gains have exceeded losses during the recession,
- Healthcare services employment did not fall during the recession and made greater gains during the recovery, and
- Construction employment gains have been modest.

However, there is one key difference – led by aerospace, manufacturing employment in Washington has regained 75 percent of the jobs lost during the recession compared to 23 percent nationally.

Figure 2-10. Change in private-sector employment by industry
Washington state, February 2008 through June 2013
Source: U.S. Bureau of Labor Statistics, Current Employment Statistics



Private-sector employment has been bouncing back with the exception of construction employment.

Seattle area has experienced strongest employment recovery

Figures 2-11 and 2-12 illustrate the extent to which the Seattle-Bellevue-Everett Metropolitan Division (King and Snohomish counties) has served as the economic center for job creation during the recovery period. This Metropolitan Division lost a greater number of jobs during the recession than the rest of the state as a whole. Since February 2010, however, nonfarm employment in the Seattle-Bellevue-Everett Metropolitan Division grew by 103,300 through June 2013. This signified an 85 percent recovery in employment since February 2010, compared

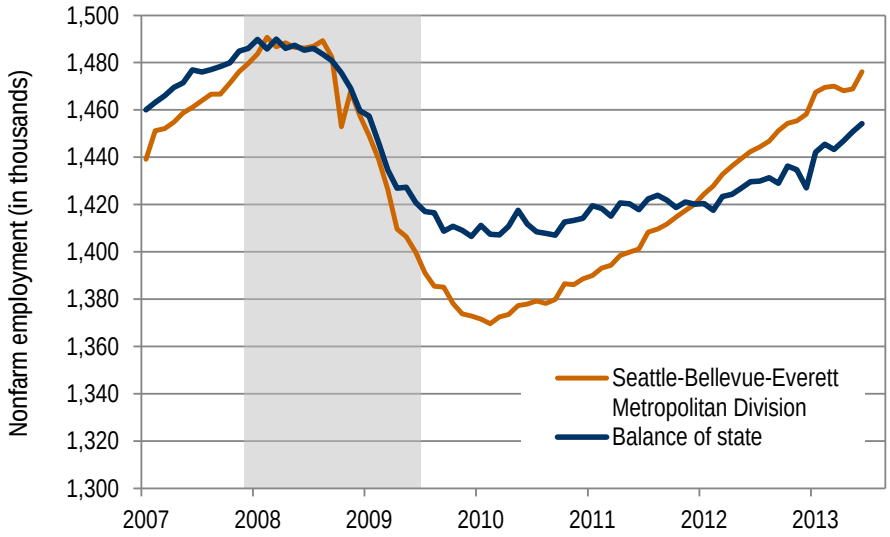
with 60 percent in the rest of the state. A key driver behind the growth has been the aerospace industry, which has increased employment by 15,400 to offset the loss of 4,400 jobs lost during the recession.

Figure 2-11. Total nonfarm employment change through recession and recovery, seasonally adjusted
Washington state, Seattle-Bellevue-Everett Metropolitan Division and balance of state, February 2008 through June 2013
Source: Employment Security Department/LMPA; U.S. Bureau of Labor Statistics, Current Employment Statistics

Area	Employment change February 2008 through February 2010	Employment change February 2010 through June 2013	Percent recovery in jobs lost
Seattle-Bellevue-Everett Metropolitan Division	-121,100	103,300	85%
Balance of state	-78,300	47,700	61%
Total for state	**-199,400**	151,000	76%

The Seattle-Bellevue-Everett Metropolitan Division has led in jobs recovery.

Figure 2-12. Monthly total nonfarm employment, in thousands, seasonally adjusted
Seattle-Bellevue-Everett Metropolitan Division and balance of state, January 2007 through June 2013
Source: Employment Security Department/LMPA; U.S. Bureau of Labor Statistics, Current Employment Statistics



U.S. recessions are shaded in gray.

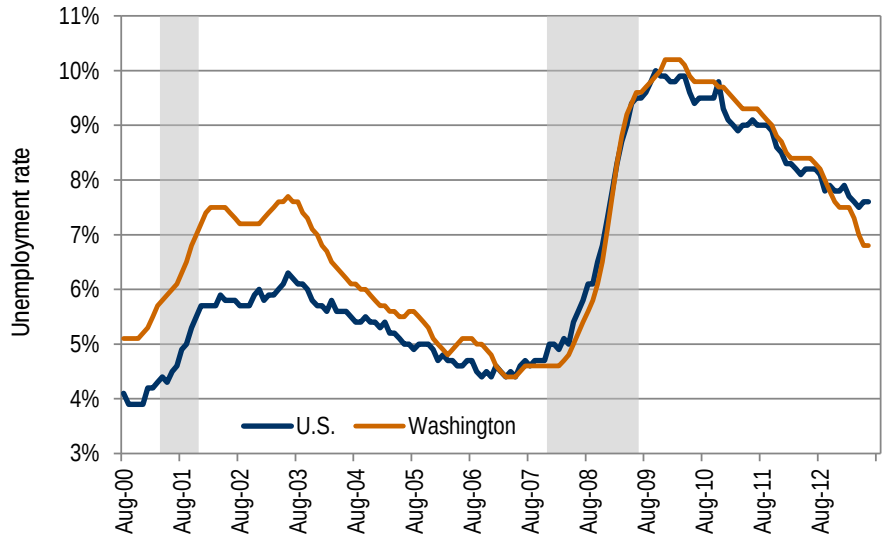
The state has continued to recover, with the Seattle-Bellevue-Everett Metropolitan Division area leading the way.

Washington state and U.S. unemployment rates converged

Historically, Washington state's unemployment rate has typically been higher than the national unemployment rate (*Figure 2-13*). As the nation and state began to enter the most recent recession, the two unemployment rates began to converge and have moved closely together until recent months. The two rates are still close together, with Washington having a lower unemployment rate in June 2013 at 6.8 percent while the U.S. unemployment rate was at 7.6 percent.

The gap between the two unemployment rates began to close right before the recession, when Washington state's level of economic activity, as evidenced by its GDP growth, began to escalate relative to national GDP. This trend has largely continued through 2012 which has served to push Washington's unemployment rate below the national unemployment rate.

Figure 2-13. Monthly seasonally adjusted annualized unemployment rates
United States and Washington state, August 2000 through June 2013
Source: Employment Security Department/LMPA; U.S. Bureau of Labor Statistics, Local Area Unemployment Statistics



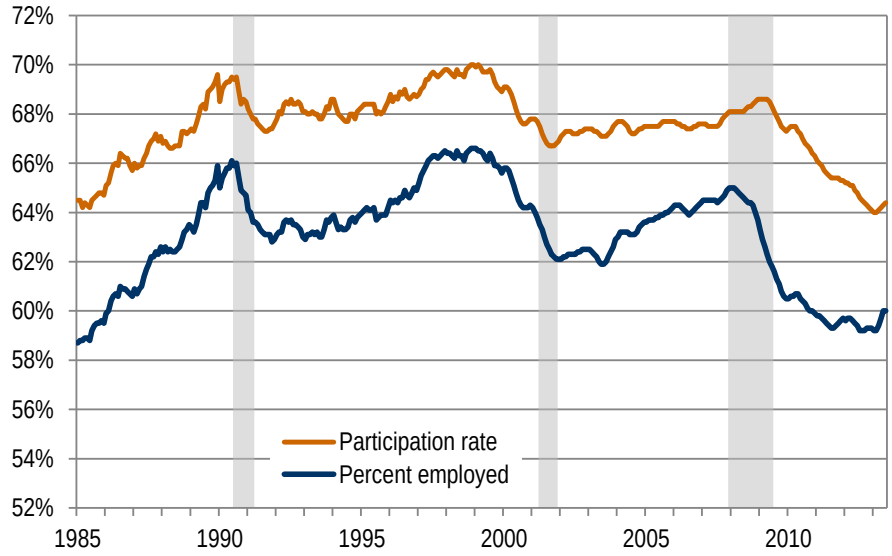
U.S. recessions are shaded in gray.

The Washington state unemployment rate has tracked closely with the national rate since the recession began.

Washington's employment growth during the recovery has been only marginally better than the U.S. rate of growth over the same period. Consequently, the drop in the unemployment rate for Washington does not seem to match up with the rate of jobs gained, suggesting there must be something more to consider with respect to the labor force – those who are employed and those who are unemployed but seeking work.

Washington's labor-force participation rate and employment-to-population ratio have declined in a manner similar to the U.S. as a whole. This decline (*Figure 2-14*) has been exacerbated by the recession and has continued during the recovery. Fewer people in the labor force, even when the demographics of the baby boomers are factored in, means there are fewer job seekers competing for available jobs. With less job competition, a greater number of those seeking work become employed; lowering the unemployment rate and making the job market seem more appealing than it really is. This stands in contrast to a genuinely improving job market when the number of available jobs increase, signaling to job seekers to enter or re-enter the labor force, which in turn increases its size.

Figure 2-14. Labor force participation rate and employment-to-population ratio, seasonally adjusted annual rate
Washington state, January 1985 through June 2013
Source: Employment Security Department/LMPA; U.S. Bureau of Labor Statistics, Local Area Unemployment Statistics



U.S. recessions are shaded in gray.

The labor force participation rate and the percent of the population employed have declined during the recovery.

Chapter 3: Seasonal, structural and cyclical industry employment

The purpose of this chapter is to identify the prevailing factors in employment trends for different industries. The results are important for both a better understanding of the current employment trends and for practical applications related to job placement, unemployment insurance and training programs. For instance, for industries with a high level of seasonality, significant variation in employment could be expected during the year and short-term high job demand would follow employment declines. For industries with high cyclical variation, periods of employment booms could be followed by periods of decline and training programs should be developed in anticipation of such variations.

Based on historical employment data from January 1990 through December 2012, industries were categorized by the following:[14]

1. Seasonal: regular and predictable employment changes that recur each calendar year, caused by seasonal factors which can include natural factors (changes in weather), administrative measures (starting and ending of the school year) and social, cultural or religious traditions (fixed holidays such as New Year's Day).
2. Cyclical: employment changes attributed to the business cycle in general, or specific events such as the housing bubble bursting in 2007.
3. Trend: shifts in long-term employment growth trends driven by fundamental structural change and productivity trends in industries, rather than the cyclical fluctuations in employment. Structural changes in employment can be initiated by productivity improvement, policy changes or permanent changes in resources, technology or society. Technological innovation has introduced entirely new industries and caused other industries to decline. It also has reshaped the entire labor market through increased efficiencies, such as automated manufacturing, data collection and analysis and communications.
4. Irregular: employment changes driven by one-time events, such as a labor strike or destructive weather.

[14] Historical data for employment covered by the unemployment-insurance system was categorized by NAICS (North American Industrial Classification System) code, at the 3-digit code level with some 4-digit level detail (aerospace product and parts manufacturing, ship and boat building, software publishers and wired and wireless telecommunications carriers). Private- and public-education services employment data were combined under the education and health services industry category. Private- and public-employment data were also combined under the postal services and boat-building industries. The remainder of public-sector employment was aggregated and categorized by ownership (federal, state and local government). Three industries were excluded from the analysis due to data limitations and/or significant code changes: oil and gas extraction, rail transportation, and internet publishing and broadcasting. Altogether, the historical time series data included 97 industries and one series for total employment.

Seasonal industries

Based on the analysis of 97 industries in Washington state, there were 15 industries with high levels of seasonality, with a seasonal factor over 4 percent, with crop production, scenic and sightseeing transportation, and support activities for agriculture and forestry being the most seasonal industries in Washington state (*Figure 3-1*).

Figure 3-1. Industries with high levels of seasonality
Washington state, 1990 through 2012
Source: Employment Security Department/LMPA; U.S. Bureau of Labor Statistics, Quarterly Census of Employment and Wages

NAICS	Industry	Seasonal factor
111	Crop production	34.2%
487	Scenic and sightseeing transportation	15.7%
115	Support activities for agriculture and forestry	14.5%
237	Heavy and civil engineering construction	9.0%
711	Performing arts, spectator sports and related industries	8.7%
114	Fishing, hunting and trapping	8.1%
213	Support activities for mining	8.1%
721	Accommodation	5.8%
311	Food manufacturing	4.9%
611	Educational services	4.9%
448	Clothing and clothing accessories stores	4.6%
713	Amusement, gambling and recreation industries	4.5%
512	Motion picture and sound recording industries	4.5%
312	Beverage and tobacco product manufacturing	4.4%
492	Couriers and messengers	4.1%

Crop production, scenic and sightseeing transportation, and support activities for agriculture and forestry have been the industries with the highest degree of seasonality in Washington state.

Structural and cyclical industries

There were 21 industries where the structural (trend) component accounted for at least 50 percent of the change in employment (*Figure 3-2*). Software publishers, ambulatory healthcare services, and the "wholesale electronic markets and agents and brokers" industry were the most highly influenced.

Figure 3-2. Industries most influenced by structural factors
Washington state, 1990 through 2012
Source: Employment Security Department/LMPA; U.S. Bureau of Labor Statistics, Quarterly Census of Employment and Wages

NAICS	Industry	Structural factor
5112	Software publishers	68.5%
621	Ambulatory health care services	63.3%
425	Wholesale electronic markets and agents and brokers	60.4%
622	Hospitals	57.4%
453	Miscellaneous store retailers	57.2%
532	Rental and leasing services	56.4%
903	Local government (other)	56.2%
624	Social assistance	55.3%
611	Educational services	54.7%
238	Specialty trade contractors	54.6%
423	Merchant wholesalers, durable goods	54.1%
454	Nonstore retailers	53.6%
323	Printing and related support activities	53.3%
541	Professional, scientific and technical services	52.8%
623	Nursing and residential care facilities	52.2%
812	Personal and laundry services	52.1%
236	Construction of buildings	51.7%
722	Food services and drinking places	51.5%
814	Private households	51.0%
511*	Other publishers	50.4%
561	Administrative and support services	50.3%

*Includes publishing industries (except internet) without software publishers.

These Washington industries have been most influenced by structural factors such as technology changes, policy changes and changing demographics.

For 17 industries the cyclical component accounted for at least 70 percent of the change in employment (*Figure 3-3*). Scenic and sightseeing transportation, support activities for mining and crop production were the most highly influenced.

Figure 3-3. Industries most influenced by cyclical factors
Washington state, 1990 through 2012
Source: Employment Security Department/LMPA; U.S. Bureau of Labor Statistics, Quarterly Census of Employment and Wages

NAICS	Industry	Cyclical factor
487	Scenic and sightseeing transportation	83.4%
213	Support activities for mining	82.6%
111	Crop production	80.0%
112	Animal production	77.9%
483	Water transportation	76.2%
316	Leather and allied product manufacturing	75.8%
486	Pipeline transportation	74.7%
324	Petroleum and coal products manufacturing	74.2%
711	Performing arts, spectator sports and related industries	74.2%
446	Health and personal care stores	73.0%
221	Utilities	72.2%
512	Motion picture and sound recording industries	71.5%
114	Fishing, hunting and trapping	71.4%
901	Federal government (other)	71.2%
515	Broadcasting (except internet)	70.3%
313	Textile mills	70.2%
115	Support activities for agriculture and forestry	70.1%

These Washington industries have been most sensitive to cyclical movements and have exhibited shifts of relatively rapid employment growth and decline.

See *Appendix 2* for a description of the statistical methodology used to categorize and measure the major factors behind employment change by industries and *Appendix figure A2-1* with the full results of these analyses.

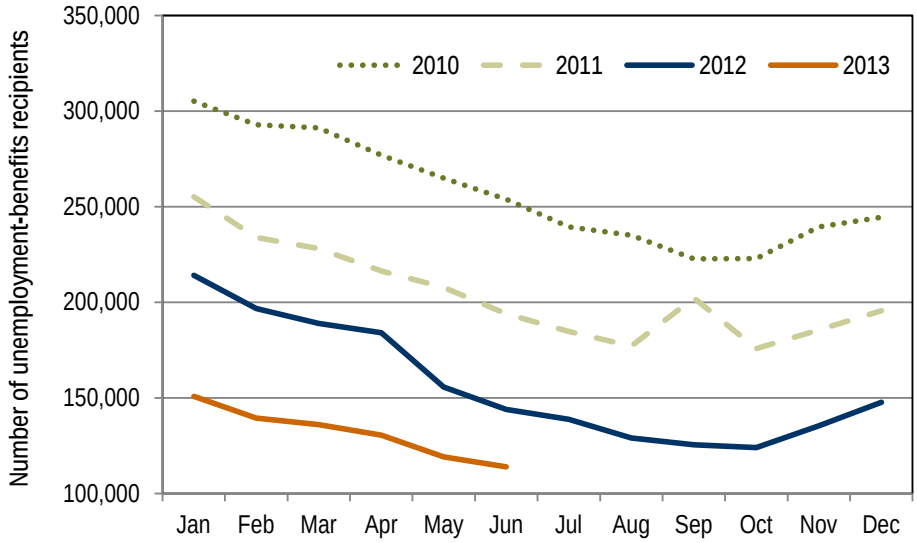
Chapter 4: Unemployment

This chapter discusses three important aspects of Washington's labor market: unemployment benefits, the unemployment rate and mass layoffs.

