

2007 WASHINGTON STATE LABOR MARKET AND ECONOMIC REPORT



Washington State
Employment Security Department
Karen T. Lee, Commissioner

Labor Market and Economic Analysis Branch
Greg Weeks, Ph.D., Director

Prepared by

Economic and Policy Analysis Unit
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This report can be viewed and downloaded on the Internet at www.workforceexplorer.com. Further analysis and detailed statistics are available through the Employment Security Department upon request. For more information, including to request copies of this report in alternate formats, please call (360) 438-4800 or the Labor Market Information Center at 1-800-215-1617.

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2007 Washington State Labor Market Fast Facts

Labor Force and Unemployment, Washington, 1980-2007

Year	Force	Employment	Unemployment	Unemployment Rate
1980	1,972,400	1,815,700	156,700	7.9%
1985	2,102,300	1,926,800	175,500	8.3%
1990	2,537,000	2,406,400	130,600	5.1%
1995	2,812,600	2,636,000	176,600	6.3%
2000	3,050,000	2,898,700	151,300	5.0%
2001	3,052,700	2,863,700	189,000	6.2%
2002	3,104,700	2,877,000	227,700	7.3%
2003	3,149,200	2,916,000	233,200	7.4%
2004	3,208,900	3,008,400	200,600	6.3%
2005	3,270,480	3,090,000	180,500	5.5%
2006	3,326,500	3,160,400	166,200	5.0%
2007	3,403,200	3,242,500	160,600	4.7%

Source: LME/ESD, U.S. Bureau of Labor Statistics (BLS), and Local Area Unemployment Statistics (LAUS)

Note: Not seasonally adjusted. November 2007 and December 2007 are estimated.

Labor Force and Unemployment, Washington Metro Areas, 2007

Metro Area	Labor Force	Employment	Unemployment	Unemployment Rate
Washington State	3,402,900	3,241,800	161,100	4.7%
Bellingham MSA	107,400	102,800	4,600	4.3%
Bremerton MSA	123,900	118,300	5,600	4.5%
Clark County	210,100	198,500	11,600	5.5%
Olympia MSA	127,600	121,900	5,700	4.5%
Richland-Kennewick-Pasco MSA	116,877	110,532	6,348	5.4%
Seattle-Bellevue-Everett*	1,430,700	1,372,900	57,800	4.0%
Spokane MSA	235,000	223,700	11,300	4.8%
Tacoma*	383,000	364,200	18,800	4.9%
Wenatchee LIMA	61,600	58,500	3,100	5.0%
Yakima MSA	121,900	114,100	7,800	6.4%

Source: LME/ESD, U.S. Bureau of Labor Statistics (BLS), and Local Area Unemployment Statistics (LAUS)
*Metropolitan Division

Note: Not seasonally adjusted. November 2007 and December 2007 are estimated.

Projected Growth Rates, Washington, 2004-2014

Industry	Annual Average Employment Growth		
	2006Q2-2008Q2	2004-2009	2009-2014
Total	1.9%	2.2%	1.3%
Construction	1.8%	4.4%	1.4%
Manufacturing	1.7%	2.3%	-0.2%
Transportation, Warehousing and Utilities	1.2%	1.8%	1.1%
Information	3.4%	3.0%	2.3%
Financial Activities	1.0%	1.3%	0.8%
Professional and Business Services	3.4%	3.7%	2.3%
Education and Health Services	2.4%	2.6%	2.2%
Leisure and Hospitality	1.9%	2.3%	1.2%
Government	1.3%	1.1%	1.2%

Source: LME/ESD - Industry Projections

Covered Employment, Firms, and Wages by Industry, Washington, 2007Q1

Major Industry Division	Firms	Annual Wages (in \$billions)	Total Wages	Average Employment	Average Monthly Wage
Total	209,752	\$31.1	\$31.1	2,799,382	\$4,232
Health Care and Social Assistance	15,645	\$3.3	\$3.3	337,219	\$3,249
Retail Trade	20,055	\$2.3	\$2.3	317,476	\$2,429
Manufacturing	7,489	\$4.5	\$4.5	293,241	\$5,102
Educational Services	2,647	\$2.2	\$2.2	249,067	\$3,006
Accommodation and Food Services	14,672	\$0.9	\$0.9	220,534	\$1,313
Construction	24,629	\$2.0	\$2.0	182,767	\$3,726
Public Administration	2,051	\$2.1	\$2.1	154,129	\$4,503
Administrative and Waste Services	9,077	\$1.3	\$1.3	139,594	\$2,998
Professional and Technical Services	16,509	\$2.1	\$2.1	134,141	\$5,101
Wholesale Trade	13,395	\$1.9	\$1.9	122,962	\$5,033

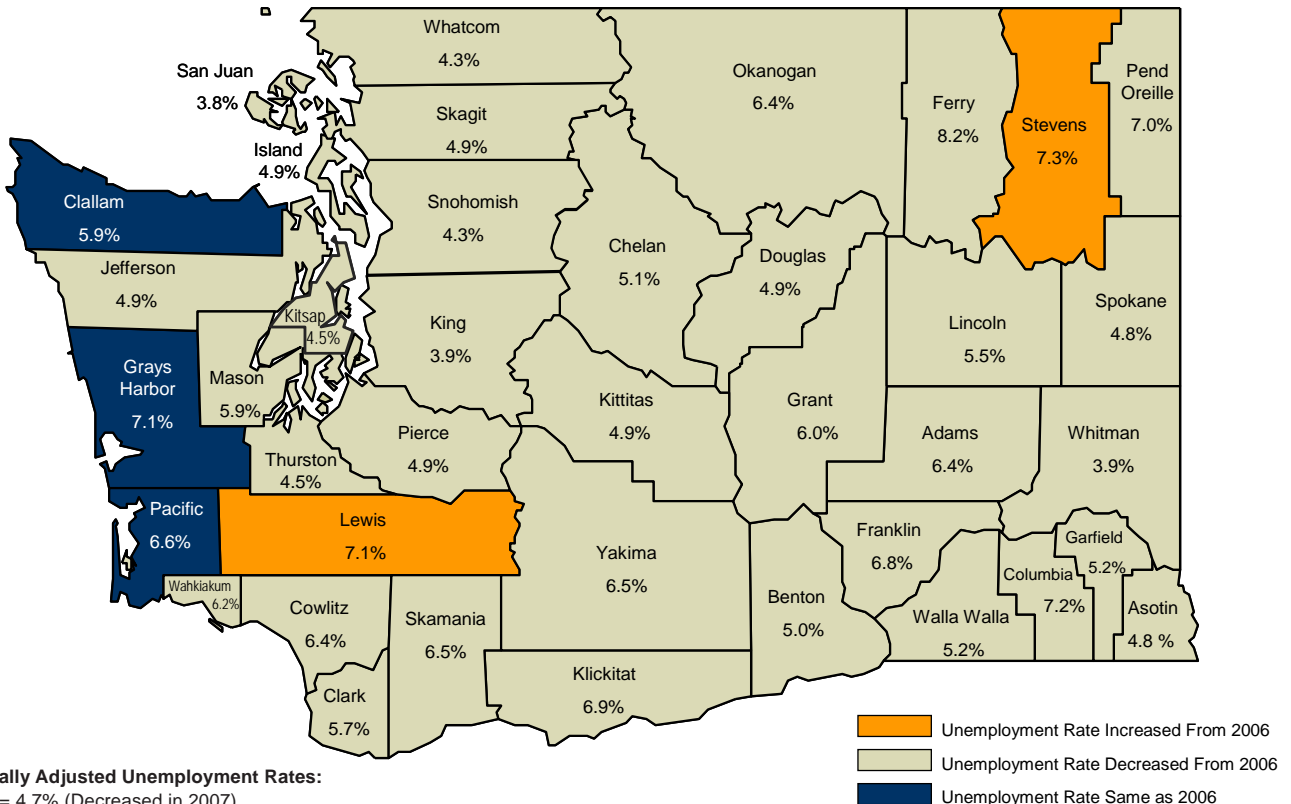
Source: LME/ESD, Quarterly Census of Employment and Wages (QCEW)

Average Monthly Unemployment Insurance Claims by Occupation Groups, Washington, 2006-2007

Occupation Groups	Beneficiaries Oct. 2006 - Sept. 2007*	Estimated Employment 2006Q2**
Total	152,619	3,275,980
Office and Administrative Support	14,922	488,063
Sales and Related	11,738	344,574
Food Preparation and Serving Related	5,982	248,765
Transportation and Material Moving	13,659	225,761
Construction and Extraction	29,138	215,950
Education, Training, and Library	2,012	193,408
Production	17,141	181,655
Business and Financial Operations	4,294	145,412
Health Care Practitioners and Technical	1,820	139,779
Personal Care and Service	3,061	138,187
Installation, Maintenance, and Repair	7,526	131,011
Building and Grounds Cleaning and Maintenance	3,755	118,243
Management	12,132	108,016
Computer and Mathematical	3,616	102,941
Farming, Fishing, and Forestry	10,350	90,174
Architecture and Engineering	2,332	79,524
Health Care Support	1,943	76,003
Arts, Design, Entertainment, Sports, and Media	2,096	64,925
Community and Social Services	940	54,154
Protective Service	1,930	52,507
Life, Physical, and Social Science	1,439	49,212
Legal	793	27,716

Source: *Unemployment Insurance Data Warehouse: Continued Claim Database
 **LMEA/ESD - Occupational Projections

2007 Average Unemployment Rates by County – Not Seasonally Adjusted*



Not Seasonally Adjusted Unemployment Rates:

Washington = 4.7% (Decreased in 2007)
 United States = 4.6% (Unchanged in 2006)

Source: Household Employment, Bureau of Labor Statistics, Haver Analytics

* November 2007 and December 2007 are estimated.