Unemployment benefits

In June 2013, more than 113,000 people received unemployment benefits. *Figure 4-1* shows that the number of beneficiaries in June 2013 decreased by more than 67 percent from the peak of more than 300,000 in January 2010. The drop in beneficiaries reflects many factors, including: individual beneficiaries finding jobs, fewer people being laid off and needing to apply for benefits, and beneficiaries exhausting all of their unemployment benefits.

Figure 4-1. Unemployment-benefits recipients by month, all entitlement programs[15]
Washington state, January 2010 through June 2013
Source: Employment Security Department/LMPA, Unemployment Insurance Data Warehouse



The number of people receiving unemployment benefits has been steadily declining since January 2010.

Duration of unemployment benefits

Typically, workers covered by unemployment insurance can receive up to 26 weeks of regular unemployment benefits in a 52-week benefit year. The 52-week benefit year begins when an individual applies for unemployment benefits.

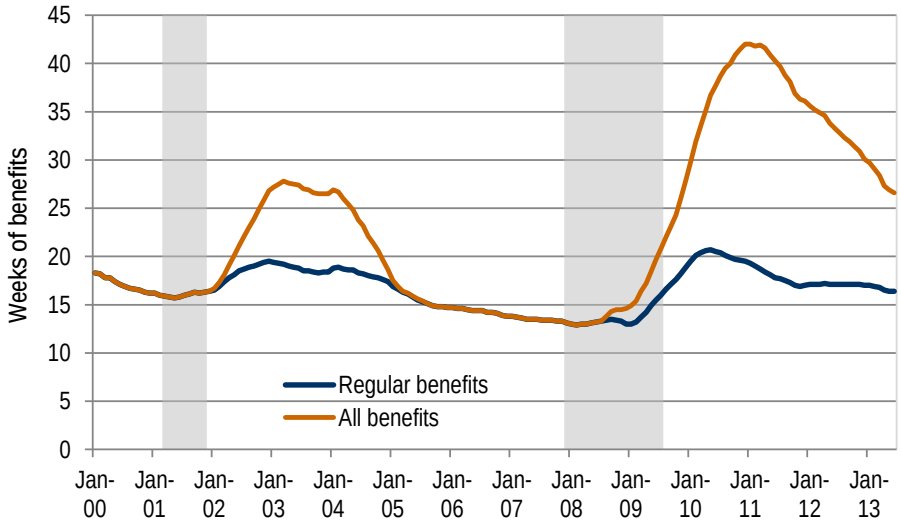
[15] All entitlement programs include regular, emergency unemployment compensation and extended benefits.

More weeks of unemployment benefits available after the recession

Because of the unusually steep loss of jobs during the Great Recession, additional weeks of federally funded unemployment benefits were made available to unemployed workers after they used all of their regular unemployment benefits. At one point, claimants could receive up to a total of 99 weeks of benefits – 26 weeks of regular benefits, 53 weeks of emergency unemployment compensation and 20 weeks of extended benefits. As the economy has recovered, the number of additional weeks of benefits have been reduced. As of June 2013, a total of 63 weeks of benefits were available.

The effect of these additional weeks of benefits is evident in the average duration (number of weeks) of benefits received. *Figure 4-2* compares the average duration of benefits in Washington state for those who were receiving only regular benefits (up to 26 weeks) to the duration of those receiving all benefits, including regular, emergency and extended benefits.

Figure 4-2. Duration of regular unemployment benefits compared to all types of benefits
Washington state, January 2000 through June 2013
Source: Employment Security Department/LMPA, Unemployment Insurance Data Warehouse



U.S. recessions are shaded in gray.

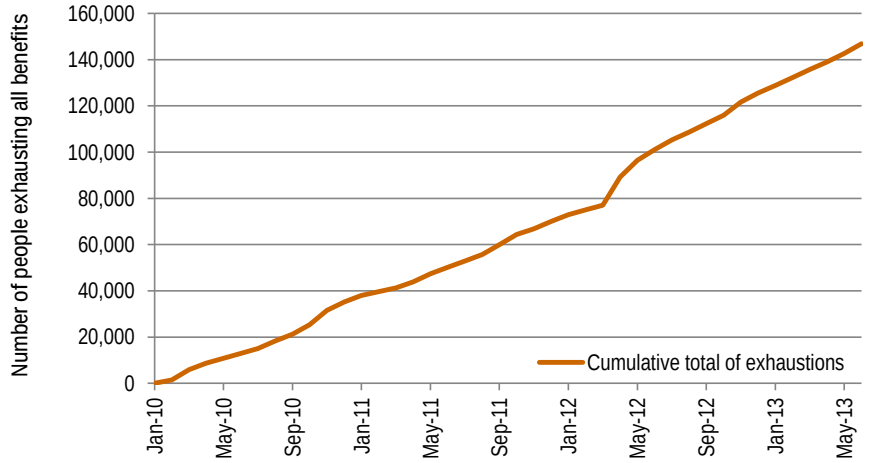
The number of weeks claimants received benefits has decreased from the post-recession peak.

Average annual duration for regular benefits and all benefits peaked in 2010 at 20.1 weeks and 37.3 weeks, respectively. In 2011, average annual duration of regular benefits declined to 17.9 weeks and 39.5 weeks for all benefits. The average annual duration of regular benefits for 2012 was 17.1 and 33.1 weeks for all benefits.

More people have exhausted all benefits

Unemployed individuals exhaust their benefits when they have received all regular, emergency and extended benefits available to them. *Figure 4-3* shows the monthly cumulative total of exhaustions for Washington emergency unemployment compensation since the program was implemented in July 2008. Extended benefits then began in February 2009. As of June 2013, 146,924 people had used all of their available unemployment benefits – regular, emergency and extended benefits.

Figure 4-3. Number of people exhausting all unemployment benefits since emergency and extended unemployment programs began
Washington state, January 2010 through June 2013
Source: Employment Security Department/LMPA, Unemployment Insurance Data Warehouse



As of June 2013, about 147,000 people had exhausted all of their unemployment benefits since the recession began.

Benefits exhaustions by industry, occupation and area

Higher levels of benefits exhaustion are generally associated with long-term unemployment. The following figures detail patterns of benefits exhaustion by industry, occupation and location.

Exhaustions by industry

Figure 4-4 presents exhaustions by industry. To provide further context, the figure also includes each industry's percent of total covered employment and exhaustion-to-employment ratio.[16] The exhaustion-to-employment ratio can be used to identify industries characterized by long-term unemployment and that continue to struggle in their recovery from the recent recession.

From July 2011 through June 2012, the construction industry accounted for the greatest portion of exhaustions, at 16.2 percent. Construction's share of total covered employment was 4.5 percent, and the exhaustion-to-employment ratio was 3.6. Manufacturing had the second-largest portion of exhaustions, at 12.1 percent, followed by trade at 10.1 percent.

[16] Covered employment is the number of workers employed by employers subject to Washington state unemployment-insurance taxes. The main exclusions are employment covered by the Railroad Retirement Act, self-employment and unpaid family workers.

Figure 4-4. Unemployment benefits exhaustions by industry, all types of benefits
Washington state, July 2012 through June 2013
Source: Employment Security Department/LMPA, Unemployment Insurance Data Warehouse; U.S. Bureau of Labor Statistics, Quarterly Census of Employment and Wages

NAICS	Industry sector	Annual exhaustions, all types of benefits	Percent of all exhaustions	Industry share* of covered employment	Exhaustions to employment ratio
72	Accommodation and food services	2,359	4.8%	7.9%	0.6
56	Administrative and support and waste management and remediation services	4,103	8.4%	4.8%	1.7
11	Agriculture, forestry, fishing and hunting	680	1.4%	3.3%	0.4
71	Arts, entertainment and recreation	885	1.8%	1.6%	1.2
23	Construction	7,963	16.2%	4.5%	3.6
61	Educational services	933	1.9%	1.2%	1.5
52	Finance and insurance	2,173	4.4%	3.0%	1.5
62	Healthcare and social assistance	4,255	8.7%	11.4%	0.8
51	Information	1,368	2.8%	3.6%	0.8
55	Management of companies and enterprises	166	0.3%	1.3%	0.3
31-33	Manufacturing	5,917	12.1%	9.6%	1.3
22	Utilities	140	0.3%	0.2%	1.7
81	Other Services (except public administration)	2,166	4.4%	4.6%	1.0
54	Professional, scientific and technical services	2,647	5.4%	5.8%	0.9
GOV	Government (excluding education services)	2,902	5.9%	17.8%	0.3
53	Real estate, rental and leasing	1,279	2.6%	1.5%	1.7
44-45	Trade	4,943	10.1%	10.9%	0.9
48-49	Transportation and warehousing	1,459	3.0%	2.9%	1.0
21	Mining	76	0.2%	0.1%	2.3
42	Wholesale trade	2,614	5.3%	4.2%	1.3
	Total	49,028	100.0%	100.0%	

Construction and manufacturing industry workers were most likely to exhaust unemployment benefits from July 2012 through June 2013.

Exhaustions by occupation

Figure 4-5 examines unemployment exhaustions by occupation. Administrative support, construction and management occupations combined for more than 40 percent of all exhaustions. Since total covered employment is reported only by industry and not by occupation, each occupation's percent of total covered employment and exhaustion-to-employment ratio were not available to be included in *Figure 4-5*.

Figure 4-5. Unemployment benefits exhaustions by major occupational groups, all types of benefits
Washington state, July 2012 through June 2013
Source: Employment Security Department/LMPA, Unemployment Insurance Data Warehouse

SOC	Major occupation group	Annual exhaustions, all types of benefits	Percent of all exhaustions
43	Office and administrative support occupations	7,527	16.1%
47	Construction and extraction occupations	6,473	13.8%
11	Management occupations	5,295	11.3%
51	Production occupations	3,886	8.3%
41	Sales and related occupations	3,667	7.8%
53	Transportation and material moving occupations	2,779	5.9%
49	Installation, maintenance and repair occupations	2,080	4.4%
35	Food preparation and serving related occupations	1,989	4.3%
39	Personal care and service occupations	1,729	3.7%
13	Business and financial operations occupations	1,596	3.4%
31	Healthcare support occupations	1,076	2.3%
29	Healthcare practitioners and technical occupations	1,039	2.2%
37	Building and grounds cleaning and maintenance occupations	1,035	2.2%
15	Computer and mathematical occupations	922	2.0%
45	Farming, fishing and forestry occupations	849	1.8%
17	Architecture and engineering occupations	822	1.8%
27	Arts, design, entertainment, sports and media occupations	724	1.5%
33	Protective service occupations	695	1.5%
55	Military specific occupations	669	1.4%
25	Education, training and library occupations	637	1.4%
21	Community and social services occupations	523	1.1%
19	Life, physical and social science occupations	474	1.0%
23	Legal occupations	279	0.6%
	Total	46,765	100.0%

Unemployed workers in office and administrative support, construction and management occupations were most likely to exhaust unemployment benefits from July 2012 through June 2013.

Exhaustions by location of residence

Figure 4-6 shows exhaustions by the state's 12 workforce development areas (WDAs) for July 2012 through June 2013. WDAs are regions within the state with economic and geographic similarities, generally comprised of a county or group of counties. (*Appendix 1* includes a map of the 12 WDAs.) The Seattle-King WDA, Pierce County WDA and Snohomish County WDA each have larger base populations and have had more unemployed workers than the other WDAs. Collectively, they accounted for more than 45 percent of all exhaustions. Seattle-King WDA also had almost twice as many exhaustions as either the Pierce or Snohomish WDAs. The lowest levels of exhaustions occurred in the Benton-Franklin WDA and Eastern Washington WDA.

Figure 4-6. Unemployment benefits exhaustions by major occupational groups, all types of benefits
Washington state, July 2012 through June 2013
Source: Employment Security Department/LMPA, Unemployment Insurance Data Warehouse

Workforce development area	Annual exhaustions, all types of benefits	Percent of exhaustions
Seattle-King County	11,145	24.4%
Pierce County	5,968	13.1%
Snohomish County	4,744	10.4%
Out of state	4,319	9.5%
Pacific Mountain	3,459	7.6%
Spokane County	2,942	6.4%
Southwest WA	2,638	5.8%
Northwest WA	2,234	4.9%
Olympic	2,135	4.7%
South Central WA	1,949	4.3%
North Central WA	1,929	4.2%
Benton-Franklin	1,405	3.1%
Eastern WA	816	1.8%
Total	45,683	100.0%

Areas containing higher populations accounted for more exhaustions of unemployment benefits.

Unemployment rate

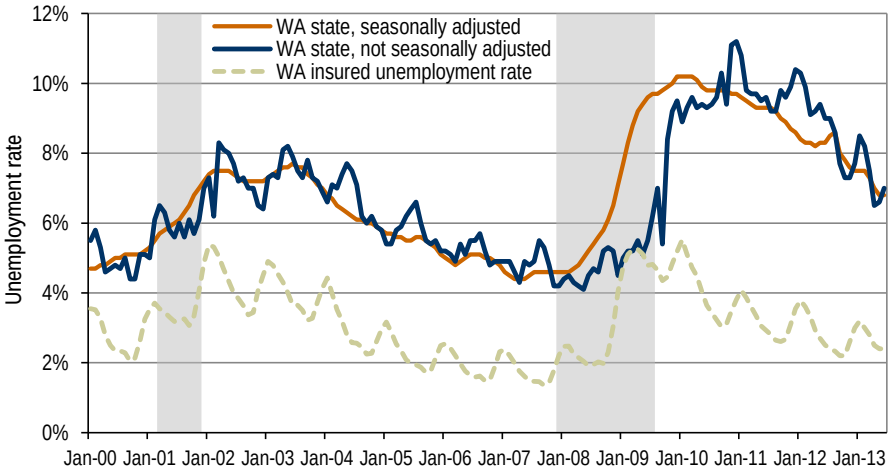
The overall unemployment rate is a ratio of the estimated number of unemployed individuals looking for work divided by the labor force. The labor force is made up of individuals who are employed or seeking work. This is the most familiar unemployment rate and includes both workers covered by unemployment insurance and those who are not.[17]

Particularly in the context of a discussion about unemployment benefits, the insured unemployment rate can be useful. The insured unemployment rate is a ratio of the number of insured unemployed (those drawing unemployment benefits) divided by the total number of individuals (working and not working) covered by unemployment insurance.

Figure 4-7 compares the overall and insured unemployment rates for Washington. The rates have basically moved in tandem, with the insured rate historically about half the overall unemployment rate. In late 2008, both measures of unemployment began a dramatic rise, with rates peaking in late 2010. However, since 2009, the gap between the overall and insured unemployment rates has widened. This means there were increasing numbers of unemployed workers not eligible for unemployment benefits than historically has been the case.

[17] Covered employment is the number of workers employed by employers subject to Washington state unemployment-insurance taxes. The main exclusions are employment covered by the Railroad Retirement Act, self-employment and unpaid family workers.

Figure 4-7. Overall unemployment rate, seasonally and not seasonally adjusted and insured unemployment rate
Washington state, January 2000 through June 2013
Source: Employment Security Department/LMPA; U.S. Bureau of Labor Statistics, Local Area Unemployment Statistics



U.S. recessions are shaded in gray.

The gap between unemployed workers who are eligible for unemployment benefits and those who are not has widened since the recession.

The overall unemployment rate

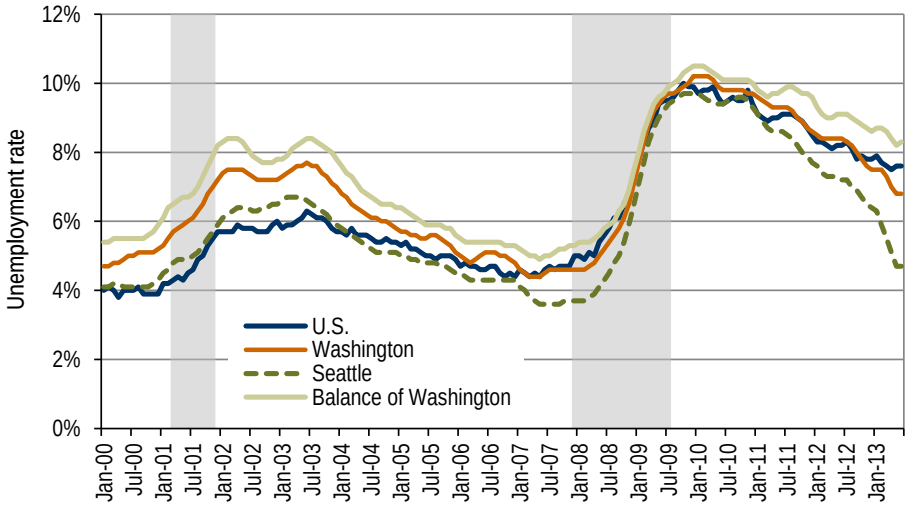
The overall unemployment rate is widely used in economic analysis as a lagging indicator of the direction of the economy. As noted previously, the unemployment rate is a ratio of the estimated number of unemployed, who are seeking work, divided by the labor force. The labor force is limited to individuals who are employed or seeking work.

As shown in *Figure 4-8*, the state unemployment rate peaked in first-quarter 2010. It then slowly declined to 8.4 percent more than eight quarters later in April 2012. Since then, the state unemployment rate decreased to 6.8 percent in June 2013.

The unemployment rate for Washington state remained higher than the national rate through August 2011, but then tracked closely with the national rate through October 2012. From October 2012 to June 2013, the state unemployment rate has declined more rapidly than the national rate, declining by 1 percent compared to the national decline of .3 percent.

The Seattle-Bellevue-Everett Metropolitan Division has reported a lower unemployment rate than the rest of Washington and the nation since 2004. From October 2012 to June 2013 the unemployment rate for this division declined by 2 percent compared to the statewide decline of 1 percent. The balance of the state declined by 0.5 percent over the same time period.

Figure 4-8. Historical unemployment rates, seasonally adjusted
United States and Washington state, January 2000 through June 2013
Source: Employment Security Department/LMPA; U.S. Bureau of Labor Statistics, Local Area Unemployment Statistics; National Bureau of Economic Research



U.S. recessions are shaded in gray.

National and state unemployment rates tracked closely during the recent recession. Coming out of the recent recession, both the state and the Seattle unemployment rate declined more rapidly than the national rate.

Other measures of unemployment and employment

Other measures of employment and unemployment include the alternative unemployment rates, the labor force participation rate and the employment rate.

Alternative unemployment rates

The U.S. Bureau of Labor Statistics (BLS) reports six alternative measures of labor underutilization, or unemployment. The commonly used definition of the unemployment rate, shown in *Figure 4-8*, is a ratio of the estimated number of unemployed, who are seeking work, divided by the labor force. This is equivalent to what BLS calls "U-3." A common criticism of the standard measurement of unemployment is that it is too narrow – for instance, it excludes individuals who are not working, would like to work, but have given up looking for work.

In response to criticism, BLS has made available alternative measurements that are progressively more inclusive than the commonly reported unemployment rate. Three of the six alternative measurements are defined as:

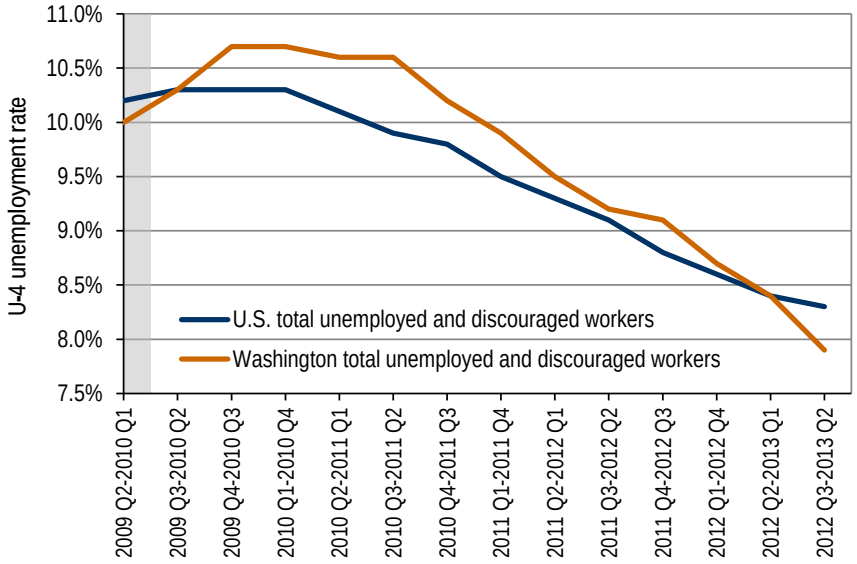
- U-3 – Unemployed as a percent of the labor force.
- U-4 – Unemployed plus discouraged workers, as a percent of the labor force plus discouraged workers.[18]
- U-6 – Unemployed plus all marginally attached workers and employees working part-time involuntarily, all as a percent of the labor force plus all marginally attached workers.[19]

[18]Discouraged workers have given a job-market related reason for not currently looking for work.

[19]Individuals marginally attached to the labor force are those who currently are neither working nor looking for work but indicate that they want and are available for a job and have looked for work sometime in the past 12 months. Discouraged workers are a subset of this group.

The U-4 measure rose faster and remained higher in Washington state than for the country as a whole as a result of the recent recession (*Figure 4-9*). The moving average for third-quarter 2009 to second-quarter 2010 had the state and the nation both at 10.3 percent. From fourth-quarter 2011 to third-quarter 2012, the Washington state rate decreased to 9.1 percent, while the nation's rate has decreased to 8.9 percent. This indicates that relatively more Washington residents gave up looking for work and dropped out of the labor force.

Figure 4-9. U-4 unemployment rate (includes discouraged workers), four-quarter moving average
United States and Washington state, second-quarter 2009 through second-quarter 2013
Source: Employment Security Department/LMPA; U.S. Bureau of Labor Statistics, Local Area Unemployment Statistics

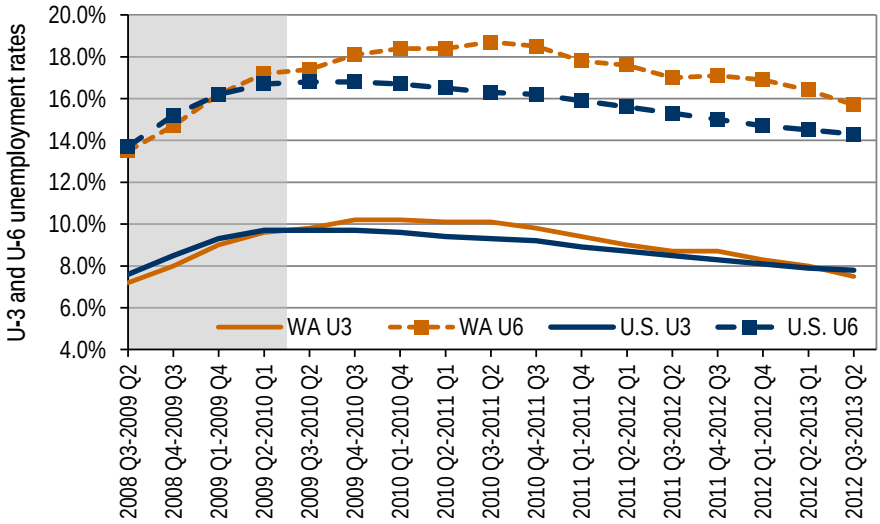


U.S. recessions are shaded in gray.

The percent of individuals unemployed or discouraged over job prospects has been declining since fourth-quarter 2013 for both the state and the nation. Washington has seen a greater percentage decline than the nation in the percentage of unemployment and discouraged workers.

U-6 is the broadest measure of unemployment. The widened gap between the U-6 and U-3 rates demonstrates that the ranks of discouraged workers, marginally attached workers and those working part-time involuntarily have risen even more dramatically than the number of unemployed (*Figure 4-10*). This holds true for the state of Washington, where the majority of underused workers are in the employed part-time involuntarily category. Washington's U-6 has remained higher than the nation's since second-quarter 2009, reaching a peak difference of 2.4 percent above the national average in second-quarter 2011 and trending down to a difference of 1.4 percent by second-quarter 2013.

Figure 4-10. U-3 (standard) and U-6 (includes marginally attached workers and those working part time involuntarily) unemployment rates, four-quarter moving average
United States and Washington state, second-quarter 2008 through second-quarter 2013
Source: Employment Security Department/LMPA; U.S. Bureau of Labor Statistics, Current Population Survey, Local Area Unemployment Statistics



U.S. recessions are shaded in gray.

Most broadly defined U-6 measure of unemployment remained higher in Washington than nationally since 2010.

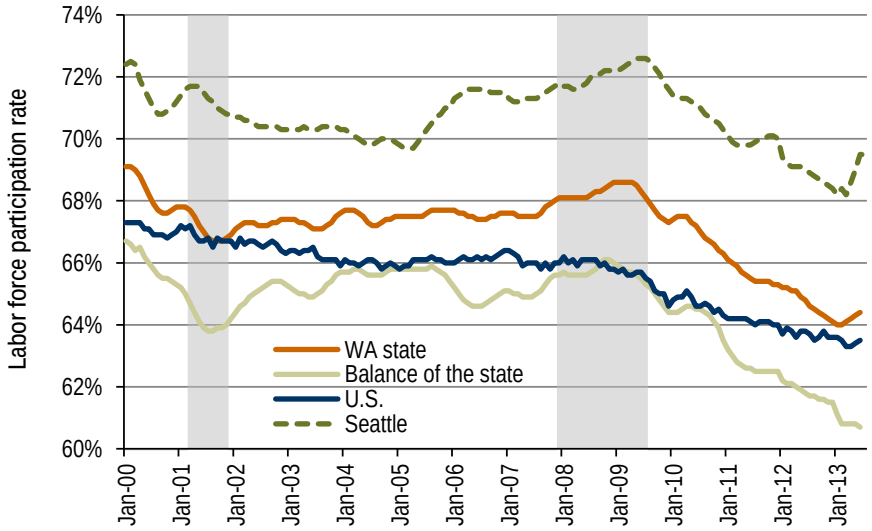
Labor-force participation rate

The labor-force participation rate (LFPR) is the ratio of the labor force divided by the total non-institutionalized, civilian population aged 16 and older. A higher participation rate means that a larger percentage of a given population is either working or seeking work.

The state unemployment rate fell by only 0.2 percentage points over first-quarter 2013. However, looking at the labor-force participation rate, more residents of the Seattle area actively participated in the labor market compared to the rest of the state. A decline in the state's labor-force participation rate could be caused by increasing numbers of discouraged workers, people going back to school or an increase in retirements.

The Seattle area labor-force participation rate has been higher than both the overall state and the balance of the state since those data began being collected in January 1983. The average U.S. seasonally adjusted labor-force participation rate during this time was 63.6 percent. During the same period, Seattle averaged 68.8 percent, with the widest difference of 5.7 percent in January 2012 (*Figure 4-11*). The state labor-force participation rate has been higher than the national rate since September 2001.

Figure 4-11. Labor-force participation rate, seasonally adjusted
United States and Washington state, January 2000 through June 2013
Source: Employment Security Department/LMPA; U.S. Bureau of Labor Statistics, Local Area Unemployment Statistics



U.S. recessions are shaded in gray.

Labor-force participation rates across the state and nation have been on the decline since the recession, but there are signs of improvement.

Mass-layoff statistics

The Mass Layoff Statistics (MLS) program is a federal-state cooperative program that collects data on establishments having at least 50 initial unemployment claims within a five-week period. When initial claims total 50 or more, state MLS representatives contact those establishments to determine whether the separations are at least 31 days in duration. The questions asked of the employer are:

- What the reason was for the layoff?
- Do you expect to recall workers?
- Is the layoff associated with the movement of work domestically or globally?

MLS program data are used to help identify economically distressed areas and industries in the state. The data are also used to help allocate re-employment services and resources to those distressed workers and areas.

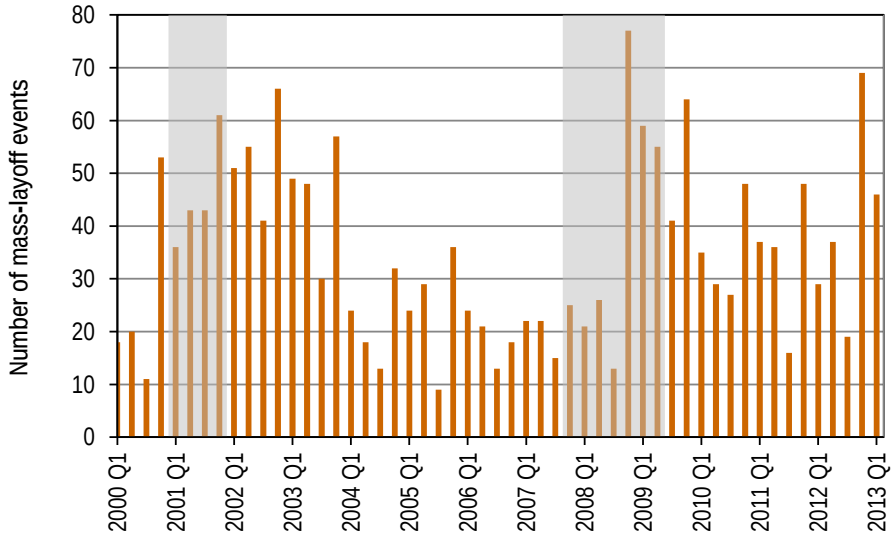
To protect employer confidentiality as guaranteed by the U.S. Bureau of Labor Statistics (BLS), mass layoffs are reported on a statewide basis, not by workforce development area (WDA).

As part of federal spending cuts (commonly referred to as "sequestration"), BLS eliminated the MLS program. The last published data for Washington covered first-quarter 2013.

Mass-layoff events and separations rose in 2013

From second-quarter 2012 through first-quarter 2013, Washington state employers reported 171 mass-layoff events (*Figure 4-12*). These events resulted in the separation of 19,931 workers from their jobs for at least 31 days. In the four previous quarters, there were 15,815 separations associated with 129 mass-layoff events. Mass-layoff events increased by 42, or 33 percent, and separations increased by 26 percent.

Figure 4-12. Confirmed mass-layoff events
Washington state, first-quarter 2000 through first-quarter 2013
Source: Employment Security Department/LMPA; U.S. Bureau of Labor Statistics, Mass Layoff Statistics



U.S. recessions are shaded in gray.

Confirmed mass-layoff events increased from second-quarter 2012 through first-quarter 2013, relative to the previous four quarters.

Mass-layoff trends

Movement of work associated with mass layoffs decreased

From second-quarter 2012 through first-quarter 2013, there were three mass layoffs associated with the movement of work within the same company or to a different company, whether domestically or outside the United States. From second-quarter 2011 to first-quarter 2012, there were five reported mass layoffs.

Employers recalled more laid-off workers

In the most recent four-quarter period (second-quarter 2012 through first-quarter 2013), employers recalled workers in 71 percent of mass layoffs. In the previous four quarters, the recall rate was 57 percent. During the recession, employers recalled 30 percent of their laid-off workers in the four quarters from second-quarter 2008 through first-quarter 2009.