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Washington State Labor Market and Economic Report

Executive Summary

The Year in Review: U.S.

Declining home prices and plunging housing construction along with a rapidly depreciating dollar dominated the news in 2007. After holding steady for roughly 14 months, the Federal Reserve reduced interest rates in the second half of the year. It is questionable whether interest rates can be reduced further if inflationary pressures rear their ugly head. Indeed, oil prices steadily rose through year end.

Economists are hoping that the Fed will lower its key interest rate further in 2008 – and that core inflation pressures will remain subdued despite higher import prices. Employment growth should be modest, and the unemployment rate could increase.

The Year in Review: Washington

2007 was a pretty good year for Washington state employment growth. Construction and professional and business services were the primary drivers for the third straight year. Housing has weakened in Washington as well, but not as much as the rest of the nation. Thanks to the aerospace industry, manufacturing employment is growing locally though it is not growing nationally. The unemployment rate for 2007 is shaping up to be among the lowest since the boom years of the 1990s.

Seasonality in Employment Time Series

The three primary reasons for identifying seasonality in employment are: data comparability, forecasting, and economic policy analysis. Being able to identify industries that are influenced by these factors allows us to understand and anticipate employment and unemployment issues. The seasonal industry list is primarily filled with education, agriculture, and recreation/accommodation industries. Aerospace and telecommunication carriers are examples of industries that are not seasonal.

Unemployment and its Dimensions

There are many indicators that are used to determine the difficulty of obtaining employment in a given labor market. For this study we focused on the unemployment rate as well as some of the characteristics of the non-working. In 2007, most indicators showed continued improvement of the conditions for re-entry into the labor market.

Washington's Aging Workforce

In recent years Washington's labor force has become proportionately older. The two older age groups (45 to 54 and 55 +) made up a substantially larger portion of the entire workforce in 2005 than in 1990, in both eastern and western Washington.

Industries with a greater share of workers over 55 include education services, utilities, and public administration. Conversely, industries with a small percentage of the workforce include accommodation and food services, information, and construction.

Employment Projections

Industry shares are not projected to change dramatically. Professional business services and information are expected to have the largest relative gain in employment shares. Unlike the national forecast, which calls for a slight decrease in industry employment shares for information and construction sectors, statewide employment shares for these sectors are expected to increase. We also expect a smaller drop in the manufacturing employment share for the state than nationwide.

Higher education levels are associated with higher wages for occupational projections in all areas. The occupational ranking of job openings in the recent Job Vacancy Survey and short-term projections are highly correlated.

Wages and Income

The recovery brought lots of new jobs, which were bimodally distributed: lots of jobs on the lower end of the wage scale, lots on the upper end, with a slight tilt towards the lower end. Different counties fared differently, some seeing a rise in median wages, others a decline. Compared with past years, the wage ladder was shorter in the 2002 to 2006 period, and more full-time workers suffered a decline in hourly wages.

Data Comparisons with Other States

Tables are presented that show how Washington ranks relative to other states in the nation.

Chapter One - The Year in Review: U.S.

The Year in Review: United States

Each year, one or two factors play a major role in affecting the economic environment. In 2007, the housing market and the declining value of the dollar dominated the news. These two issues could very well remain at the forefront in 2008.

First, we will look at the housing market and consider whether a plunge in housing starts, already termed a housing recession, will result in a full-scale recession in the U.S. How will falling home sales, declining home prices, and foreclosures affect the interest rate environment and the overall economy?

Then we will turn to the dollar. There was a period in the 1990s when Robert Rubin, then Secretary of the Treasury, said nearly every day, “A strong dollar is in the best interest of the United States.” If a strong dollar is good for the U.S., is a weak dollar bad? Is a falling dollar beneficial or detrimental to the U.S. economy?

The Housing Debacle

The question on everyone’s mind is basic: Will the decline in housing starts lead to a recession? Every recession since the 1960s (except for 2001) was accompanied by a drop in housing starts. In the mid-1960s, however, housing starts plummeted during a period that was not labeled a recession. It was a period of sub par economic growth, though. Did the weakening housing market cause these recessions, or was declining housing construction a symptom of these recessions? A recession can occur without a housing plunge (2001) and a housing plunge (1966, 1986 to 1990) can occur without an imminent recession. In 2001, extremely low interest rates boosted housing; in the 1980s, extremely high interest rates restrained housing.

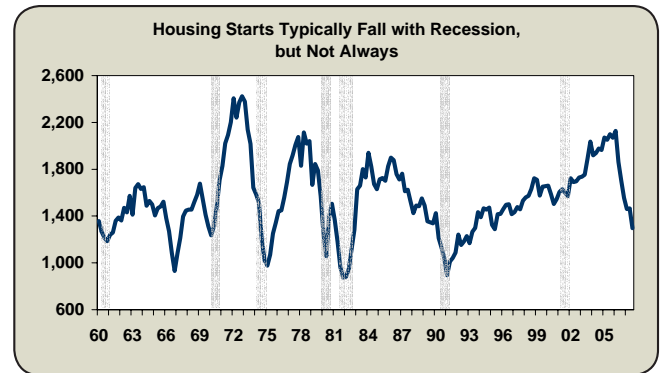


A decline in new housing construction alone will not necessarily cause economic growth to stall.

Figure 1

Housing Starts, Quarterly Averages at Annual Rates, Thousands of Units, Seasonally Adjusted United States, 1960 to 2007:Q3

Source: U.S. Census Bureau, Haver Analytics
(Shaded Bars Reflect Recessions)



Residential investment expenditures account for roughly 5 percent of total gross domestic product. Consequently, a 10 percent drop in residential investment expenditures would shave 0.5 percent off GDP growth. In fact, residential investment expenditures have declined 23.5 percent between the first quarter of 2006 and the third quarter of 2007. But without declines in other sectors of the economy – such as personal consumption expenditures or capital spending or exports, a decline in housing alone will not create a recession.

The question becomes bigger. A decline in new housing construction will not necessarily cause economic growth to stall. More likely, the lack of confidence in the economy, a fear of job loss, would hamper consumer spending. In addition, one needs to remember that the media bombards homeowners practically daily with the news that home prices are falling. That would dampen anyone’s spirits.

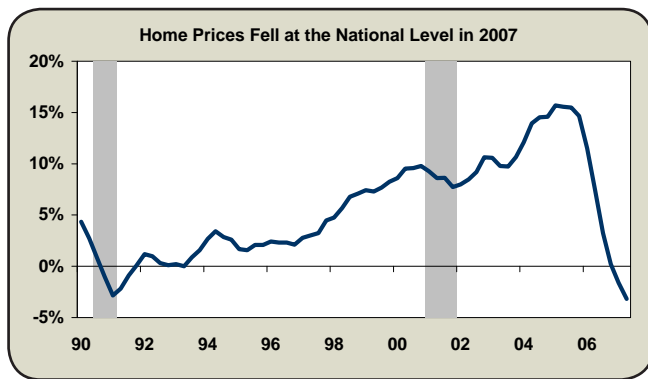
Measured by the S&P/Case-Shiller home price index, average home prices declined on a national scale in 2007 relative to 2006. Real estate is local, of course, and home price changes vary widely by region depending on local employment conditions along with the (over) supply of home building in the area. Depreciating home prices cause consumers to feel less wealthy. Even if the homeowner had purchased his home several years before, experiencing extraordinary appreciation during this time frame, he is likely to feel less wealthy if the home value declines in 2007 relative to 2006. Any loss in wealth, even paper wealth, could result in a reduction

Chapter One - The Year in Review: United States

in consumer spending. Many consumers have become accustomed to refinancing their homes frequently to cash out home equity. Cash-out equity was used for all sorts of expenditures, from home remodeling to vacations to car loans to repaying credit card bills. Moreover, cash-out equity refinancing means that consumers are realizing some of their home appreciation – and a paper loss becomes a real loss when home prices decline.