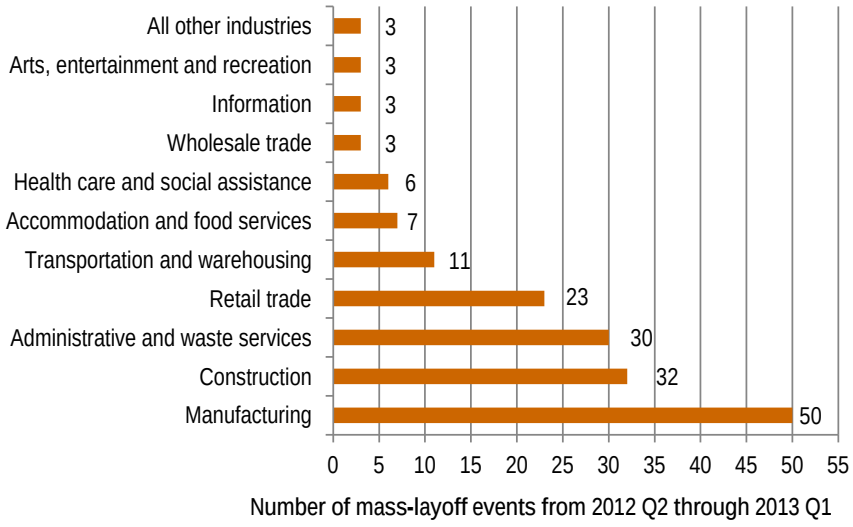
Worksite closures remained the same

For both periods, second-quarter 2012 through first-quarter 2013 and the previous four quarters, employers reported 11 worksite closures associated with mass layoffs.

Mass layoffs occurred mostly in four industry sectors

From second-quarter 2012 to first-quarter 2013, the four industry sectors reporting the largest number of mass layoffs were manufacturing, construction, administrative and waste services, and retail trade (*Figure 4-13*). These are the same sectors that reported the most layoffs in the previous four quarters.

Figure 4-13. Confirmed mass-layoff events by industry
Washington state, second-quarter 2012 through first-quarter 2013
Source: Employment Security Department/LMPA; U.S. Bureau of Labor Statistics, Mass Layoff Statistics



Manufacturing and construction accounted for 48 percent of mass-layoff events from second-quarter 2012 through first-quarter 2013.

Mass-layoff events and separations by reason for layoff

The increase in mass-layoff events and separations during second-quarter 2012 through first-quarter 2013, compared to the previous four quarters, was related to business demand and seasonally related layoffs.

The top five reasons for mass layoffs were: contract completions (53 events), seasonal (53 events), slack work or insufficient demand (14 events), vacation period-school related (14 events) and reorganization (9 events). The top five reasons by separations were: contract completions (7,167), seasonal (5,568), reorganization (1,974), slack work or insufficient demand (1,905 separations) and vacation period-school related (1,474).

Chapter 5: Employment projections

This chapter provides information on the Employment Security Department's short-, medium- and long-term industry and occupational employment projections, with a focus on the medium (5-year) projections.[20]

Industry and occupational employment projections provide a general outlook for Washington state. They are used by policymakers, job seekers, training providers, economic analysts and others. While the projections may not provide a complete picture of Washington's future labor market, they do provide a reasonably plausible view about Washington industry and occupational employment in the future.

We first produce industry forecasts for 2-, 5- and 10-year time horizons. The occupational staffing pattern for each industry is used to convert industry projections into occupational projections. Occupational projections show how many job openings are expected due to overall growth as well as replacement or turn. Total openings from occupational projections do not represent total demand, but can be used as an indicator of demand.

The base period for short-term projections is second-quarter 2012, and the base period for medium- and long-term projections is 2011.[21]

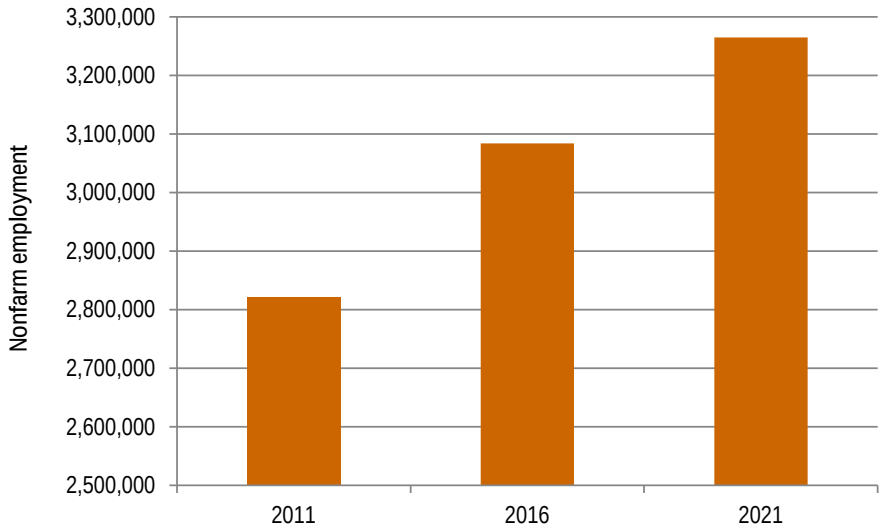
[20]More detailed information can be found in the 2013 Employment Projections report at: https://fortress.wa.gov/esd/employmentdata/docs/industry-reports/employment-projections-2013.pdf.

[21]Due to some differences in non-covered employment (which is used for benchmarking) and the way non-economic code changes are handled, the base numbers used for projections could be slightly different from those published in the Current Employment Statistics (CES) estimates.

Industry employment projections

Total nonfarm industry employment in Washington state is projected to reach about 3.08 million jobs by 2016 and about 3.26 million jobs by 2021 (*Figure 5-1*).

Figure 5-1. Base and projected nonfarm employment
Washington state, 2011, 2016 and 2021
Source: Employment Security Department/LMPA; U.S. Bureau of Labor Statistics, Quarterly Census of Employment and Wages



Nonfarm employment in Washington is expected to reach 3.08 million jobs by 2016 and 3.26 million jobs by 2021.

Washington state is projected to have an estimated 262,600 net new nonfarm jobs from 2011 to 2016, with an average annual growth rate of 1.8 percent. This growth rate is larger than the growth rate of 1.6 percent projected for the state for 2010 to 2015 in ESD's previous round of employment projections.[22]

[22] More detailed information can be found in the 2012 Employment Projections report.

Figure 5-2 provides 2011 base and 2016 employment projections by industry, along with the base and projected shares of employment by industry for Washington state.

Total employment in the professional and business services sector is projected to increase the most (1.2 percentage points). Employment in state and local government (excluding education) is projected to decrease the most (-0.7 percentage points). By 2016, the construction share of nonfarm employment is projected to increase to 5.5 percent, for a gain of 0.7 percentage points. These gains in employment share are indicative of above-average employment growth, while decreases in employment shares are indicative of below-average employment growth.

Figure 5-2. Base and projected nonfarm employment by industry
Washington state, 2011 and 2016
Source: Employment Security Department/LMPA; U.S. Bureau of Labor Statistics, Quarterly Census of Employment and Wages, Global Insight

NAICS	Industry sector	Estimated employment 2011	Estimated share of employment in 2011	Projected share of employment n 2016	Percentage point change in employment share from 2011 to 2016
	Natural resources and mining	5,900	0.2%	0.2%	0.0%
23	Construction	135,700	4.8%	5.5%	0.7%
31-33	Manufacturing	268,300	9.5%	9.5%	0.0%
42	Wholesale trade	122,100	4.3%	4.2%	-0.1%
44	Retail trade	312,400	11.1%	10.7%	-0.3%
22	Utilities	4,900	0.2%	0.2%	0.0%
48	Transportation and warehousing	85,700	3.0%	3.1%	0.1%
51	Information	103,900	3.7%	3.7%	0.0%
52	Financial activities	137,500	4.9%	4.7%	-0.2%
54-56	Professional and business services	339,300	12.0%	13.2%	1.2%
61	Education services	49,500	1.8%	1.8%	0.0%
62	Health services and social assistance	331,800	11.8%	12.0%	0.3%
71-72	Leisure and hospitality	270,600	9.6%	9.5%	-0.1%
81	Other services	108,300	3.8%	3.7%	-0.1%
GOV	Federal government	74,000	2.6%	2.3%	-0.3%
GOV	State and local government other	234,800	8.3%	7.6%	-0.7%
GOV	Government educational services	236,500	8.4%	8.0%	-0.4%

The largest increases in employment shares are projected to be in professional and business services and construction.

Historical and projected growth rates

The Great Recession limited employment growth rates for most areas of the state from 2001 to 2011 to well below long-term historical trends. *Figure 5-3* shows the historical and projected growth rates for the state and Washington's 12 workforce development areas (WDAs).

Projected growth rates for 2011 to 2016 for all areas except the Benton-Franklin WDA are considerably higher than the rates achieved from 2001 to 2011. The largest difference between historical and projected growth rates are expected in the Seattle-King County WDA. From 2001 to 2011, nonfarm employment for the area declined about 0.15 percent per year, but the average annual employment growth rate in the next 10 years (2011 to2021) is projected to be 1.56 percent. The first five years (2011 to 2016) are projected to have a higher growth rate than the next five-year period. This is a reflection of some recovery boom, with a return to a more stable rate after that.

Snohomish County had relatively high historical employment growth from 2001 to 2011, which reflected an aerospace employment boom. This partially affected the projected growth rates for 2011 to 2016. Combined with the general recovery, this rate is expected to be higher than from 2001 to 2011. Aerospace employment is expected to be flat with a slight decline after the peak. Combined with flattened recovery growth, Snohomish County can expect significantly lower projected employment growth from 2016 to 2021.

The Benton-Franklin WDA is the only area where projected growth is less than the rate of growth experienced in the previous 10 years. The recession affected several industries in the area (real estate, construction and financial activities), but those were more than offset by increased employment at the federal Hanford Site due to stimulus funding for two-year environmental cleanup projects. However, it is not expected that this growth will be maintained over the next 10 years. Projected employment growth for the Benton-Franklin WDA from 2011 to 2016 is expected to be about 1 percentage point below growth achieved from 2001 to 2011 and growth from 2016 to 2021 is expected to shave another 0.5 percentage point off of that.

Figure 5-3. Annual historical and projected employment growth
Washington state and workforce development areas, 2011 to 2021
Source: Employment Security Department/LMPA; U.S. Bureau of Labor Statistics, Quarterly Census of Employment and Wages, Global Insight

Workforce development area	Historical growth rate 2001 to 2011	Projected growth rate 2011 to 2016	Projected growth rate 2016 to 2021	Historical trend growth* 1975 to 2011
Statewide	0.45%	1.80%	1.15%	3.42%
Olympic Consortium	0.79%	1.21%	0.77%	3.54%
Pacific Mountain	0.58%	1.40%	0.78%	2.87%
Northwest	0.89%	1.65%	1.16%	4.65%
Snohomish County	1.56%	2.06%	1.06%	5.32%
Seattle-King County	-0.15%	1.99%	1.35%	3.23%
Pierce County	0.88%	1.68%	1.01%	3.50%
Southwest Washington	0.56%	1.77%	1.04%	4.29%
North Central	0.69%	1.56%	1.06%	4.09%
South Central	0.49%	1.24%	0.84%	2.08%
Eastern Washington	0.40%	1.41%	1.01%	2.57%
Benton-Franklin	2.66%	1.70%	1.18%	2.92%
Spokane	0.31%	1.69%	1.01%	2.71%

*Trend growth is calculated by gathering historical data, plotting the trend line and calculating growth based on this trend line.

The Seattle-King County WDA is expected to have the largest increase in employment growth from 2016 to 2021, while projected growth in the Benton-Franklin WDA is less than that achieved in the historical period.

Occupational projection results

Occupational projections represent total employment which, in addition to total nonfarm employment, includes private households, self-employment, agriculture, forestry and fishing.

The average annual growth rate of total employment is projected to be 1.71 percent from 2011 to 2016 and 1.10 percent from 2016 to 2021. This is slightly more optimistic than, but generally in line with, the Employment Security Department's previous forecast, which predicted average growth rates of total employment growth of 1.54 percent from 2010 to 2015 and 1.19 percent from 2015 to 2020.

Projections for major occupational groups

Figure 5-4 shows occupational employment estimates and medium-term projections at the state level. Unlike *Chapter 4*, the occupational shares here could be calculated since the comparable occupational estimations were used. The largest increases in employment shares are expected to be in construction and extraction occupations followed by computer and mathematical and production occupations. The largest decreases in employment share are expected to be in sales and related occupations, education, training and library, and farming, fishing and forestry occupations.

Occupational projections show that the top three major occupational groups for job openings will be office and administrative support, sales and related, and food preparation and serving-related occupations. Combined, these three major groups are projected to represent more than one-third of total job openings in the state. Openings also can be due to growth or replacement.

Figure 5-4. Estimated and projected occupational employment structure
Washington state, 2011 to 2016
Source: Employment Security Department/LMPA; U.S. Bureau of Labor Statistics, Quarterly Census of Employment and Wages, Occupational Employment Statistics; U.S. Census Bureau, American Community Survey 5-year sample, Global Insight

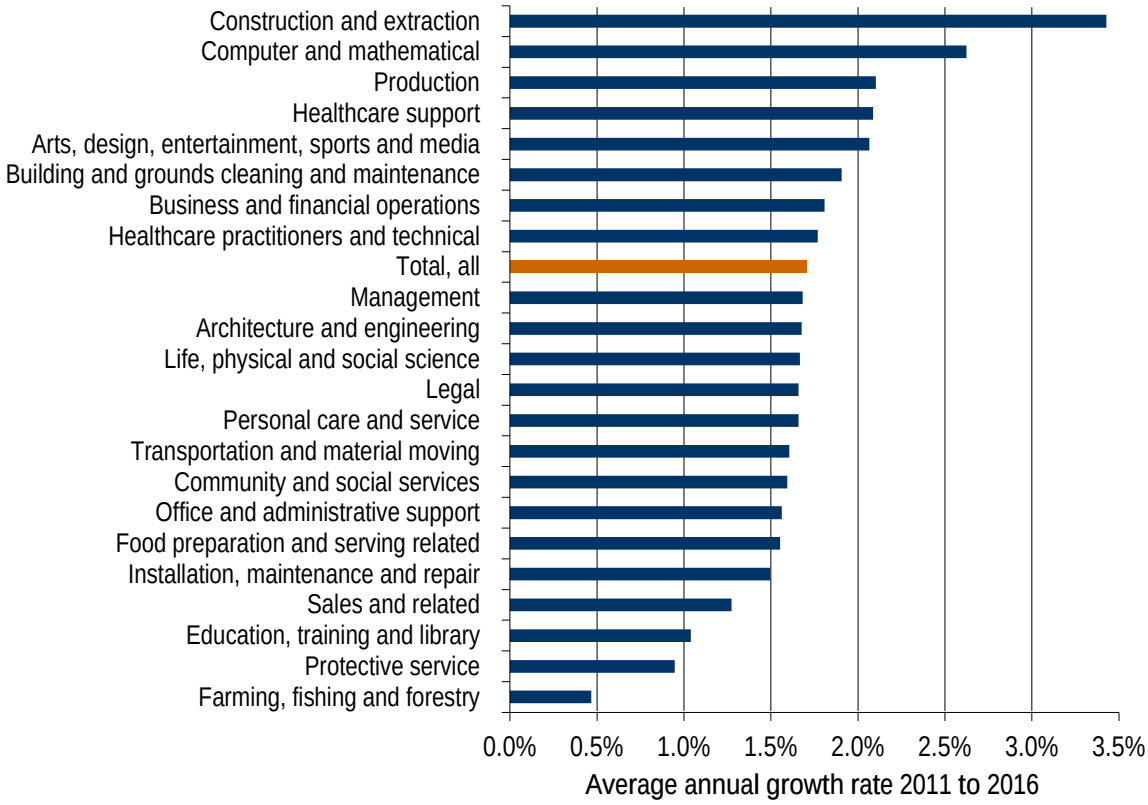
SOC	Major occupational group	Estimated employment 2011	Estimated share of employment in 2011	Projected share of employment in 2016	Percentage point change in employment share from 2011 to 2016	Share of total average annual job openings from 2011 to 2016
11-0000	Management	175,703	5.36%	5.35%	-0.01%	4.71%
13-0000	Business and financial operations	173,049	5.28%	5.30%	0.03%	4.81%
15-0000	Computer and mathematical	136,426	4.16%	4.35%	0.19%	4.28%
17-0000	Architecture and engineering	80,968	2.47%	2.47%	0.00%	2.26%
19-0000	Life, physical and social science	39,417	1.20%	1.20%	0.00%	1.28%
21-0000	Community and social services	52,965	1.62%	1.61%	-0.01%	1.44%
23-0000	Legal	26,555	0.81%	0.81%	0.00%	0.64%
25-0000	Education, training and library	197,302	6.02%	5.82%	-0.19%	4.45%
27-0000	Arts, design, entertainment, sports and media	69,058	2.11%	2.14%	0.04%	2.40%
29-0000	Healthcare practitioners and technical	159,954	4.88%	4.89%	0.02%	4.24%
31-0000	Healthcare support	87,571	2.67%	2.72%	0.05%	2.26%
33-0000	Protective service	56,162	1.71%	1.65%	-0.06%	1.59%
35-0000	Food preparation and serving related	239,862	7.32%	7.26%	-0.05%	10.45%
37-0000	Building and grounds cleaning and maint.	134,159	4.09%	4.13%	0.04%	3.55%
39-0000	Personal care and service	148,475	4.53%	4.52%	-0.01%	4.69%
41-0000	Sales and related	342,674	10.45%	10.23%	-0.22%	11.61%
43-0000	Office and administrative support	425,893	12.99%	12.90%	-0.09%	11.78%
45-0000	Farming, fishing and forestry	90,261	2.75%	2.59%	-0.16%	2.35%
47-0000	Construction and extraction	159,612	4.87%	5.29%	0.43%	6.78%
49-0000	Installation, maintenance and repair	124,646	3.80%	3.76%	-0.04%	3.37%
51-0000	Production	167,198	5.10%	5.20%	0.10%	5.25%
53-0000	Transportation and material moving	190,539	5.81%	5.78%	-0.03%	5.81%

From 2011 to 2016, the largest increases in employment shares are expected to be in construction and extraction occupations, followed by computer and mathematical and production occupations.

The projected average annual growth rates for the major occupational groups in Washington state for 2011 to 2016 are presented in *Figure 5-5*.

At the state level, eight of the 22 major occupational groups have projected growth rates higher than the growth rate for total employment and 14 have projected growth rates lower than the rate for total employment. The fastest-growing occupational groups are projected to be construction and extraction, computer and mathematical, production and healthcare support. The slowest occupational employment growth is expected in farming, fishing and forestry, protective service, education, training and library, and sales and related occupations.

Figure 5-5. Average annual projected growth rates for major occupational groups
Washington state, 2011 to 2016
Source: Employment Security Department/LMPA; U.S. Bureau of Labor Statistics, Quarterly Census of Employment and Wages, Occupational Employment Statistics; U.S. Census Bureau, American Community Survey 5-year sample, Global Insight



At the state level, eight of the 22 major occupational groups have projected growth rates higher than the growth rate for total employment and 14 have projected growth rates lower than the rate for total employment.

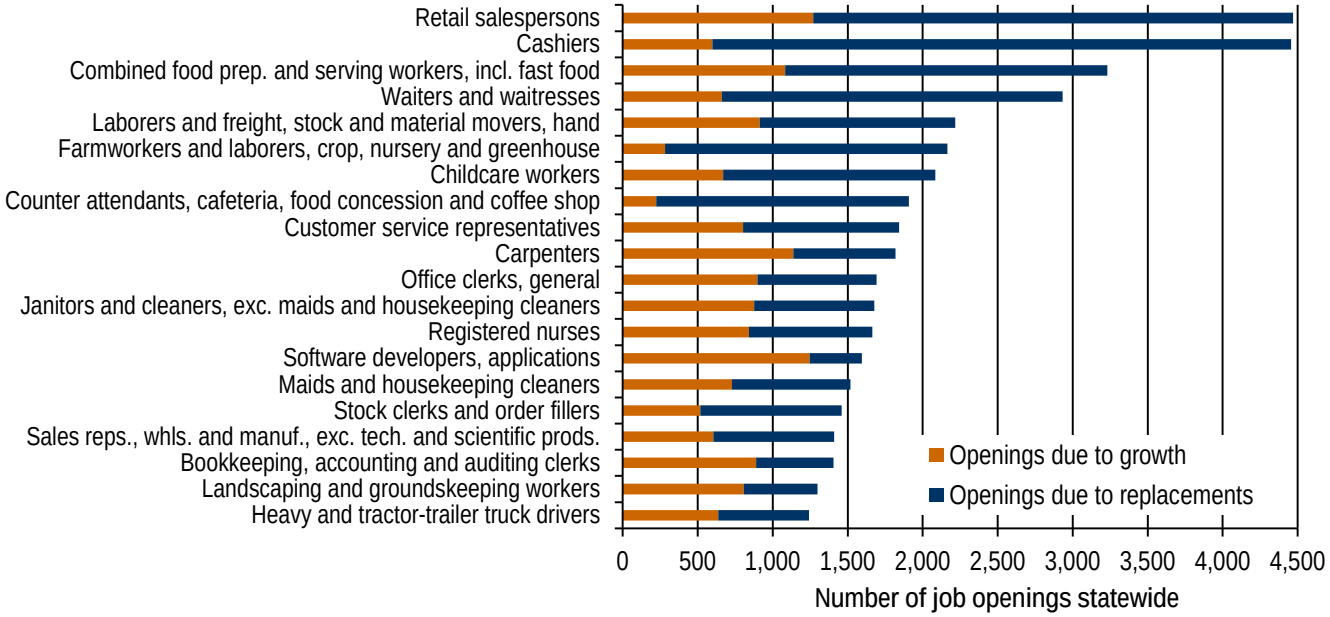
Projections for specific occupations

The top 20 specific occupations by total openings are presented in *Figure 5-6*. At the detailed occupational code level (six-digit SOC), retail salespersons and cashiers are projected to have the largest number of openings. Openings can be due to growth (newly created positions) or replacement. Replacement includes openings created by retirements and separations. It does not include normal turnover as workers go from one employer to another or from one region to another without changing their occupations.

For eight of the top 20 occupations, the number of openings due to growth is projected to be larger than that due to replacement. Among them, the largest absolute and relative differences are for software developers, applications, where the number of openings due to growth is 3.6 times greater than the number of openings projected due to replacement. For the other 12 occupations of the top 20, the number of openings due to replacement is projected to be greater (in many cases significantly greater) than the number of openings due to growth.

For total employment, about 58.1 percent of openings are projected to be due to replacement and 41.9 percent to growth. A relatively high percent of openings projected to be due to growth reflect the recovery employment boom, rates are normally lower in a stable economy.

Figure 5-6. Top 20 specific occupations by average annual total openings
Washington state, 2011 to 2016
Source: Employment Security Department/LMPA; U.S. Bureau of Labor Statistics, Quarterly Census of Employment and Wages, Occupational Employment Statistics; U.S. Census Bureau, American Community Survey 5-year sample, Global Insight



For eight of the top 20 occupations, the average annual projected number of openings due to growth is larger than that due to replacement. Among them, the largest absolute and relative differences are for software developers, applications, where the number of openings due to growth is 3.6 times greater than replacement.

Specific occupations by area

Tables showing projections for specific occupations by state and each workforce development area are available on Employment Security's website.[23]

Software developers, applications, are projected to have the greatest number of total openings statewide among the top 10 occupations in both short- and long-term projections.

[23] https://fortress.wa.gov/esd/employmentdata/docs/industry-reports/projections-appendix.xls.

Chapter 6: Income and wages

Despite the recovering labor market, most income measures were little changed in 2012 and remained significantly worse than in 2007, prior to the recession.[24] The one exception was per capita personal income, which, in contrast with median household income, increased in both 2011 and 2012. Adding in the fact that the number of upper income households was down slightly, there is every indication that the state followed the national trend, wherein any increase in income was captured in large part by the top 1 percent of households. All data in this chapter have been adjusted for inflation and are expressed in 2012 inflation-adjusted dollars.[25]

Household and family income

After the financial meltdown encompassed the state and nation in 2008 through 2010, incomes continued to drop in 2011 and were statistically unchanged in 2012 (*Figure 6-1*). According to the U.S. Census Bureau's American Community Survey (ACS), the state's median household income was 6.5 percent lower in 2012 than in 2008. Both family and non-family households suffered similar declines.[26]

Figure 6-1. Median household income in 2012 dollars
United States and Washington state, 2008 through 2012
Source: U.S. Census Bureau, American Community Survey

Household type	2008	2009	2010	2011	2012	Change 2008 to 2012
All households, U.S.	$55,282	$53,838	$52,617	$51,324	$51,371	**-7.1%**
All households, Washington	$61,604	$60,487	$58,499	$57,949	$57,573	**-6.5%**
Family households	$74,922	$73,233	$70,838	$70,154	$69,937	-6.7%
Non-family households	$39,389	$38,365	$36,913	$36,470	$36,548	-7.2%

Incomes declined for both family and non-family households from 2008 through 2012.

[24] Data for 2007 is presented in the 2012 Labor Market and Economic Report: https://fortress.wa.gov/esd/employmentdata/docs/economic-reports/annual-report-2012.pdf.
[25] Census data adjusted for inflation using CPI-U-RS from the U.S. Bureau of Labor Statistics. State wage data adjusted using the U.S. CPI-W.
[26] Families account for nearly two-thirds of households. Single-person households make up 80 percent of non-family households.

Washington households continued to have a higher median income than the nation and weathered the downturn slightly better than the nation: the median income fell by 6.5 percent in the state and 7.1 percent in the U.S.

Household income has five sources: earnings from wages, earnings from self-employment, investment income, transfer payments such as Social Security and private retirement payments (*Figure 6.2*). From 2007 to 2012, according to the ACS:

- The share of households with earnings from a job and the average household earnings from holding a job did not change significantly in 2012 and remained below 2007 levels (share of households down by 2.6 percentage points, earnings off by 4.1 percent).
- The number of people who reported working full-time jobs (35 or more hours per week) fell sharply in 2009 and 2010, stabilized in 2011 and rose by 1.5 percent in 2012. The number of part-time workers declined slightly in 2012. The former remained 3.7 percent below 2007 levels, the latter was still 8.3 percent higher.
- Median earnings for all workers did not change significantly from 2011 and was 8 percent lower than in 2007, before the recession began – reflecting the shift towards more part-time jobs. The median earnings for male full-time, year-round workers declined in 2012, falling by 2.9 percent, after being unchanged for the previous four years. The median for female full-time, year-round workers has not changed appreciably since before the recession started.
- An estimated 6.3 percent of the workforce was primarily self-employed in 2012, down slightly from 6.8 percent in 2007.
- The percentage of households with a Social Security beneficiary has increased from 24.7 percent in 2007 to 27.3 percent in 2012 – no surprise with the aging demographic trend.
- Just under 5 percent of households had members who received Supplemental Security Income (largely for people with disabilities), with an average payout of $769 per month – unchanged from 2011, but higher than in 2007 (4 percent, $745 per month).

- The share of households receiving welfare declined for the second year in a row, falling from 4.6 percent in 2010 to 4.3 percent in 2011 and then 4.0 percent in 2012 – still higher than the 3.1 percent in 2007. The average benefit also fell and at $279 per month was 9 percent lower than in 2007.
- Households receiving food stamps rose again in 2012, reaching 15.1 percent of the state, almost double the 2007 figure.
- The proportion of households receiving private pension payments rose slightly to 18.3 percent in 2012, while the average annual payout per household has not changed significantly from the 2007 level.
- Health insurance coverage did not change significantly in 2012. Similar to other indicators, it was worse than in 2008: over 100,000 fewer people had insurance and of those with coverage, more relied on government programs and fewer had private insurance.

Since 2008, the number of households in lower-income brackets has increased, while the number of those in upper-income brackets has fallen (*Figures 6-2* and *6-3*). The poverty rate was little changed, staying more than 2 percentage points above the 2007 level.[27] Child poverty did not change significantly in 2012 and so was still almost 4 percentage points higher than before the recession (2008).

The homeownership rate was 62.3 percent in 2012, well below the peak of 66.1 percent in 2007. The percent of households in economic distress due to high housing costs rose in the first few years of the recession, but then declined through the foreclosure process as homeowners transitioned to renters. The overall distress rate was still higher in 2012 than in 2008, as the increase in distressed renters offset the decline in distressed homeowners. In mid-2013, according to one source,10 percent of homeowners with a mortgage were underwater (i.e., had mortgage debt greater than the market value of the home) – half the rate from a year before.[28]

[27] The U.S. government establishes a poverty threshold every year that is based on family size. In 2012, the threshold for a family of two adults and two children was $23,283. Thresholds for other family sizes are available at www.census.gov/hhes/www/poverty/data/threshld/index.html.

[28] The CoreLogic Negative Equity Report for second-quarter 2013 is available at www.corelogic.com/research/negative-equity/corelogic-q2-2013-equity-report.pdf.

Figure 6-2. Selected household statistics
Washington state, 2007 through 2012
Source: U.S. Census Bureau, American Community Survey

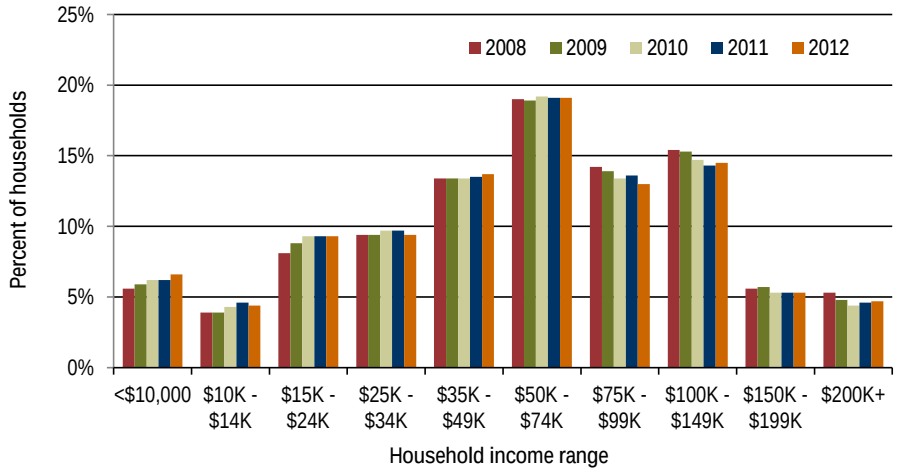
Household statistic	2007	2008	2009	2010	2011	2012
Households with income below $10,000	N/A	5.6%	5.9%	6.2%	6.2%	6.6%
Households with income between $10,000 and $24,999	N/A	12.0%	12.7%	16.6%	13.9%	13.7%
Households with income between $25,000 and $49,999	N/A	22.8%	22.8%	23.1%	23.2%	23.1%
Households with income between $50,000 and $74,999	N/A	19.0%	18.9%	19.2%	19.1%	19.1%
Households with income of $75,000 or higher	N/A	40.5%	39.7%	37.8%	37.8%	37.5%
Poverty rate, all individuals	11.4%	11.4%	12.3%	13.4%	13.9%	13.5%
Poverty rate, children under 5	17.8%	17.4%	18.1%	21.8%	20.4%	21.0%
Households with earnings from a job*	81.3%	81.4%	80.6%	79.2%	79.0%	78.7%
Average household earnings from a job**	$80,377	$80,013	$78,313	$75,982	$76,188	$77,120
Full-time workers***	2,685,775	2,693,371	2,634,793	2,550,080	2,546,825	2,586,885
Part-time workers***	825,307	857,128	886,544	891,488	907,761	893,713
Median earnings for all workers	$34,931	$33,868	$32,289	$32,150	$32,270	$31,989
Median earnings for male full-time, year-round workers	$54,889	$54,293	$54,788	$54,766	$54,119	$52,529
Median earnings for female full-time, year-round workers	$41,359	$40,415	$41,875	$41,547	$41,417	$41,062
Percent of workers who are self-employed	6.8%	6.4%	6.6%	6.2%	6.1%	6.3%
Households receiving Social Security*	24.7%	24.8%	25.2%	25.8%	26.9%	27.3%
Households receiving private pension payments	18.0%	18.0%	17.7%	17.9%	17.7%	18.3%
Average monthly payout for with private pensions	$1,933	$1,911	$1,968	$1,956	$2,029	$1,970
Households receiving Supplemental Security Income (SSI)*	3.7%	3.1%	3.2%	4.8%	4.8%	4.7%
Average monthly payout for those receiving SSI	$745	$753	$707	$780	$756	$769
Households receiving welfare cash payments*	3.1%	3.4%	4.1%	4.6%	4.3%	4.0%
Average monthly payout for welfare recipients	$308	$332	$332	$347	$315	$279
Households receiving food stamps*	7.7%	8.7%	11.1%	13.3%	14.5%	15.1%
Residents without health insurance	NA	12.5%	13.4%	14.2%	14.2%	13.9%
Number of residents without health insurance	NA	841,997	877,608	945,589	952,630	944,771
Residents with private health insurance	NA	4,729,276	4,645,376	4,603,136	4,624,495	4,688,399
Residents relying solely on public health insurance	NA	856,962	1,023,165	1,089,356	1,139,697	1,159,908
Renters paying more than 30 percent of income for housing	47.2%	47.9%	50.1%	51.1%	50.7%	50.7%
Homeownership rate	66.1%	65.3%	64.3%	63.1%	62.8%	62.3%
Homeowners paying more than 30 percent of income for housing	33.5%	34.1%	33.6%	33.5%	32.2%	30.0%

*Households may fall into more than one of these categories.
**Includes earnings from all members in the household.
***Full-time workers (ages 16 through 64) usually worked at least 35 hours per week (but may not be year-round workers).