Figure 2

S&P/Case-Shiller Home Price Index
Not Seasonally Adjusted, Year-over-Year Change
United States, 1990 to 2007:Q2
Source: Standard and Poors, Fiserv, Macro Markets, LLC,
Haver Analytics



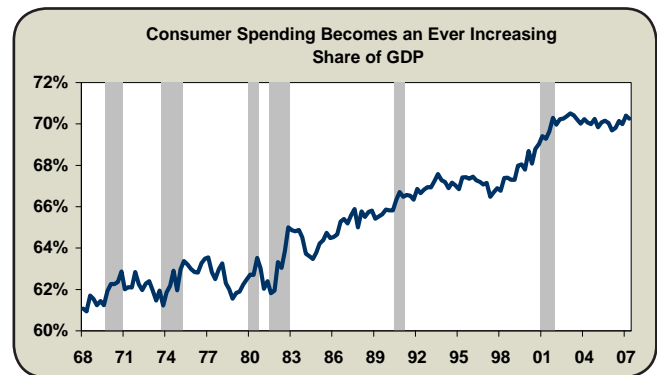
Long-time homeowners, who are simply losing paper profits, are the least of our worries. New homeowners, who probably purchased at the top of the market with adjustable rate loans, are a greater concern. Foreclosures wipe out any and all equity. Consumers might not only lose their homes, but all savings or worse. At the other end, those homeowners who are making all efforts to make higher monthly mortgage payments to avoid foreclosure, will be sacrificing a great many other expenditures. Discretionary purchases could decline dramatically.

For many years, it was standard to say that consumer spending accounted for two-thirds of gross domestic product. In reality, consumer spending has increased significantly, and now accounts for much more than two-thirds, roughly 70 percent of GDP. Personal consumption expenditures have always accounted for a lion's share of gross domestic product, making it the driving force behind economic activity. This has become truer. A one percent decline in consumption expenditures, holding all other expenditures constant, would reduce GDP growth by

0.7 percent. More than the decline in housing investment, it is the decline in the corresponding industries, such as furniture and home appliances, as well as declines in discretionary purchases that could cause a recession.

Figure 3

Personal Consumption Expenditures as Share of GDP
Quarterly Averages at Annual Rates
United States, 1968 to 2007:Q2
Source: U.S. Bureau of Economic Analysis, Haver Analytics



It is the combined effect of slower consumption expenditures with a drop in residential investment that is predicted to slow down the economy. A moderate slowdown in consumer spending will not likely lead to recession, but a more dramatic consumer pullback could lead to recession. A recession is not the forecast with the greatest likelihood, but it is a real risk. A slow growth economy for at least part of 2008 is almost a certainty.

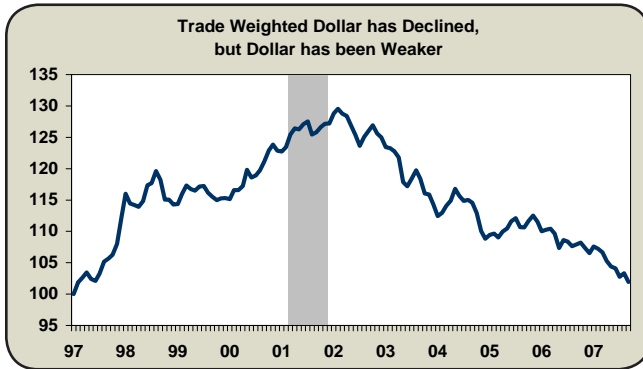
The Falling Dollar

The exchange value of the dollar peaked in early 2002, and then steadily declined, with some minor fluctuations, against most currencies. As consumers, a declining dollar is viewed in a negative light. Since we purchase so many imports (oil, cars, toys, electronic goods), a declining dollar in the foreign exchange market means that it costs more to purchase these goods. Even if we are purchasing domestically-produced goods, manufacturers are likely to be using raw materials that were purchased overseas (oil, steel, aluminum). With raw materials prices increasing, the prices of finished goods would also have to rise. A falling dollar contributes to an inflationary environment. And of course, a falling dollar makes foreign travel more expensive.

Chapter One - The Year in Review: United States

Figure 4

Trade Weighted Exchange Value of the Dollar
Monthly, January 1997 = 100
United States, 1997 to 2007: September
Source: Federal Reserve Board, Haver Analytics



But a declining dollar can also be viewed in a positive light. If we are selling raw materials (agricultural products) or finished goods to foreign countries, our exports will become less expensive. Demand for our consumer and capital goods should increase with the lower exchange rate. We should also get more tourists to visit the U.S. (This assumes, of course, that other factors in the economic environment are not changing.)

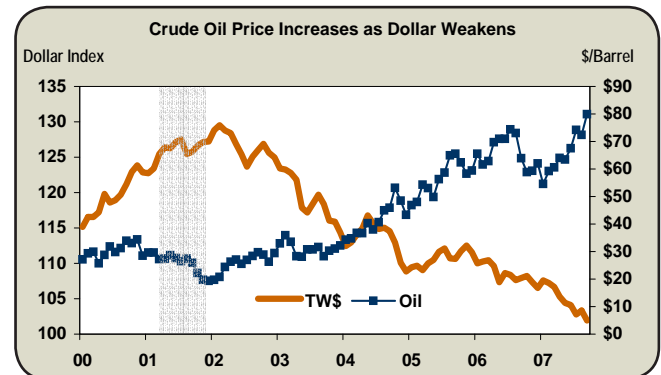
Last Year's Problem: Oil Prices

Rising energy prices were a key concern in 2006. Yet, even as crude oil prices raced past \$90/barrel in late 2007, rising gasoline or crude oil prices were barely dominating headline news. To some degree, we have become immune to rising prices. And to some degree we have escaped the worst of the crude oil price hikes because gasoline pump prices have not surged by the same degree. Pump prices have fluctuated in a smaller range and hitting \$3.00/gallon somehow felt less painful in 2007 than it did in 2006.

Note that the drop in the foreign exchange value of the dollar and the rise in crude oil prices are related. Crude oil is denominated in dollars. Since oil producers must exchange their dollars for foreign currencies in order to buy goods and services, they are adversely affected by the depreciating dollar. Indeed, as the dollar weakened over the past few years, rumors proliferated in the financial markets that crude oil should be denominated in Euros rather than dollars.

Figure 5

West Texas Intermediate Spot Price,
Dollars per Barrel Versus Trade-Weighted Exchange
Value of the U.S. Dollar, Monthly Average
United States, 2000 to 2007: September
Source: Wall Street Journal, Federal Reserve Board,
Haver Analytics



Interest Rates

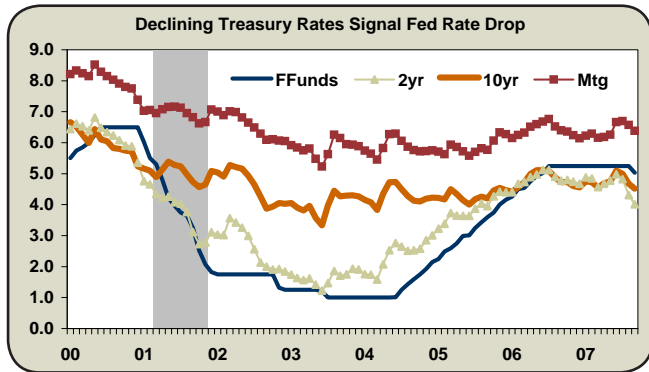
The Federal Reserve last raised its target interest rate on June 29, 2006. The federal funds rate target remained unchanged at 5.25 percent until September 18, 2007 when the Federal Reserve cut interest rates by one-half a percentage point to 4.75 percent. Apart from small upticks here and there, market interest rates (those rates not determined by the Fed such as Treasury note yields) were in a declining mode since mid-year 2006. A moderating economy coupled with worries of financial market instability due to the subprime debacle and an ameliorating inflation picture despite a falling dollar, led market participants to anticipate that the Federal Reserve would ease monetary policy. Indeed, they did. After their first reduction in September, they followed with another reduction in the federal funds rate target to 4.50 percent on October 31, and to 4.25 percent on December 11.