There were more people in poverty, more depending on the safety net and fewer homeowners in 2012 compared with 2008.

Since 2008, the percent of households with less than $25,000 in income climbed from 17.6 percent to 20.3 percent. There was a small net change in the percent with incomes of $25,000 to $74,999 (41.8 percent to 42.2 percent), while the percent with incomes of $75,000 and above slipped three percentage points to 37.5 percent.

Figure 6-3. Percent of households by income range, 2012 dollars
Washington state, 2008 through 2012
Source: U.S. Census Bureau, American Community Survey



There were more lower-income households and fewer upper-income households from 2008 to 2012.

To summarize: The great recession took a bite out of incomes and pushed more people onto government assistance programs. Only four of 10 income brackets showed some improvement from 2011 to 2012.

Figure 6-4. Average annual wage for jobs covered by unemployment insurance, in 2012 dollars
Washington state, 2007 through 2012
Source: Employment Security Department/LMPA, Unemployment Insurance Data Warehouse

	2007	2008	2009	2010	2011	2012
Covered jobs	2,926,417	2,950,742	2,836,354	2,808,445	2,844,391	2,894,410
Average annual wage	$50,227	$49,926	$51,217	$51,295	$51,317	$51,964

The average annual wage has increased every year since 2009.

Average annual wage

The average annual wage for jobs is computed by dividing the total payroll of employers by the average monthly count of employees. Full-time and part-time workers are not differentiated. In Washington, the average rose each year from 2008 to 2012, when it reached $51,964 (*Figure 6-4*). However, there were fewer jobs in 2012 than in 2008.

Hourly wages and hours worked

The previous section focused on households and families and the income they receive, regardless of source. This section focuses on jobs and the wages they pay.

Specifically, this section focuses on the trends for jobs covered by the state unemployment-insurance system. Bonuses and overtime pay are included as part of wages; benefits, tips and other non-wage payments are not. Federal government jobs and jobs with private household employers are excluded.[29]

Every three months, each employer in the state of Washington submits a list of their employees, the wages earned and the hours worked by each employee to the Employment Security Department. These reports are compiled into a quarterly wage file that has more than 3 million records. Some of the jobs in the quarterly wage file are of very short duration, while many are for full-time jobs (typically 520 hours in a quarter). In this analysis, jobs are weighted by the number of hours worked, with one full-time equivalent (FTE) job equaling 2,080 hours of work.[30] A job that lasts 208 hours, for example, would be counted as 0.1 FTE.

[29] NAICS code 814. NAICS is the North American Industrial Classification System.
[30] In some years, an FTE job may be 2,088 hours.

From 2007 to 2010, the number of jobs covered by unemployment insurance fell 4.8 percent, while the number of FTE jobs declined by 6.8 percent (*Figure 6-5*). The FTE measure captured both the loss of jobs and the cut in hours worked in jobs that were not eliminated entirely. Conversely, from 2010 to 2012, the number of jobs increased by 3.2 percent, while FTE employment grew by 4.7 percent, indicating not only more jobs but some recovery in hours worked. From 2007 through 2012, the net loss was similar for both measures (a decrease of 1.8 percent for jobs and a decrease of 1.0 percent for FTE jobs).

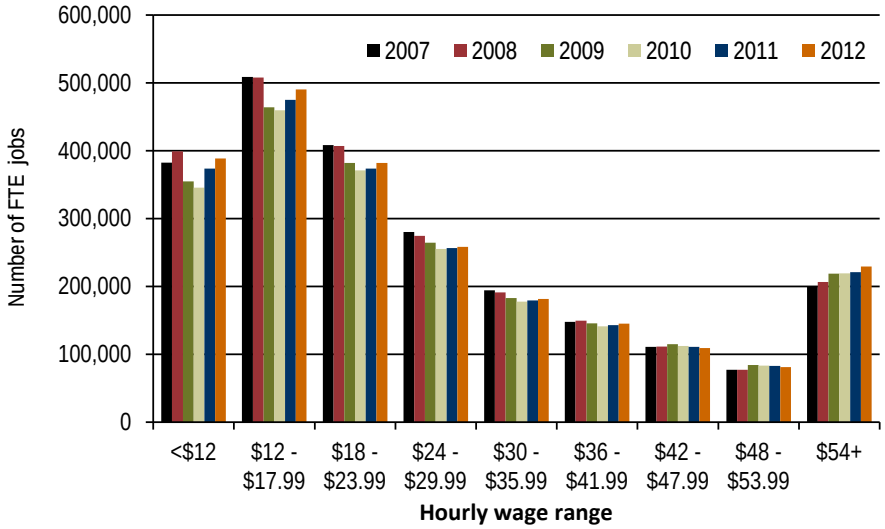
Figure 6-5. Covered employment vs. FTE employment
Washington state, 2007 through 2012
Source: Employment Security Department/LMPA, Unemployment Insurance Data Warehouse

Employment	2007	2008	2009	2010	2011	2012
Covered employment	2,823,235	2,858,092	2,720,016	2,686,979	2,726,385	2,771,768
FTE employment	2,308,857	2,323,831	2,211,408	2,163,882	2,214,431	2,265,153

Recovery in hours worked began in 2010.

In 2012, jobs were added in seven of the nine wage ranges displayed in *Figure 6-6*. Job growth was fastest at the extremes, increasing 4 percent for both high-wage jobs ($54 per hour and higher) and for jobs paying below $12 per hour). There were still fewer jobs in every wage range below $48 per hour in 2012 than in 2007, with the exception of jobs paying below $12 per hour. However, there was steady growth through the recession and the recovery in the highest wage category shown.

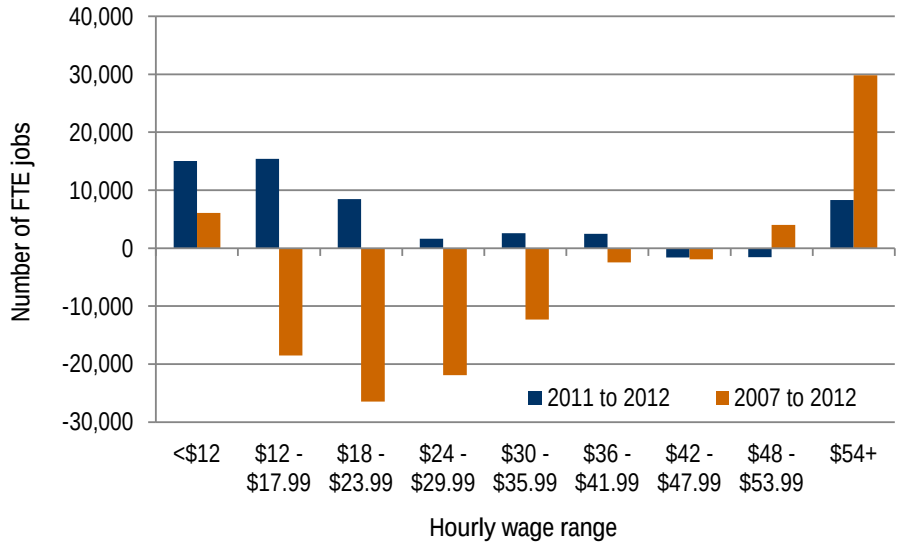
Figure 6-6. Change in average annual wages, in 2012 dollars
Washington state, 2007 through 2012
Source: Employment Security Department/LMPA, Unemployment Insurance Data Warehouse



There were net losses in jobs paying below $48 per hour and a net gain in jobs paying more than $48 per hour.

Construction and non-aerospace manufacturing – the two industries hit hardest by the downturn – accounted for much of the job losses for lower- and middle-wage jobs from 2007 to 2012 (*Figure 6-7*). For example, 84 percent of the 18,500 jobs lost in the $12- to $17.99-per-hour wage range were in these two industries. Much of the increase in jobs at the top end could be traced to a handful of industries: software, professional services (particularly computer systems design) and healthcare (evenly split between clinics and hospitals).[31]

Figure 6-7. Change in number of FTE jobs by hourly wage range, 2012 dollars
Washington state, 2007 to 2012 and 2011 to 2012
Source: Employment Security Department/LMPA, Unemployment Insurance Data Warehouse



Job losses were predominantly on the lower end and middle of the wage spectrum from 2007 to 2012.

[31] Employment levels by industry are reported in the Quarterly Census of Employment and Wages published at: https://fortress.wa.gov/esd/employmentdata/reports-publications/industry-reports/quarterly-census-of-employment-and-wages.

Figure 6-8. Measuring the wage gap, in 2012 dollars
Washington state, 2007, 2011 and 2012
Source: Employment Security Department/LMPA, Unemployment Insurance Data Warehouse

	State			All except King County		
Average wage for	2007	2011	2012	2007	2011	2012
Lowest-paid 10 percent of jobs	$9.36	$9.37	$9.28	$9.12	$9.03	$9.17
Median wage	$21.67	$22.05	$21.64	$19.26	$19.44	$19.24
Highest-paid 10 percent of jobs	$90.28	$95.78	$98.09	$67.76	$70.86	$71.46
Ratio of highest 10 to lowest 10	9.6	10.2	10.6	7.4	7.8	7.8
Ratio of highest 10 to median	4.2	4.3	4.5	3.5	3.6	3.7
Ratio of median to lowest 10	2.3	2.4	2.3	2.1	2.2	2.1

The gap between high-wage jobs and low-wage jobs broadened again in 2012 from 2011.

The median hourly wage declined slightly for the second year in a row in 2012, falling 41 cents to $21.64 (*Figure 6-8*). Wages for the bottom 10 percent of jobs have been stable, thanks to the inflation-adjusted minimum wage. The average wage for the top 10 percent of jobs increased by two percent in 2012, for the fourth year in a row.

This meant that wage disparity continued to increase during the recession and the recovery. The gap between the average wage for the lowest-paid 10 percent of jobs and the average wage for the highest-paid 10 percent of jobs widened (*Figure 6-8*). The gap between the median and the lowest-paid 10 percent of jobs shrank slightly, while the gap between the median and the highest-paid 10 percent of jobs grew. The upper 10 percent paying jobs do not include many corporate officers (generally the highest-paid employees). Wages do not include stock options or income from capital gains.

Personal and per capita income

Personal income is the sum of earned income (from owning a business or holding a job), investment income and transfer payments chiefly from government programs such as Social Security, Medicare and Medicaid, welfare, food stamps, Supplemental Security Income (SSI) and unemployment insurance. Per capita personal income is the total personal income of an area divided by the population of the area. Since per capita income is an average, it is influenced by factors such as relative concentration of high-income households, family size and the number of retirees in an area (*Figure 6-9*).

Per capita income peaked in 2008 for the years shown in *Figure 6-9*, dropped sharply in 2009, slid a bit more in 2010 and then started to recover in 2011. The recovery continued in 2012, when after adjustment for inflation, income rose by 1.8 percent to $46,045. That was still 1.6 percent short of the 2008 level.

Figure 6-9. Personal income including transfer payments, in 2012 dollars
Washington state, 2008 through 2012
Source: Employment Security Department/LMPA; U.S. Bureau of Economic Analysis

Type of income	2008	2009	2010	2011	2012
Total personal income (billions)	$307.00	$297.60	$299.00	$308.70	$317.60
Earned income	$197.20	$190.30	$191.70	$198.90	$205.40
Investment income	$69.20	$59.40	$56.20	$59.70	$62.00
Transfer payments	$40.70	$48.00	$51.10	$50.00	$50.10
Social Security/retirement	$15.80	$17.20	$17.70	$18.00	$18.70
Medicare and Medicaid	$14.80	$15.90	$16.70	$17.20	$17.60
Welfare, food stamps, Social Security Income	$4.60	$5.50	$6.30	$6.20	$5.90
Unemployment benefits	$1.30	$4.00	$4.50	$3.30	$2.50
Per capita personal income (dollars)	$46,786	$44,643	$44,343	$45,241	$46,045
Earned income	$30,044	$28,546	$28,432	$29,155	$29,782
Investment income	$10,539	$8,903	$8,339	$8,752	$8,995
Transfer payments	$6,203	$7,193	$7,572	$7,333	$7,268
Social Security/retirement	$2,407	$2,586	$2,620	$2,631	$2,711
Medicare and Medicaid	$2,258	$2,380	$2,482	$2,515	$2,546
Welfare, food stamps, Social Security Income	$696	$831	$935	$902	$856
Unemployment benefits	$202	$600	$668	$480	$364

Transfer payments, chiefly from government programs, grew during the recession and remained high in 2012.

Total earned income continued its comeback in 2012. After a big drop in 2009 and little improvement in 2010, income from wages and business ownership rose by 3.8 percent in 2011 and by 3.3 percent in 2012. On a per capita basis, the increases were 2.5 percent and 2.2 percent. Earned income accounted for 65 percent of total personal income, up from 64 percent in 2009.

Investment income cratered in 2009 (-14 percent), tumbled further in 2010 (-5 percent) and then started making up ground, increasing 6 percent in 2011 and 4 percent in 2012. Despite two good years, then, investment income was 10 percent below 2007 levels.

For almost two decades, total transfer payments had grown along with the economy, consistently comprising about 13 percent of personal income. With the onset of the recession, they played a countercyclical role, climbing by 7 percent in 2008, 18 percent in 2009 and 7 percent in 2010, when they made up 17 percent of total income. Social Security retirement payments, which had been trending upward by about 2 percent a year, jumped by 9 percent in 2009, as people were forced into early retirement.

In the past two years, transfer payments have stabilized, falling by 2 percent in 2011 followed by a tiny increase in 2012, well below the rate of population growth. While Social Security retirement, Medicare and Medicaid payments have continued to expand, income maintenance programs (e.g., welfare, food stamps, Social Security Income) have declined for two years running, and unemployment benefits have fallen by almost half.

One of the more controversial elements of transfer payments has been Supplemental Security Income (SSI), out of concern that individuals were seeking long-term disability benefits rather than returning to work. By way of comparison, SSI payments made up 1.8 percent of total transfer payments in 1990 and 1.9 percent in 2012, making up a stable proportion of overall transfer payments.

Chapter 7: Economic comparisons with other states

Figure 7-1. States with minimum wage higher than federal minimum wage, based on 2013 ranking
United States and Washington state, 2003, 2008 and 2013
Source: U.S. Department of Labor, Wage and Hour Division

Rank	State	2003	2008	2013
	United States	$5.15	$5.85	$7.25
1	Washington	$7.01	$8.07	$9.19
2	Oregon	$6.90	$7.95	$8.95
3	Vermont[1]	$6.25	$7.68	$8.60
4	Connecticut	$6.90	$7.65	$8.25
4	District of Columbia	$6.15	$7.00	$8.25
4	Illinois[2]	$5.15	$7.50	$8.25
4	Nevada	$5.15	$6.33	$8.25
8	California	$6.75	$8.00	$8.00
8	Massachusetts	$6.75	$8.00	$8.00
10	Ohio	$2.50-$4.25	$7.00	$7.85
11	Arizona	N/A	$6.90	$7.80
11	Montana	$4.00-$5.15	$4.00-$6.25	$7.80
13	Florida	N/A	$6.79	$7.79
14	Colorado	$5.15	$7.02	$7.78
15	Alaska	$7.15	$7.15	$7.75
15	Rhode Island	$6.15	$7.40	$7.75
17	Maine	$6.25	$7.00	$7.50
17	New Mexico	$4.25	$6.50	$7.50

N/A = Wages not above federal minimum.
[1]Rates applicable to employers of two or more.
[2]Rates applicable to employers of four or more.