Pump prices have fluctuated in a smaller range and hitting \$3.00 per gallon somehow felt less painful in 2007 than it did in 2006.

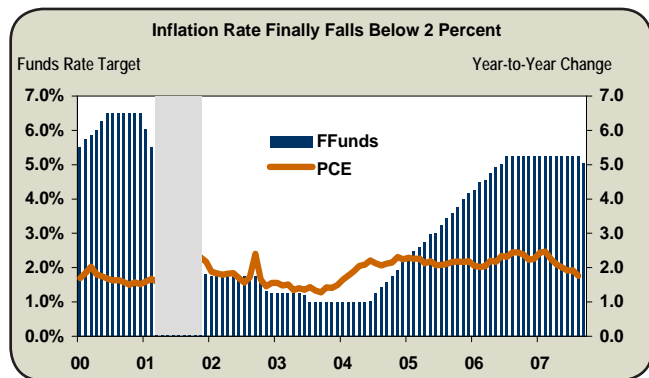
Chapter One - The Year in Review: United States

Figure 6
Interest Rates, Monthly Average
United States, 2000 to 2007: September
Source: Federal Reserve Board, Haver Analytics



The Federal Reserve's mandate is to maintain price stability and foster economic growth with full employment. As long as inflation is a concern, the Fed must maintain its vigilance on price pressures. Their primary target is the deflator for personal consumption expenditures (PCE) excluding food and energy. This indicator is closely tied to the more commonly known consumer price index, but measures a changing, rather than a fixed basket of goods and services. In 2007, the PCE deflator excluding food and energy finally started to moderate, and by June 2007, it fell within the acceptable target range of 1 to 2 percent.

Figure 7
Federal Funds Rate Target with Personal Consumption Expenditure Deflator (excluding Food and Energy)
Monthly, Year-over-Year Change, Seasonally Adjusted
United States, 2000 to 2007: September
Source: Bureau of Economic Analysis, Federal Reserve Board, Haver Analytics



It remains to be seen how many more times the Federal Reserve will be able to reduce the federal funds rate target in 2008. As long as the inflation rate remains below 2 percent, it will give Federal Reserve officials some leeway to act on economic growth concerns.

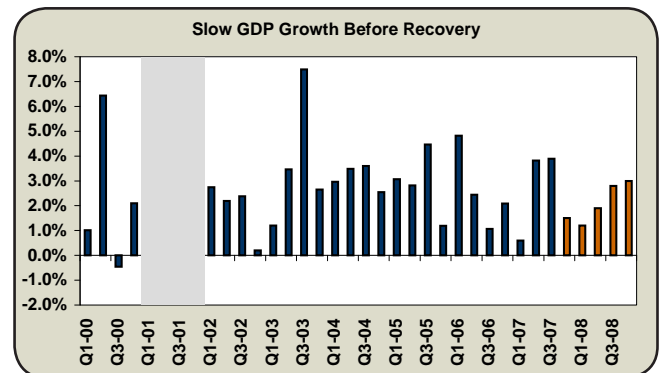
It is not the Fed's goal to fix the housing market. Interest rates were too low for too long and poor lending practices encouraged consumers to over invest in their homes. A speculative bubble developed in the housing market and a correction was inevitable. However, even as the Fed waits for the housing market to stabilize, it can alleviate further economic problems by not maintaining an overly restrictive monetary policy.

A reduction in interest rates can mitigate some of the damage incurred on household balance sheets. Adjustable rate loans could adjust downward, rather than upward, helping homeowners on their mortgage payments. Also, credit card loan rates are tied to the federal funds rate target – and a reduction in the target rate helps credit card borrowers.

The 2008 Outlook

Real (inflation-adjusted) GDP growth averaged 2.4 percent per quarter between the first quarter of 2000 through the second quarter of 2007. This period includes a recession, a recovery and economic expansion. From the fourth quarter of 2006 through the third quarter of 2007, real GDP expanded at an average rate of 2.6 percent per quarter, only slightly higher than the previous year when real GDP grew 2.4 percent.

Figure 8
Real GDP Growth, Seasonally Adjusted Annual Rate, with Forecasts
United States, 2000Q1 to 2008Q4
Source: U.S. Bureau of Economic Analysis, Global Insight, Haver Analytics



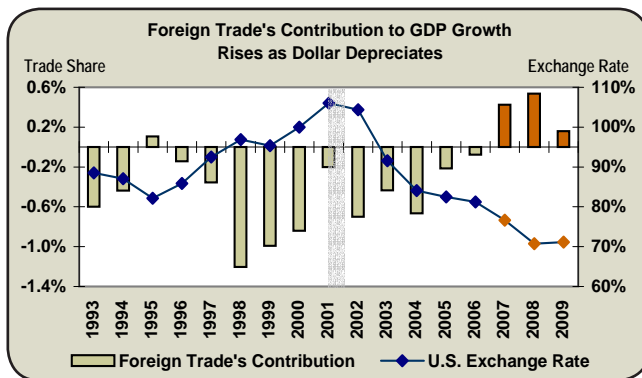
Chapter One - The Year in Review: United States

According to Global Insight (whose national forecasts are used as the baseline for state economic forecasts), real GDP is expected to grow at about a 2 percent rate in 2008. The worst of the housing-related decline is predicted to take place in 2007 and early 2008. By the end of next year, housing will probably have stabilized.

Personal consumption expenditures are predicted to grow at a 2 percent rate in the first half of the year, but accelerate to a 2.6 percent rate in the second half of the year. Equipment and software, the lion's share of capital spending, are expected to grow only marginally in the first half of 2008, but accelerate to a reasonable 5 percent rate in the second half of the year. Investment spending on nonresidential structures is expected to decline at an increasing rate over the course of 2008. Nonresidential investment typically lags the residential sector. Exports are predicted to grow at a healthy, nearly double-digit pace, in 2008. At the same time, imports are expected to grow at one-third the export rate. This will allow net exports to contribute to GDP growth in 2008.

Figure 9

Trade Contribution to GDP Growth
Quarterly Averages at Annual Rates
United States, 1993 to 2009
Source: Office of the Economic and Revenue
Forecast Council



Global Insight predicts that real GDP will grow at less than a 2 percent rate in the fourth quarter of 2007 through the second quarter of 2008. If they are correct, and the economy "feels" that weak, many economists will be predicting recession. Technically, a recession tips GDP into the negative side of the ledger for at least two quarters. But even slow economic growth – under 2 percent – could feel like a recession to those who are losing their jobs.

Employment and Unemployment

If real GDP is growing less than 2 percent per quarter, then nonfarm payrolls are likely to grow at less than 1 percent per quarter. Global Insight is predicting 0.5 to 0.6 percent annualized growth. This translates into monthly nonfarm payrolls averaging 50,000 to 75,000 per month.

Employment gains of this magnitude are usually associated with a rising unemployment rate, because the growth in the labor force exceeds the growth in employment. During good economic times since 2000, the labor force grew 1.3 to 1.4 percent. During bad periods, the labor force grew about 0.6 to 0.8 percent. This still translates to a rising unemployment rate. Global Insight has it going to 5 percent. The nation's jobless rate was 4.6 percent in the third quarter of 2007.

Exports are predicted to grow at a healthy, nearly double-digit pace in 2008.



Investment spending on nonresidential structures is expected to decline at an increasing rate over the course of 2008.

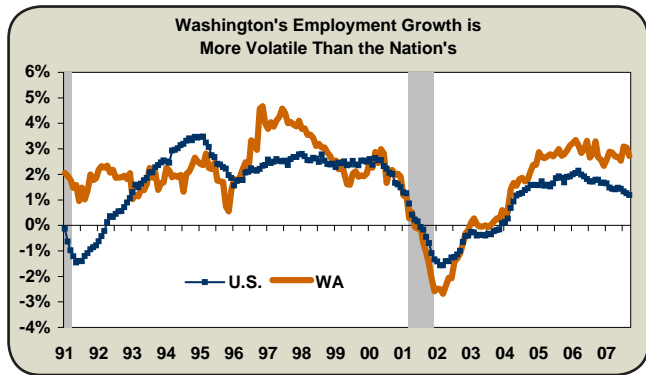


Chapter Two - The Year in Review: Washington

The Year in Review: Washington

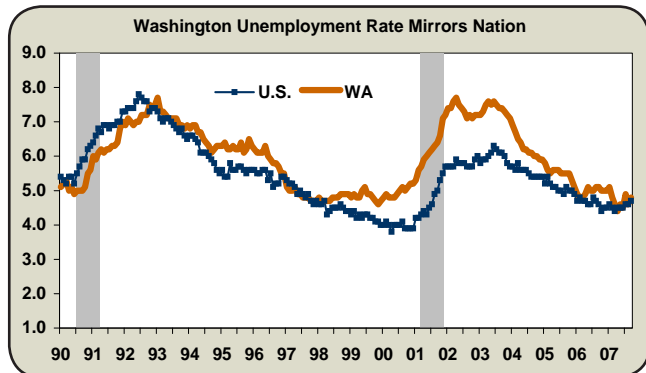
Washington's economy was just about as strong in 2007 as it was in 2006. In fact, nonfarm payroll growth increased at nearly a 3 percent rate for the third straight year. Since 2004, employment growth in the state outpaced employment growth in the nation (*Figure 10*).