Minimum Wage

Unemployment Rates

Figure 7-2. Ten highest and lowest state unemployment rates, seasonally adjusted, based on 2012 ranking
United States and Washington state, 2002, 2007, 2012 and January-June 2013
Source: Employment Security Department/LMPA; U.S. Bureau of Labor Statistics, Local Area Unemployment Statistics

Rank	State	2002	2007	2012	Average January through June 2013
	United States	5.8%	4.6%	8.1%	7.7%
1	North Dakota	3.5%	3.1%	3.1%	3.2%
2	Nebraska	3.7%	3.0%	4.0%	3.8%
3	South Dakota	3.3%	2.9%	4.4%	4.2%
4	Vermont	4.0%	3.9%	5.0%	4.3%
5	Iowa	3.9%	3.8%	5.2%	4.8%
5	Oklahoma	4.9%	4.1%	5.2%	5.1%
7	Wyoming	4.1%	2.8%	5.4%	4.8%
8	New Hampshire	4.5%	3.5%	5.5%	5.6%
9	Minnesota	4.6%	4.7%	5.6%	5.4%
10	Kansas	5.1%	4.1%	5.7%	5.6%
10	Utah	5.8%	2.6%	5.7%	4.9%
33	Washington	7.3%	4.5%	8.2%	7.2%
42	Georgia	4.8%	4.7%	9.0%	8.5%
42	District of Columbia	6.8%	5.5%	9.0%	8.6%
44	South Carolina	6.0%	5.6%	9.1%	8.3%
44	Michigan	6.2%	7.1%	9.1%	8.6%
44	Mississippi	6.7%	6.3%	9.1%	9.3%
47	New Jersey	5.8%	4.3%	9.5%	9.0%
47	North Carolina	6.6%	4.8%	9.5%	9.1%
49	Rhode Island	5.1%	5.2%	10.4%	9.2%
50	California	6.7%	5.4%	10.5%	9.2%
51	Nevada	5.9%	4.7%	11.1%	9.6%

Figure 7-3. Highest and lowest state average annual job-growth rates, nonfarm employment
United States and Washington state, 2000 to 2012
Source: Employment Security Department/LMPA; U.S. Bureau of Labor Statistics, Current Employment Statistics

Rank	State	Average annual growth rate (2000 to 2012)
	United States	0.1%
1	North Dakota	2.3%
2	Wyoming	1.6%
3	Alaska	1.4%
4	Utah	1.3%
5	Texas	1.2%
6	District of Columbia	1.0%
6	Montana	1.0%
8	Nevada	0.9%
8	Idaho	0.9%
10	South Dakota	0.8%
10	Hawaii	0.8%
10	Arizona	0.8%
13	New Mexico	0.6%
13	Oklahoma	0.6%
15	Virginia	0.5%
15	Washington	0.5%
42	Missouri	-0.2%
46	Connecticut	-0.3%
46	Indiana	-0.3%
48	Mississippi	-0.4%
48	Illinois	-0.4%
50	Ohio	-0.7%
51	Michigan	-1.2%

Nonfarm Employment

Annual Exports

Figure 7-4. Ten highest and lowest state annual exports in thousands of dollars, based on 2012 ranking
United States and Washington state, 2002, 2007 and 2012
Source: U.S. Census Bureau, State Trade Data

Rank	State	2002	2007	2012
1	Texas	$95,427,210.0	$168,163,761.0	$265,324,307.0
2	California	$92,177,507.0	$134,318,905.0	$161,699,610.0
3	New York	$37,757,070.0	$71,115,802.0	$79,188,945.0
4	Washington	$34,740,519.0	$52,089,479.0	$75,524,522.0
5	Illinois	$25,674,570.0	$48,896,252.0	$68,026,302.0
6	Florida	$24,475,130.0	$44,858,052.0	$66,398,014.0
7	Louisiana	$17,583,100.0	$30,318,916.0	$63,155,727.0
8	Michigan	$33,969,076.0	$44,555,346.0	$56,902,112.0
9	Ohio	$27,773,880.0	$42,562,231.0	$48,535,071.0
10	Pennsylvania	$15,745,835.0	$29,195,438.0	$38,868,923.0
42	North Dakota	$860,284.0	$2,046,359.0	$4,287,603.0
43	New Hampshire	$1,864,324.0	$2,914,137.0	$3,485,306.0
44	Maine	$1,979,989.0	$2,750,331.0	$3,058,023.0
45	New Mexico	$1,187,119.0	$2,585,116.0	$2,979,961.0
46	Rhode Island	$1,121,047.0	$1,648,705.0	$2,376,087.0
47	District of Columbia	$1,065,859.0	$1,082,132.0	$2,014,813.0
48	Montana	$386,284.0	$1,133,675.0	$1,572,544.0
49	South Dakota	$596,453.0	$1,509,874.0	$1,550,152.0
50	Wyoming	$553,501.0	$802,202.0	$1,420,495.0
51	Hawaii	$514,041.0	$560,070.0	$726,222.0

Figure 7-5. Ten highest and lowest state per capita personal income, in 2012 dollars, based on 2012 ranking
United States and Washington state, 2002 and 2012
Source: U.S. Bureau of Economic Analysis, National Bureau of Economic Research

Rank	State	2002	2012	Average annual growth rate
	United States	$31,481	$42,693	3.1%
1	District of Columbia	$46,347	$74,710	4.9%
2	Connecticut	$43,243	$58,908	3.1%
3	Massachusetts	$39,597	$54,687	3.3%
4	New Jersey	$39,936	$53,628	3.0%
5	New York	$35,448	$52,095	3.9%
6	Maryland	$37,092	$51,971	3.4%
7	North Dakota	$27,161	$51,893	6.7%
8	Wyoming	$31,890	$48,670	4.3%
9	Virginia	$33,737	$47,082	3.4%
10	New Hampshire	$35,231	$47,058	2.9%
13	Washington	$33,126	$45,413	3.2%
42	Arizona	$27,459	$35,979	2.7%
43	Alabama	$25,762	$35,625	3.3%
44	New Mexico	$24,977	$35,079	3.5%
45	Kentucky	$25,856	$35,041	3.1%
46	Arkansas	$24,260	$34,723	3.7%
47	Utah	$25,754	$34,601	3.0%
48	West Virginia	$24,302	$34,477	3.6%
49	South Carolina	$26,049	$34,266	2.8%
50	Idaho	$26,042	$33,749	2.6%
51	Mississippi	$23,131	$33,073	3.6%

Personal Income

Building Permits

Figure 7-6. Ten highest and lowest states in number of authorized privately owned building permits, based on 2006 ranking
United States and Washington state, 2006 and 2012
Source: U.S. Census Bureau, Building Permits Survey

Rank	State	2006 building permits	2012 building permits	Percent change 2006 through 2012
	United States	1,838,903	829,658	**-54.9%**
1	Texas	216,642	135,514	-37.4%
2	Florida	203,238	64,810	-68.1%
3	California	160,502	58,549	-63.5%
4	Georgia	104,200	24,350	-76.6%
5	North Carolina	99,979	48,692	-51.3%
6	Arizona	65,363	21,726	-66.8%
7	Illinois	58,802	13,797	-76.5%
8	New York	54,382	24,872	-54.3%
9	South Carolina	50,776	18,708	-63.2%
10	Washington	50,033	28,118	**-43.8%**
42	New Hampshire	5,677	2,296	-59.6%
43	West Virginia	5,645	2,718	-51.9%
44	South Dakota	5,304	4,178	-21.2%
45	Montana	4,542	2,736	-39.8%
46	Wyoming	3,537	2,110	-40.3%
47	North Dakota	3,529	10,340	193.0%
48	Alaska	2,739	994	-63.7%
49	Vermont	2,626	1,301	-50.5%
50	Rhode Island	2,370	731	-69.2%
51	District of Columbia	2,105	3,823	81.6%

Figure 7-7. Median single-family house prices in $ thousands, based on 2006 ranking
Selected U.S. metropolitan areas, 2006 and 2012
Source: National Association of Realtors

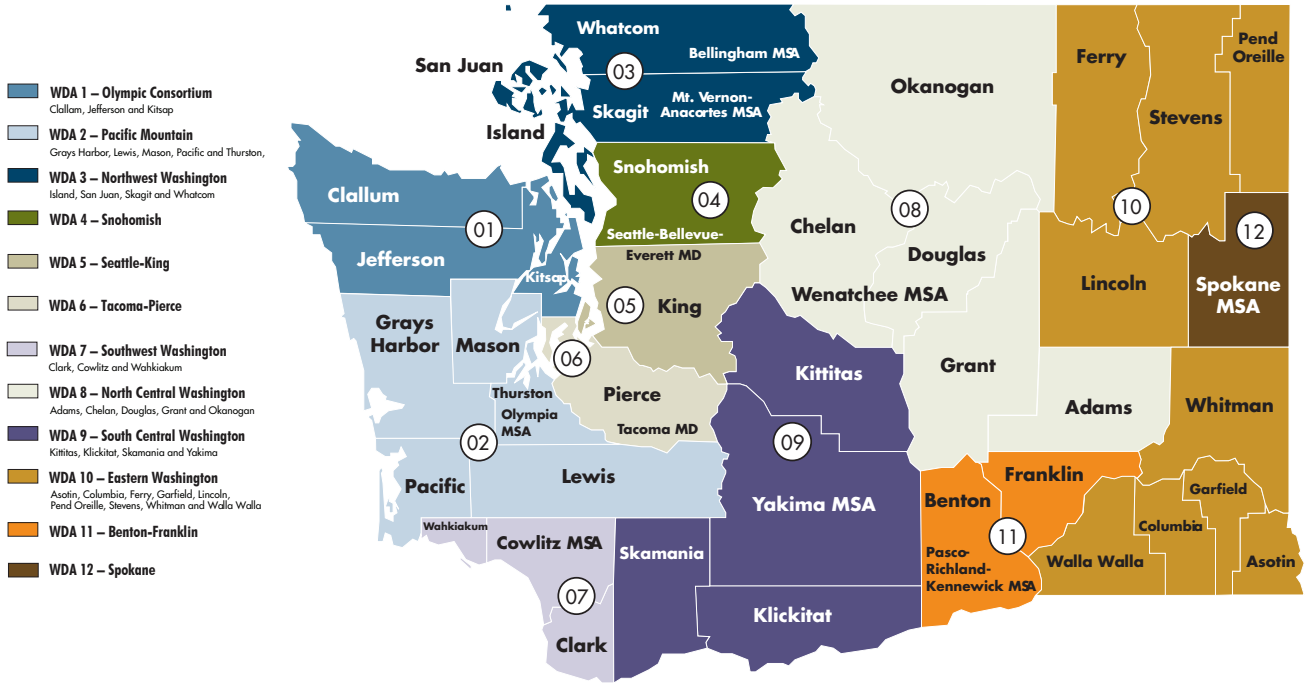
Home Prices

Rank	Metropolitan area	2006	2012	Percent change 2006 to 2012
	United States	221.9	177.2	**-20.1%**
1	San Jose-Sunnyvale-Santa Clara, CA	775.0	645.0	-16.8%
2	San Francisco-Oakland-Fremont, CA	752.8	543.8	-27.8%
3	Anaheim-Santa Ana-Irvine, CA	709.0	542.7	-23.5%
4	Honolulu, HI	630.0	628.8	-0.2%
5	San Diego-Carlsbad-San Marcos, CA	601.8	385.5	-35.9%
6	Los Angeles-Long Beach-Santa Ana, CA	584.8	327.5	-44.0%
7	New York-Wayne-White Plains, NY-NJ	539.4	444.9	-17.5%
8	NY: Nassau-Suffolk, NY	474.7	382.7	-19.4%
20	**Seattle-Tacoma-Bellevue, WA**	361.2	300.4	**-16.8%**
28	Portland-Vancouver-Beaverton, OR-WA	280.8	232.9	-17.1%
54	Salem, OR	212.9	147.7	-30.6%
66	Spokane, WA	184.1	169.5	**-7.9%**
78	**Kennewick-Richland-Pasco, WA**	156.1	183.3	17.4%
108	Yakima, WA	136.5	162.0	18.7%
147	Cumberland, MD-WV	95.7	96.2	0.5%
148	South Bend-Mishawaka, IN	92.7	85.7	-7.6%
149	Elmira, NY	86.8	106.9	23.2%
150	Decatur, IL	85.4	112.9	32.2%
151	Youngstown-Warren-Boardman, OH-PA	81.5	N/A[1]	N/A[1]

[1]N/A = not available

Appendix 1: Washington's workforce development areas (WDAs)

Appendix figure A1-1. Washington State Workforce Development Areas



Appendix 2: Seasonal, structural and cyclical industry employment

To identify the major factors of monthly employment changes, we used the U.S. Census Bureau's X-12-ARIMA seasonal adjustment software to break our time series into three components: seasonal, trend (structural)-cycle and irregular. We then used the Hodrick-Prescott filter to separate trend and cycle components from trend-cycle series.

We used a multiplicative seasonal adjustment option of the Census software. Decomposition of employment for each point of time (month, for our case) is:

Employment = (trend +cycle) × seasonal × irregular

Such decomposition allows us to identify the contribution of trend and cycle components to employment growth, while seasonal and irregular components are maintained as equal multipliers for each factor.

Alternatively, we used the default series diagnostic test from the SAS Time Series Forecasting System. A seasonal dummy model with AR(1) errors was fit and the joint significance of seasonal dummy estimates was tested. If the seasonal dummies were significant, the Akaike Information Criterion (AIC) statistic for this model was compared to the AIC for the AR(1) model without seasonal dummies. If the AIC for the seasonal model was lower than that of the non-seasonal model, the seasonal option was set to YES. Otherwise the seasonal option was NO and not used.

We used trend-cycle results from the Census software as the initial series for the analyses of the contributions of structural and cyclical components of growth. To do so, we used the Hodrick-Prescott filter.

The filter is a smoothing method that is widely used among macroeconomists to obtain a smooth estimate of the long-term trend component of a series.

Technically, the Hodrick-Prescott (HP) filter is a two-sided linear filter that computes the smoothed series s of y by minimizing the variance of y around s, subject to a penalty that constrains the second difference of s. That is, the HP filter chooses s to minimize:

$$\sum_{t=1}^{T} ({}^{y}t - {}^{s}t)^2 + \lambda \sum_{t=2}^{T-1} ({}^{s}t + 1 - {}^{s}t) - ({}^{s}t - {}^{s}t-1))^2$$

The penalty parameter λ controls the smoothness of the series s. The larger the λ, the smoother the s. As λ=∞, s approaches a linear trend.

We used default value λ=14,400 for monthly frequency of the data. The default value was defined by dividing the number of periods per year by 4 raised to a power (default value 2) and multiplying by 1,600.

The Granger causality test is a technique for determining whether one time series is useful in forecasting another – put another way, answering the question whether a time series "X" causes time series "Y," to see how much of the current "Y" values can be explained by past values of the same series and then to see whether adding lagged values of "X" can improve the explanation.

In this case, the question is whether another variable "Granger causes" changes in employment if the lags for that variable as a group are significant in explaining employment. This could be determined by running the model with all variables, then without the lags for the variable being Granger-analyzed and performing an F-test to see whether there has been a significant change in the amount of explained employment variation.

The results of Granger causality do not necessary provide a clear story, such as series "X" Granger-causes series "Y," but not the other way around. We can find that neither series Granger-causes the other, or that each Granger-causes the other.

Moreover, Granger causality does not imply true causality. If both series "X" and "Y" are driven by a common third process (variable, series), but with different lags, there would be Granger causality. However, the changes in one series would not have a significant effect on the other.

Seasonal industries

The level of employment seasonality for an industry is expressed through its seasonal factor value. This factor is defined by the variance between the seasonal factors and 1. The larger the variance becomes, the larger the factor value becomes. The third column of the table in Figure *Appendix figure A2-1* lists the mean absolute percent differences between the monthly seasonal factor and 1, for each industry. To interpret the seasonal factors, arbitrary thresholds were established. Industries with a seasonal factor value of up to 1 percent were identified as non-seasonal. Industries with a factor value greater than 1 and up through 2 percent were identified as having low levels of seasonality. Industries with a factor value greater than 2 and up through 4 percent were identified as having moderate levels of seasonality, while industries with a factor value greater than 4 percent were considered to have high levels of seasonality. The results are listed in column four.

An alternative approach for establishing industry seasonality uses the default series diagnostic test from the SAS Time Series Forecasting System. The main difference is that the first test is based on volume of seasonality while the second one responds to the question of whether including the seasonal factor in the autoregressive model improves the quality of the estimates. The results of the SAS test are presented in column five and all of the industries identified as highly seasonal under the first test are also identified as seasonal by this test.

Structural and cyclical industries

The relative contributions to monthly employment change are calculated as the average for all months of absolute differences for specific factors (presented in columns six and seven of the table in *Appendix figure A2-1*). The percentages of relative contributions for trend (structural) and cycle components are presented in columns eight and nine. The industry that had the lowest cyclical component contribution (just under 32 percent) was software publishers, while scenic and sightseeing transportation, support activities for mining and crop production had the highest cyclical component contribution (at least 80 percent). However, the structural component accounted for the dominate share of the change of total employment (58.3 percent), while the cyclical component accounted for the residual 41.7 percent.

The last four columns of the table represent an attempt to connect the employment trends for specific industries with the trends for total covered employment. The first of these four columns represents correlations of trend-cycle series of monthly employment between industries and total employment, while the second one represents correlations of the first differences (monthly changes) for the same series.

The second-to-last column of the table represents an attempt to identify the industries for which monthly employment changes could help in predicting the next month's changes in total employment. The F statistics from the Granger causality test for differences in trend-cycle series with a lag of one month are presented in this column. The value of "F" indicates the significance of the statistical effect of employment changes in the industry on the next month's employment changes in total employment. Larger values indicate effects that were more significant. F-statistics probabilities used to test for the significance of the effects are listed in the last column. A lower probability indicates higher confidence that the effect is significant.

The results of the last four columns show that the combination of high predictive abilities and statistical correlation with total employment change is greatest in the following industries: administrative and support services, construction of buildings, heavy and civil engineering construction and nonmetallic mineral product manufacturing.

Appendix figure A2-1. Seasonal, structural (trend) and cyclical components of industries
Washington state, 1990 through 2012
Source: Employment Security Department/LMPA; U.S. Bureau of Labor Statistics, Quarterly Census of Employment and Wages

NAICS	Industries	Seas. factor	Level of seas.	SAS Seas. Ident.	Trend (average number)	Cycle (average number)	Trend (percent)	Cycle (percent)	Correlation with total employ.	Correlation of first differences	F-statistic for Granger test (1-month lag)	Probability
	Total covered employment	1.6%	Low	Yes	3,588	2,566	58.3%	41.7%	100.0%	100.0%		
111	Crop production	34.2%	High	Yes	99	399	20.0%	80.0%	28.9%	20.7%	3.32	0.07
112	Animal production	3.0%	Mod	Yes	7	25	22.1%	77.9%	73.9%	9.2%	0.01	0.93
113	Forestry and logging	3.4%	Mod	Yes	23	31	43.1%	56.9%	-86.4%	25.6%	0.17	0.68
114	Fishing, hunting and trapping	8.1%	High	Yes	7	16	28.6%	71.4%	-94.5%	2.0%	3.73	0.05
115	Support activities for agriculture and forestry	14.5%	High	Yes	43	101	29.9%	70.1%	93.5%	10.2%	9.79	0.00
212	Mining (except oil and gas)	3.9%	Mod	Yes	11	13	45.8%	54.2%	-37.7%	47.1%	2.32	0.13
213	Support activities for mining	8.1%	High	Yes	1	5	17.4%	82.6%	-72.5%	-3.2%	0.00	0.96
221	Utilities	1.0%	NS	No	10	25	27.8%	72.2%	-74.7%	-0.6%	1.74	0.19
236	Construction of buildings	3.5%	Mod	Yes	136	127	51.7%	48.3%	57.8%	74.5%	32.87	0.00
237	Heavy & civil engineering construction	9.0%	High	Yes	51	71	41.7%	58.3%	52.0%	62.0%	27.13	0.00
238	Specialty trade contractors	3.8%	Mod	Yes	356	296	54.6%	45.4%	86.2%	83.4%	13.58	0.00
311	Food manufacturing	4.9%	High	Yes	38	84	30.8%	69.2%	-65.7%	20.2%	1.29	0.26
312	Beverage and tobacco product manufacturing	4.4%	High	Yes	11	14	44.3%	55.7%	76.0%	19.0%	1.96	0.16
313	Textile mills	1.6%	Low	No	2	5	29.8%	70.2%	-84.9%	17.8%	3.13	0.08
314	Textile product mills	1.5%	Low	Yes	8	11	44.4%	55.6%	-58.6%	33.3%	2.97	0.09
315	Apparel manufacturing	2.6%	Mod	Yes	18	21	45.5%	54.5%	-80.1%	29.0%	0.56	0.46
316	Leather and allied product manufacturing	2.9%	Mod	No	1	4	24.2%	75.8%	-90.8%	-3.7%	0.30	0.58
321	Wood product manufacturing	1.4%	Low	Yes	60	76	44.4%	55.6%	-73.2%	54.8%	20.52	0.00
322	Paper manufacturing	1.0%	NS	Yes	33	38	47.0%	53.0%	-84.3%	15.7%	0.75	0.39

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323	Printing and related support activities	0.8%	NS	Yes	32	28	53.3%	46.7%	-74.6%	45.3%	0.28	0.60
324	Petroleum and coal products manufacturing	2.0%	Low	Yes	3	10	25.8%	74.2%	35.9%	-3.0%	1.38	0.24
325	Chemical manufacturing	0.7%	NS	No	15	20	43.0%	57.0%	38.4%	42.3%	0.02	0.87
326	Plastics and rubber products manufacturing	1.3%	Low	Yes	28	32	46.7%	53.3%	50.6%	61.6%	6.46	0.01
327	Nonmetallic mineral product manufacturing	2.6%	Mod	Yes	21	30	41.1%	58.9%	84.0%	64.6%	21.80	0.00
331	Primary metal manufacturing	0.5%	NS	No	45	46	49.5%	50.5%	-80.4%	48.4%	0.69	0.41
332	Fabricated metal product manufacturing	1.1%	Low	Yes	50	59	45.9%	54.1%	75.2%	76.2%	21.42	0.00
333	Machinery manufacturing	0.7%	NS	Yes	51	55	48.1%	51.9%	66.1%	71.0%	4.33	0.04
334	Computer and electronic product manufacturing	0.4%	NS	Yes	102	107	48.9%	51.1%	-43.8%	60.0%	0.09	0.77
335	Electrical equipment, appliance, and component manufacturing	0.7%	NS	No	12	17	40.6%	59.4%	96.5%	49.2%	1.41	0.24
3364	Aerospace product and parts manufacturing	0.6%	NS	No	440	548	44.5%	55.5%	-59.3%	32.2%	5.12	0.02
3366	Ship and boat building	0.6%	NS	No	44	50	47.0%	53.0%	-19.6%	20.7%	1.40	0.24
336	Other transportation equipment manufacturing	1.0%	NS	Yes	31	35	47.1%	52.9%	-32.9%	35.8%	3.33	0.07
337	Furniture and related product manufacturing	1.4%	Low	Yes	25	30	45.8%	54.2%	-14.9%	78.0%	4.63	0.03
339	Miscellaneous manufacturing	1.3%	Low	Yes	22	31	41.2%	58.8%	65.7%	41.1%	8.63	0.00
423	Merchant wholesalers, durable goods	0.6%	NS	Yes	119	101	54.1%	45.9%	84.8%	79.5%	0.23	0.63

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424	Merchant wholesalers, nondurable goods	1.8%	Low	Yes	44	69	39.0%	61.0%	74.2%	54.2%	1.64	0.20
425	Wholesale electronic markets and agents and brokers	1.0%	NS	Yes	66	43	60.4%	39.6%	60.4%	-8.5%	1.21	0.27
441	Motor vehicle and parts dealers	1.2%	Low	Yes	58	70	45.3%	54.7%	72.4%	61.0%	20.12	0.00
442	Furniture and home furnishings stores	1.8%	Low	Yes	25	32	43.4%	56.6%	71.7%	63.6%	18.55	0.00
443	Electronics and appliance stores	2.5%	Mod	Yes	20	47	30.2%	69.8%	73.1%	39.3%	4.42	0.04
444	Building material and garden equipment and supplies dealers	3.6%	Mod	Yes	48	72	39.9%	60.1%	92.9%	56.0%	9.26	0.00
445	Food and beverage stores	1.5%	Low	Yes	68	126	34.9%	65.1%	17.3%	6.4%	0.47	0.49
446	Health and personal care stores	1.3%	Low	Yes	12	34	27.0%	73.0%	87.6%	27.4%	1.62	0.20
447	Gasoline stations	1.9%	Low	Yes	20	23	45.8%	54.2%	-47.8%	28.4%	0.85	0.36
448	Clothing and clothing accessories stores	4.6%	High	Yes	62	101	38.1%	61.9%	36.6%	63.1%	7.25	0.01
451	Sporting goods, hobby, book and music stores	3.8%	Mod	Yes	33	45	42.7%	57.3%	68.3%	51.6%	0.02	0.88
452	General merchandise stores	3.9%	Mod	Yes	169	173	49.4%	50.6%	91.9%	11.5%	3.30	0.07
453	Miscellaneous store retailers	2.0%	Low	Yes	46	34	57.2%	42.8%	46.6%	49.6%	6.10	0.01
454	Non-store retailers	1.5%	Low	Yes	72	63	53.6%	46.4%	87.3%	33.0%	0.56	0.45
481	Air transportation	0.9%	NS	Yes	35	39	46.8%	53.2%	-33.9%	44.4%	0.49	0.49
483	Water transportation	3.5%	Mod	Yes	5	15	23.8%	76.2%	18.5%	10.7%	0.27	0.60
484	Truck transportation	2.5%	Mod	Yes	39	51	43.2%	56.8%	85.4%	66.1%	3.84	0.05
485	Transit and ground passenger transportation	3.1%	Mod	Yes	12	21	37.1%	62.9%	96.7%	11.9%	2.00	0.16
486	Pipeline transportation	0.8%	NS	No	1	2	25.3%	74.7%	-82.1%	3.2%	0.78	0.38
487	Scenic and sightseeing transportation	15.7%	High	Yes	3	15	16.6%	83.4%	-72.8%	6.6%	2.19	0.14

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488	Support activities for transportation	1.1%	Low	No	29	54	35.1%	64.9%	94.7%	36.5%	1.26	0.26
491	Postal service	1.0%	Low	Yes	29	30	48.9%	51.1%	0.9%	41.4%	1.20	0.28
492	Couriers and messengers	4.1%	High	Yes	38	62	37.9%	62.1%	70.5%	39.6%	0.40	0.53
493	Warehousing and storage	3.6%	Mod	Yes	34	66	34.0%	66.0%	-28.4%	12.1%	0.65	0.42
5112	Software publishers	0.8%	NS	Yes	167	77	68.5%	31.5%	96.8%	37.6%	2.81	0.09
511	Other publishers	0.5%	NS	Yes	37	37	50.4%	49.6%	-21.4%	48.6%	1.01	0.32
512	Motion picture and sound recording industries	4.5%	High	Yes	12	31	28.5%	71.5%	80.4%	33.4%	0.04	0.84
515	Broadcasting (except internet)	0.8%	NS	Yes	7	16	29.7%	70.3%	-78.8%	32.1%	1.15	0.28
5171	Wired telecommunications carriers	0.7%	NS	No	55	55	49.9%	50.1%	-66.6%	29.1%	0.49	0.49
5172	Wireless telecommunications carriers (except satellite)	0.9%	NS	No	52	61	46.2%	53.8%	94.2%	11.3%	0.12	0.73
517	Other telecommunications	1.7%	Low	No	32	49	39.3%	60.7%	-12.3%	-7.9%	0.67	0.41
518	Data processing, hosting and related services	0.6%	NS	No	27	49	35.1%	64.9%	41.9%	21.1%	0.47	0.49
519	Other information services	2.6%	Mod	No	31	33	48.5%	51.5%	67.4%	19.5%	1.09	0.30
521	Monetary authorities-central bank	0.7%	NS	No	1	1	35.1%	64.9%	-58.3%	40.4%	2.69	0.10
522	Credit intermediation and related activities	0.3%	NS	Yes	117	139	45.7%	54.3%	66.7%	22.7%	0.01	0.91
523	Securities, commodity contracts, and other financial investments and related activities	0.5%	NS	Yes	25	27	48.5%	51.5%	94.6%	45.8%	0.26	0.61

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524	Insurance carriers and related activities	0.3%	NS	Yes	47	83	36.0%	64.0%	77.3%	25.3%	0.19	0.66
525	Funds, trusts, and other financial vehicles	1.4%	Low	No	5	8	39.0%	61.0%	-93.4%	-0.4%	2.93	0.09
531	Real estate	1.5%	Low	Yes	49	57	46.0%	54.0%	95.4%	33.3%	3.18	0.08
532	Rental and leasing services	2.2%	Mod	Yes	36	28	56.4%	43.6%	31.4%	51.5%	0.09	0.77
533	Lessors of nonfinancial intangible assets (except copyrighted works)	2.5%	Mod	No	4	5	42.2%	57.8%	39.2%	40.9%	0.79	0.37
541	Professional, scientific, and technical services	0.4%	NS	Yes	301	269	52.8%	47.2%	96.1%	68.2%	1.18	0.28
551	Management of companies and enterprises	0.4%	NS	No	86	114	43.2%	56.8%	79.3%	28.5%	0.47	0.49
561	Administrative and support services	3.2%	Mod	Yes	379	375	50.3%	49.7%	97.6%	74.3%	50.82	0.00
562	Waste management and remediation services	0.9%	NS	Yes	36	52	41.2%	58.8%	19.3%	-3.3%	3.82	0.05
611	Educational services	4.9%	High	Yes	321	265	54.7%	45.3%	97.3%	9.5%	0.55	0.46
621	Ambulatory healthcare services	0.4%	NS	Yes	226	131	63.3%	36.7%	91.7%	-3.7%	9.14	0.00
622	Hospitals	0.3%	NS	Yes	168	125	57.4%	42.6%	93.4%	-11.7%	5.49	0.02
623	Nursing and residential care facilities	0.4%	NS	Yes	81	74	52.2%	47.8%	94.2%	-7.8%	6.51	0.01
624	Social assistance	0.9%	NS	Yes	156	126	55.3%	44.7%	95.1%	18.5%	4.45	0.04
711	Performing arts, spectator sports and related industries	8.7%	High	Yes	18	53	25.8%	74.2%	9.1%	6.7%	0.76	0.38
712	Museums, historical sites and similar institutions	3.4%	Mod	Yes	6	11	36.5%	63.5%	95.6%	37.8%	0.02	0.90

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713	Amusement, gambling and recreation industries	4.5%	High	Yes	82	91	47.4%	52.6%	96.9%	37.0%	5.25	0.02
721	Accommodation	5.8%	High	Yes	38	74	34.0%	66.0%	95.4%	45.2%	0.41	0.52
722	Food services and drinking places	2.1%	Mod	Yes	275	259	51.5%	48.5%	98.7%	75.4%	7.77	0.01
811	Repair and maintenance	1.0%	NS	Yes	35	47	42.9%	57.1%	70.2%	55.8%	16.58	0.00
812	Personal and laundry services	1.1%	Low	Yes	31	29	52.1%	47.9%	92.6%	57.7%	0.07	0.79
813	Religious, grantmaking, civic, professional, and similar organizations	2.2%	Mod	Yes	35	41	45.6%	54.4%	95.4%	27.9%	11.21	0.00
814	Private households	2.3%	Mod	Yes	230	221	51.0%	49.0%	91.2%	-19.7%	0.01	0.94
901	Federal government (other)	1.6%	Low	Yes	60	150	28.8%	71.2%	27.2%	-14.5%	4.22	0.04
902	State government (other)	1.1%	Low	Yes	57	104	35.4%	64.6%	90.3%	15.9%	5.71	0.02
903	Local government (other)	2.3%	Mod	Yes	223	174	56.2%	43.8%	95.6%	5.9%	7.25	0.01

Mod = Moderate
NS = Not Seasonal
Seas. = Seasonal/Seasonality
Ident. = Identification