Figure 10
Year-over-Year Growth in Payrolls
Washington and the United States, 1991 to 2007: September
Source: U.S. Bureau of Labor Statistics, LMEA/ESD,
Haver Analytics



The unemployment rate, often considered a lagging indicator of economic activity, continued to decline in 2007 from already low levels in 2006. In fact, between January and September 2007, the state's seasonally adjusted unemployment rate averaged 4.7 percent, a lower average than in the late 1990s when the economy was also booming (*Figure 11*).

Figure 11
Unemployment Rate, Seasonally Adjusted
Washington and the United States, 1990 to 2007: September
Source: U.S. Bureau of Labor Statistics, LMEA/ESD,
Haver Analytics



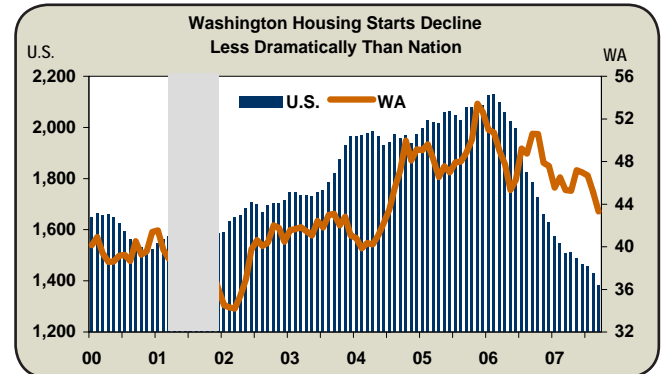
A plunging housing market, a falling dollar, and rising energy prices, did not affect the state to the same extent that they did the national economy. Local economic activity is primarily governed by our industry structure. A falling dollar causes higher import prices, but also decreases the prices of exported goods and services. Since Washington exports agricultural products and aircraft, a depreciating dollar generally benefits the state's economy. Housing prices are based on local supply and demand conditions and are highly dependent on state employment growth and the level of housing construction. One can debate whether builders constructed too many houses in the state, but there is no question that Washington does not face the overbuilding of such states as Nevada and Florida, or the poor economic conditions of Michigan or Ohio. The strong economy, benefitting from the sturdy export market, mitigates the negative impact of a housing slump.

This chapter will look at the state of the state – and consider how national economic conditions impact the local economy.

The Housing Market

Figure 12 compares Washington state housing starts to U.S. housing starts. Housing activity is extremely volatile from one month to the next, even when seasonally adjusted, so the chart depicts a 6-month moving average for the U.S. and Washington state. Both are down from their peak level, achieved roughly in 2005 to 2006. The decline in the nation's housing construction is significantly more dramatic than the drop in the state.

Figure 12
U.S. Housing Starts
Thousands of Units, 6-Month Moving Average,
Seasonally Adjusted Annual Rate
Washington and the United States, 2000 to 2007: September
Source: Census Bureau, Bank of Tokyo-Mitsubishi UFJ,
Haver Analytics



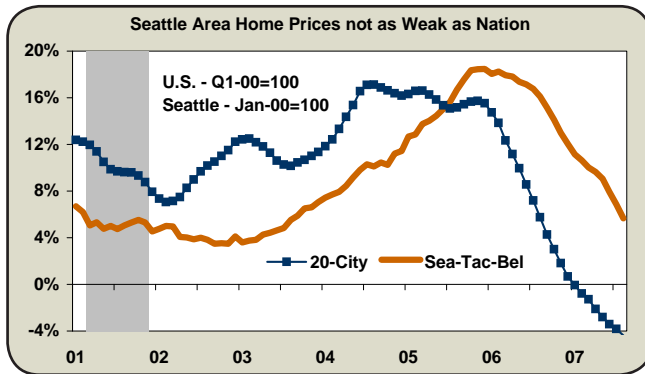
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In a similar vein, the drop in home prices in the United States is significantly more dramatic than that for Washington. In fact, the 20-city average of U.S. home prices, measured by the S&P/Case-Shiller index has been declining on a year-over-year basis since December 2006. While the rate of home price appreciation has moderated dramatically from its peak in Washington, home prices were still rising on a year-over-year basis in King, Pierce, and Snohomish counties through the summer of 2007.

Figure 13

Home Prices

Percent Change, Year-to-Year, Not Seasonally Adjusted United States and Seattle, Washington, 2001 to 2007:Q2
 Source: Standard and Poor's, Fiserv, Macro Markets, LLC, Haver Analytics



The Relationship Between Local Home Prices and the Falling Dollar

Most likely, home prices will not continue appreciating in Washington if they are falling everywhere else in the nation. However, the strength of our local housing market is related to the falling dollar. What? *Figure 14* depicts year-over-year gains in quarterly exports from Washington state compared with the U.S.

As the dollar weakens against other foreign currencies, U.S. exports become less expensive. Washington state exporters are benefiting because their goods are becoming cheaper to buyers. After several lean years, export gains have shot up across the board. In addition to aerospace and agricultural products, exports of industrial machinery including computers, electrical machinery, ships and boats, and optic, photo, medic or surgical instruments have also posted hefty gains. As one can see in *Figure 15* new orders for aircraft have continued to increase in 2007 from the high levels of 2006. The bulk of the aircraft or-

ders are from foreign countries. A short and shallow U.S. recession is not likely to have a significant adverse effect on this industry. However, should a severe U.S. recession develop, make no mistake that it would impact global demand for aircraft. We are not immune to the variables that affect the global economy.

Figure 14

Exports, Quarterly, Year-to-Year Change United States and Washington State, 1999 to 2007:Q2
 Source: WISER, U.S. Census Bureau, Haver Analytics

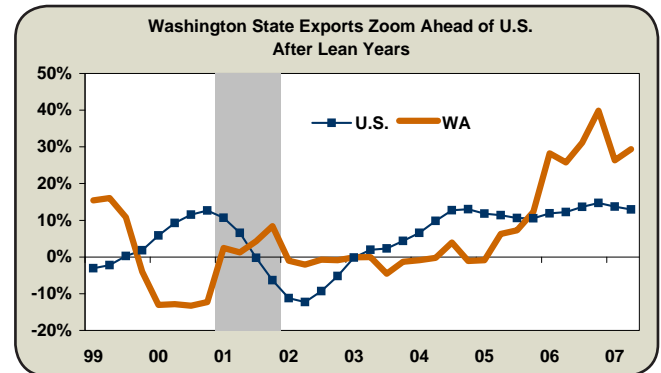
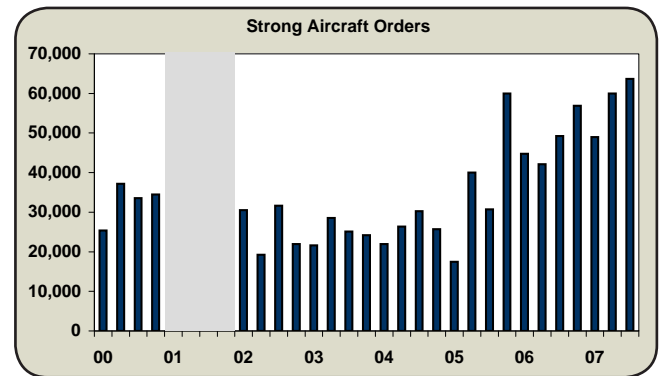


Figure 15

Manufacturers' New Orders for Aircraft Seasonally Adjusted, Millions of Dollars United States, 2000 to 2007:Q3
 Source: U.S. Census Bureau, Haver Analytics



Washington Industry Employment

Washington nonfarm payrolls continued to grow at a healthy rate for the third straight year. While overall growth was healthy, some shifts have occurred in the rate of growth among industries. For instance, the construction industry added the largest number of jobs in 2006 and 2007 and ranked second in 2005. Professional and business services ranked number one in job growth in 2005,

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and was the industry with the second largest number of jobs in 2006 and 2007. Manufacturing ranked third in 2005 and 2006, but slipped to seventh in 2007. Education and health services battled for number four with leisure and hospitality in 2005 and 2006, and ended up third in 2007 with leisure and hospitality coming in fourth. Retail trade moved up to fifth in 2007 after ranking sixth in 2005 and seventh in 2006.

Figure 16

Industry Employment Growth, Seasonally Adjusted
Ranked by 2007 (Change in 000s)
Washington State, September to September, 2005 to 2007
Source: LMEA/ESD

Year-Over-Year Gains by Industry	2005 (Rank)	2006 (Rank)	2007
Total Nonfarm	89.3	76.3	78.1
Construction	16.0 (2)	17.1 (1)	15.2
Prof. and Business Services	16.3 (1)	12.6 (2)	14.4
Education and Health Services	11.7 (4)	7.1 (5)	10.4
Leisure and Hospitality	8.7 (5)	7.6 (4)	8.5
Retail Trade	7.6 (6)	4.9 (7)	7.5
Manufacturing	13.0 (3)	10.5 (3)	6.4
Aerospace Prod. and Parts Manuf.	6.9	6.1	6.3
Wholesale Trade	2.7 (8)	4.8 (8)	4.4
Information	2.7 (8)	5.1 (6)	3.7
Government	2.4 (9)	3.3 (9)	3.3
Trans., Warehousing and Utilities	1.8 (11)	2 (10)	2.1
Financial Activities	4.7 (7)	-0.1 (13)	1.7
Other Services	2.2 (10)	1.7 (11)	0.7
Natural Resources and Mining	-0.5 (12)	-0.3 (12)	-0.2

Figure 17

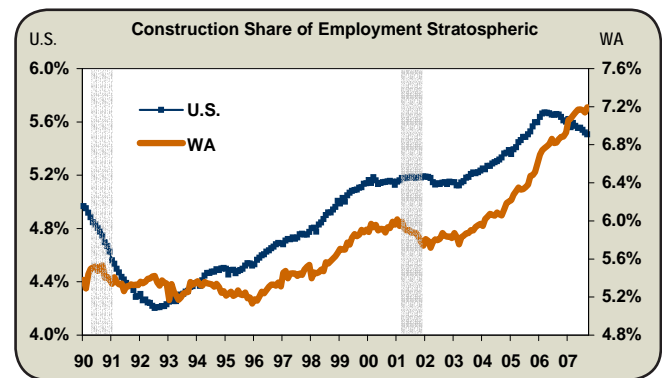
Industry Employment Growth
Seasonally Adjusted (Percent Change)
Washington State, September to September, 2005 to 2007
Source: LMEA/ESD

Year-Over-Year Gains by Industry	2005	2006	2007
Total Nonfarm	3.3	2.7	2.7
Construction	9.8	9.5	7.7
Professional and Business Services	5.4	3.9	4.3
Education and Health Services	3.6	2.1	3.1
Leisure and Hospitality	3.4	2.9	3.1
Retail Trade	2.5	1.5	2.3
Manufacturing	4.9	3.8	2.2
Aerospace Product and Parts Manufacturing	11.2	8.9	8.5
Wholesale Trade	2.3	3.9	3.5
Information	2.9	5.3	3.7
Government	0.5	0.6	0.6
Transportation, Warehousing and Utilities	2.0	2.2	2.2
Financial Activities	3.1	-0.1	1.1
Other Services	2.2	1.7	0.7
Natural Resources and Mining	-5.4	-3.4	-2.4

The growth in construction employment remained robust even as housing demand weakened. Construction jobs accounted for 7.2 percent of total nonfarm payrolls in September, the highest share ever in the history of this series. At some point, construction's share of payrolls will turn down, just as they did for the U.S. A sustained drop in housing starts suggests that we should expect a more reasonable share of construction payrolls in the coming year. Translated? We either need to see a big increase in non-construction employment, or a drop in construction payrolls. U.S. construction employment has already begun to decline. This is the more likely scenario in 2008.

Figure 18

Construction Share of Payrolls, Seasonally Adjusted
United States and Washington State, 1990 to 2007: September
Source: U.S. Bureau of Labor Statistics, LMEA/ESD,
Haver Analytics



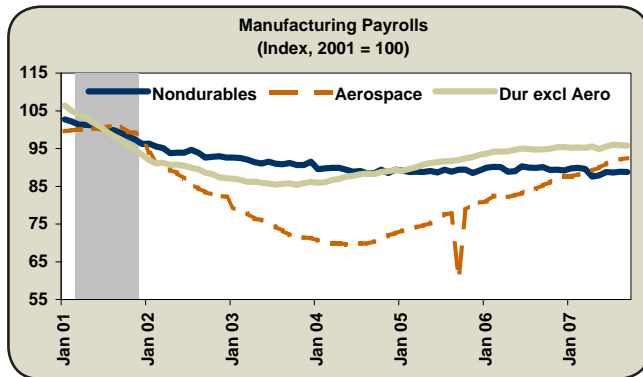
Manufacturing employment rose a modest 2.2 percent in September 2007 over the previous year. This was much slower than the gains of the two previous years when payrolls increased by 3.8 percent in 2006 and 4.9 percent in 2005. The aerospace industry continued to account for much of the growth. Gains outside aerospace were weaker than in the two previous years. For instance, wood product manufacturing declined 5 percent; electrical equipment and appliance manufacturing decreased 2.3 percent; and manufacturers of nondurable goods reduced payrolls by 1.5 percent in September 2007 over the prior year. Yet, primary metal manufacturing payrolls surged 16.7 percent; and fabricated metal product manufacturing employment increased 7.4 percent in September 2007 over the previous year. With a declining trend in nondurable goods manufacturing employment and a moderation in durable goods excluding aerospace, it will be up to aerospace to carry this sector. The outlook for aerospace remains

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sanguine given the rising trend in new orders. But this rosy scenario can be adversely affected by a global recession. It is not our prediction, but certainly a risk.

Figure 19

Manufacturing Payrolls
Washington State, 2001 to 2007: September
Source: LMEA/ESD



Yearly employment growth was generally stronger in the goods-producing sector, which accounts for roughly 17 percent of payroll employment than in the service-providing sector which accounts for about 83 percent of employment. But this doesn't mean that all service sector industries posted equal growth over the year. Total service-providing payrolls rose 2.4 percent in September 2007 over the previous year. The largest number of jobs (14,400) was added in the professional and business services industry, and with a 4.3 percent year-over-year gain, this was also the fastest growing sector. Information services payrolls increased by 3.7 percent, spurred by a 5 percent hike in software publishing payrolls. Payrolls in this sector grew at a slower pace in 2007 compared to 2006, but were healthy nonetheless.

Across the State

Nonfarm payroll employment posted gains across the state although the Seattle MSA, which includes King and Snohomish counties, grew more rapidly than the rest of the state in the 12 months ending September 2007. Since the beginning of 2007, job growth in the Seattle area consistently grew more rapidly than the rest of the state. In 2004 and 2005, Seattle area job growth lagged all other areas, particularly considering that the area was still shedding jobs in 2003. Tacoma area growth accelerated, as did the "rest of the state" (which includes all areas except King, Snohomish, Pierce, and Spokane counties). In mid-2005, job growth in the "rest of the state" began to moderate in favor of the urban areas.

Figure 20

Employment Growth (Year-to-Year) for Urban Areas and Rest of State
Washington State, 2003 to 2007
Source: LMEA/ESD

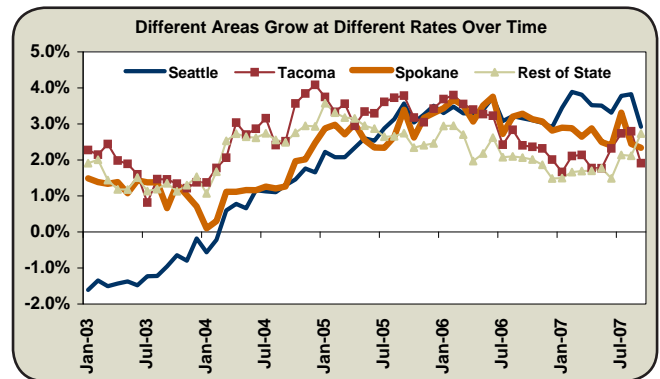


Figure 20 shows year-over-year changes in job growth between 2003 and 2007. Job growth was not uniform across the state over this period. Early in the recovery, it shifted away from the Seattle area and towards the rest of the state. As the expansion matured, job growth accelerated in the Seattle area and moderated elsewhere. Another way of looking at job growth is in its portion of the total growth. Figure 21 takes a point in time – September 2005, 2006, and 2007 and looks at the share of job growth over the year in the various urban centers and the rest of the state. The top line "Actual Share" reflects the actual share of jobs in each of these areas on average between January 2000 and September 2007. For instance, the Seattle area (King and Snohomish counties) accounted for 50 percent of the state's jobs, but between 2005 and 2007, more than 50 percent of the states' net new jobs were created in this area. Nearly 31 percent of the state's jobs are in the "rest of the state," a greater share (than 31 percent) of jobs was created in 2007, but not in 2005 and 2006 in the "rest of the state." The Tacoma area accounts for almost 9 percent of the state's jobs while the Spokane area accounts for

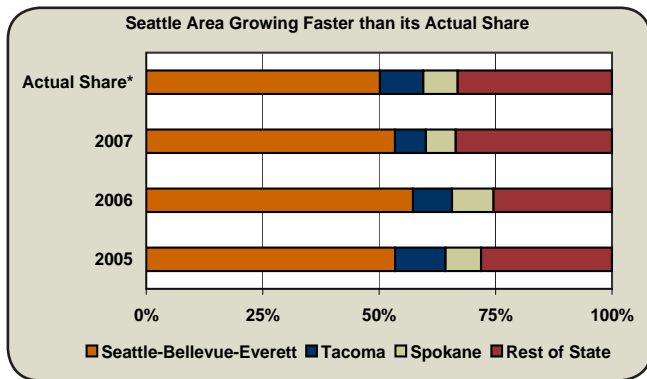


Nearly 31 percent of the state's jobs are in the "rest of the state," a greater share (than 31 percent) of jobs was created in 2007, but not in 2005 and 2006 in the "rest of the state."

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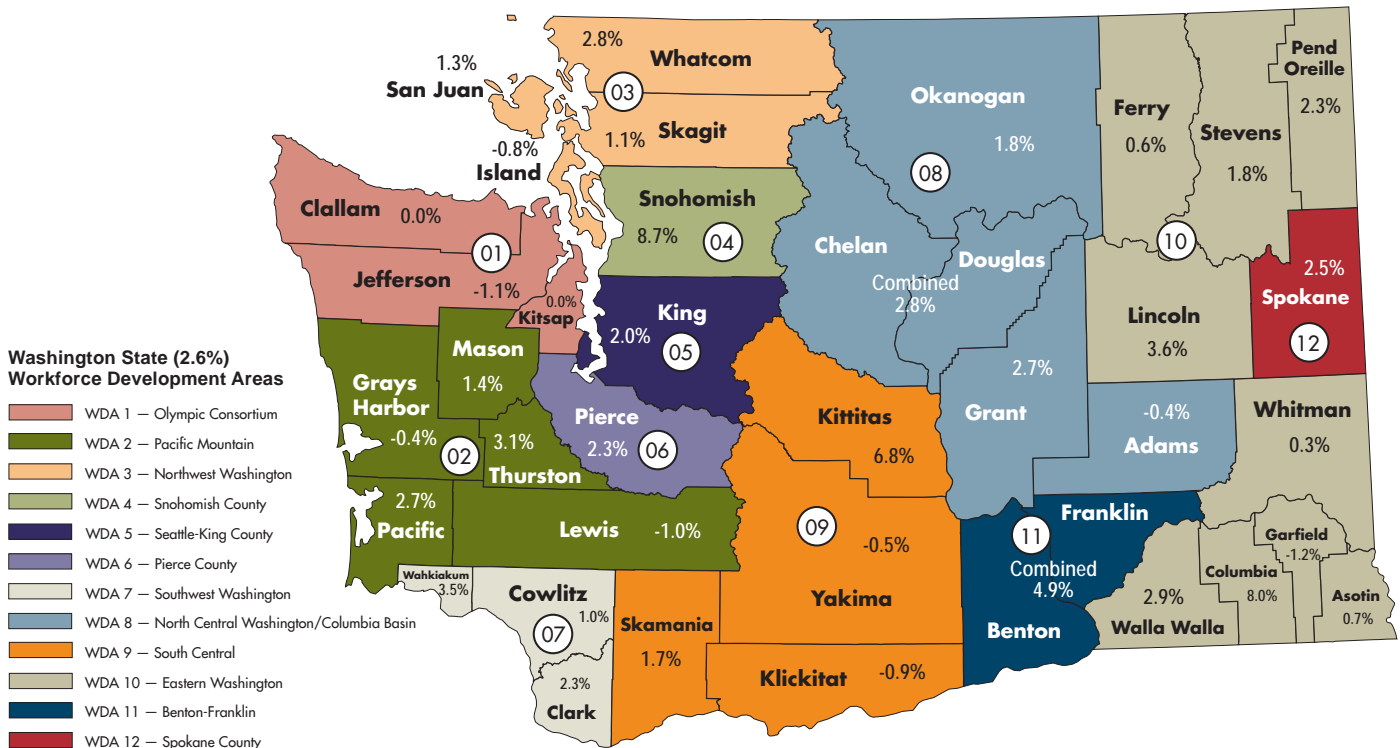
nearly 7 percent of the state's jobs. Both Tacoma and Spokane's share of job growth diminished in 2007 relative to the previous two years, and grew less than their share of the total. But in 2005 and 2006, both these areas saw stronger growth, cutting into the share for the "rest of the state."

Figure 21
Share of Growth for Urban Areas and Rest of State
Washington State, 2005 to 2007
Source: LMEA/ESD



*Actual Share = Average (2000, 2007) Employment Share for Areas

Figure 22
County Map, Year-over-Year Percent Change
Not Seasonally Adjusted
Washington State, September 2006 to September 2007
Source: LMEA/ESD



The 2008 Outlook

A falling dollar creates higher prices for imported goods, and all consumers pay the price. Nonetheless, Washington residents who work for firms in the exporting business will benefit. Aerospace, in particular, should keep local activity humming. The positive impact of the export market should mitigate the adverse effects of a weakening housing market. While local supply and demand conditions determine real estate values, mortgage lending and liquidity are national in scope. If lending standards become more stringent nationally, they will be so locally as well. This means that fewer consumers will be able to get mortgage loans. For instance, Fannie Mae standards require that mortgage loans come in under \$417,000. This limits a segment of the mortgage market.

After all the positive and negative factors are weighed in, it is likely that Washington state employment growth will moderate in 2008 relative to the past three years. After running near 3 percent since 2005, a growth rate between 1.5 and 2.0 percent would not be out of the norm for this mature phase of the business cycle.

Chapter Three - Seasonality in Employment Time Series

Introduction

Past Labor Market and Economic Annual Reports have included a seasonal-cyclical-structural chapter which analyzed industry employment changes and identified them with one or more of these influences. Since structural factors don't generally change much year to year, and because we are in the same phase of the business cycle (expansion), we will be focusing on seasonal factors this year. If the reader is still interested in the cyclical and structural analysis results, they can be found at http://www.workforceexplorer.com/admin/uploadedPublications/8635_trcycle07.xls. In particular, we will focus on issues with modeling seasonality. This chapter is a modified version of a more in-depth article (Seasonality in Employment Time Series) which can be found on Workforce Explorer at www.workforceexplorer.com/article.asp?ARTICLEID=8556.

There are three main uses of identifying seasonality: data comparability, forecasting, and economic policy analysis. Different applications may require different approaches to handle seasonal effects in employment data (time series).

The Main Definitions

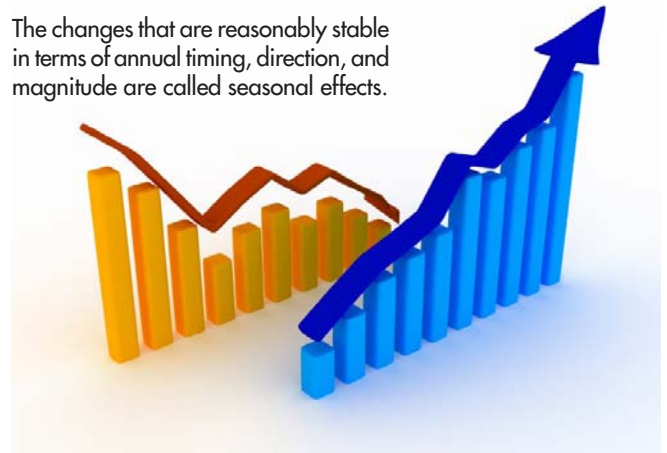
An economic time series is a sequence of successive measurements of an economic variable (employment in our case) tracked at regular time intervals. We will be using the monthly intervals. To be a time series the data must be conceptually comparable over time. For example, any changes in the coding system should be applied back to all previous observations. An example of this was a few years back; tribally owned casinos were switched from the "arts, entertainment, and recreation" industry to local government. (That's why these two series have a significant break in January 2001 – from December 2000).

An economic time series is a sequence of successive measurements of an economic variable (employment in our case) tracked at regular time intervals.



The changes that are reasonably stable in terms of annual timing, direction, and magnitude are called seasonal effects. Possible reasons for seasonal changes could include natural factors (changing in the weather pattern during the year), administrative measures (starting and ending dates of the school year), and social/cultural/religious traditions (fixed holidays such as Christmas). According to Census Bureau definitions, effects associated with the dates of moving holidays like Easter are not seasonal in this sense, because they occur in different calendar months depending on the date of the holiday.

The changes that are reasonably stable in terms of annual timing, direction, and magnitude are called seasonal effects.



However, there is no question that economic variables are also affected by moving holidays, such as Easter, also. For instance, retail sales tend to rise in the weeks before Easter, whether it is March or April.

For the purpose of this article, definitions from the U.S. Census Bureau page <http://www.census.gov/const/www/faq2.html#one> were used. We also used monthly covered employment industry time series (North American Industry Classification System [NAICS] at the 3-digit and in some cases 4-digit level) from January 1990 to December 2006.

Why Seasonality is Important

If we look at month-to-month employment changes in a seasonal industry, it is very difficult to see the big picture. For example, in November 2006 covered employment in crop production decreased by 34,311 (46.6 percent) compared to October, but this tells us nothing about this industry employment trend. It looks like a big drop, but the average drop for 16 years was significantly larger; 40,651 (52.0 percent).

Chapter Three - Seasonality in Employment Time Series

One way of making a seasonal series comparable is to use over-the-year employment changes for comparable months. In this case, the drop in employment from November 2005 to November 2006 is just 97; this is less than 0.3 percent and eventually indicates no change in the trend. However, using this technique has limitations which are easy to see in the case of agriculture. For example, the apple crop harvest in Washington state generally peaks in September and October. Imagine though if it comes in significantly early or late. All of a sudden comparing monthly changes from previous years is flawed.

To make comparisons more accurate and time sensitive, we need to be able to directly compare monthly data for our series. Seasonal adjustment is a technique used to remove seasonal effects from a time series and produce data in which values of neighboring months are usually easier to compare. The mechanics of seasonal adjustment involve breaking down a series into trend-cycle, seasonal, and irregular components. When a time series has been properly seasonally adjusted, it will show only the trend-cycle and irregular components. For our example, the seasonally adjusted series would post employment growth of 908 between October and November 2006. Or stated differently, the industry lost 908 fewer jobs than expected given past experience.



The two major approaches to seasonality are based on common sense and analysis of data.

Definition and proper modeling of seasonality is also important when forecasting. We show that ignoring seasonality in seasonal time series models increases fitting and prediction error significantly. It is important to remember that adjusting seasonality for comparative reasons versus adjusting it for forecasting purposes have different goals. Subsequently the best models and approaches to determining seasonality can vary.

Approaches in Identifying Seasonality

The two major approaches to seasonality are based on common sense and analysis of data. This article focuses on the second – analyzing data to determine seasonality. While common sense is important for developing the hypothesis, we believe that information and statistical analyses should be used to test it.

An example of this is the software publishing industry. At first glance, common sense tells us there should be no seasonality in this industry as natural factors, administrative measures, and social/cultural/religious traditions seemingly would not come into play. However, when we run the model, software publishing is identified as being mildly seasonal (*Figure 23*).

Levels of Seasonality

For some applications it is important not only to identify seasonality, but to also establish the level of seasonality. To estimate the level of seasonality we calculated the average shares of seasonal factors with two different computer models. This share of seasonal factors is the percentage difference between an industry's actual time series and the seasonally adjusted one. The results were not significantly different and *Figure 23* displays the results from the best fitting models.

The assumption is that the higher the share of seasonal factors, the more seasonal we can view the industry (at least in statistical terms). Among the 72 series identified as seasonal, 27 have relatively high levels of seasonality with shares of three percent or more. Crop production and other agriculture-related industries are at the top of the list. The

Crop production and other agriculture-related industries are at the top of the list.



Chapter Three - Seasonality in Employment Time Series

same number of industries (27) have average shares of seasonal factors between one and three percent and can be characterized as industries with a medium level of seasonality. Examples of this group of moderate seasonality are industries such as trucking and real estate. Another 18 industries have seasonal shares averaging one percent or less and can be characterized as industries with low seasonality.

The Cost of Ignoring Seasonality in Forecasting

To test the importance of reflecting seasonality in forecasting, the ratio of absolute percentage errors when accounting for seasonality against the errors that occurred when not accounting for seasonality was calculated. The ratios are presented in *Figure 23*. A higher ratio would indicate a higher importance of seasonality for accuracy in forecasting; ignoring seasonality could prove to be a costly mistake.

For all employment series, except one (private households), including seasonality decreased the mean average absolute percent error. On average, for all series, ignoring seasonality would increase the error by 88 percent. The industries for which adjusting for seasonality was most important (highest error without it) were educational services (ratio 5.51), followed by crop production (4.15), and accommodation (3.8).

Interestingly, for 17 series identified as not seasonal, the average ratio is about one, which means that including seasonality in the model would not improve the quality of fitting.

Common sense can be a poor replacement for statistical testing. For example, the previously mentioned example of the software publishing industry does not have a clear reason to be a seasonal industry, but it is identified as such by statistical testing. The level of seasonality is low with a seasonal factor ratio of just 0.9 percent. However, ignoring this seasonality would increase the estimation error by 21 percent.

Different Goals, Different Models

The purpose for fitting the model for seasonal adjustment and forecasting are different. The goal of seasonal adjustment is to build a series which will make observations directly comparable. The seasonal adjusted series are initial series that are smoothed to make observations comparable, but maintain the (non-seasonal) characteristics from the

main series. The most common method of judging the quality of seasonal adjustment is to compare the initial against the adjusted series. Both series should be close.

The best model for seasonal adjustment may not be the best model for forecasting and vice versa. The cost of this approach in terms of accuracy seems to be very high. Seasonal adjustment normally ends up with the selection of the Auto-Regressive Integrated Moving Average (ARIMA) model. For forecasting, the selection of the best autoregressive models is normally a starting point. Independent variables can be used to improve quality and the final forecast can often be improved by combining a few forecasts.

Figure 23
Seasonal Industries
Washington State, 1990 to 2006
Source: LMEA/ESD

Industry	Seasonal Share	Error Ratio
Crop Production	34.9%	4.15
Agriculture and Forestry Support Activities	13.8%	2.04
Fishing, Hunting and Trapping	10.1%	1.50
Heavy and Civil Engineering Construction	9.7%	3.65
Museums, Historical Sites, Zoos, and Parks	9.2%	2.96
Performing Arts and Spectator Sports	7.6%	1.80
Accommodation	5.9%	3.80
Educational Services	5.3%	5.51
Food Manufacturing	5.0%	1.96
Clothing and Clothing Accessories Stores	4.7%	3.24
Amusements, Gambling, and Recreation	4.6%	2.00
Warehousing and Storage	4.3%	1.35
Motion Picture and Sound Recording Industries	4.1%	1.37
Specialty Trade Contractors	4.1%	3.13
Construction of Buildings	3.9%	2.37
General Merchandise Stores	3.9%	2.87
Couriers and Messengers	3.9%	1.18
Beverage and Tobacco Product Manufacturing	3.9%	1.68
Sporting Goods, Hobby, Book and Music Stores	3.9%	3.24
Private Households	3.9%	0.88
Building Material and Garden Supply Stores	3.8%	3.32
Mining, except Oil and Gas	3.5%	1.67
Apparel Manufacturing	3.4%	1.19
Forestry and Logging	3.4%	1.48
Administrative and Support Services	3.3%	2.24
Animal Production	3.2%	1.60
Water Transportation	3.1%	1.76
Nonmetallic Mineral Product Manufacturing	2.9%	2.04
Local Government (other)	2.8%	2.25
Truck Transportation	2.5%	2.28
Electronics and Appliance Stores	2.3%	1.50
Membership Associations and Organizations	2.2%	2.37
Merchant Wholesalers, Nondurable Goods	2.2%	1.75

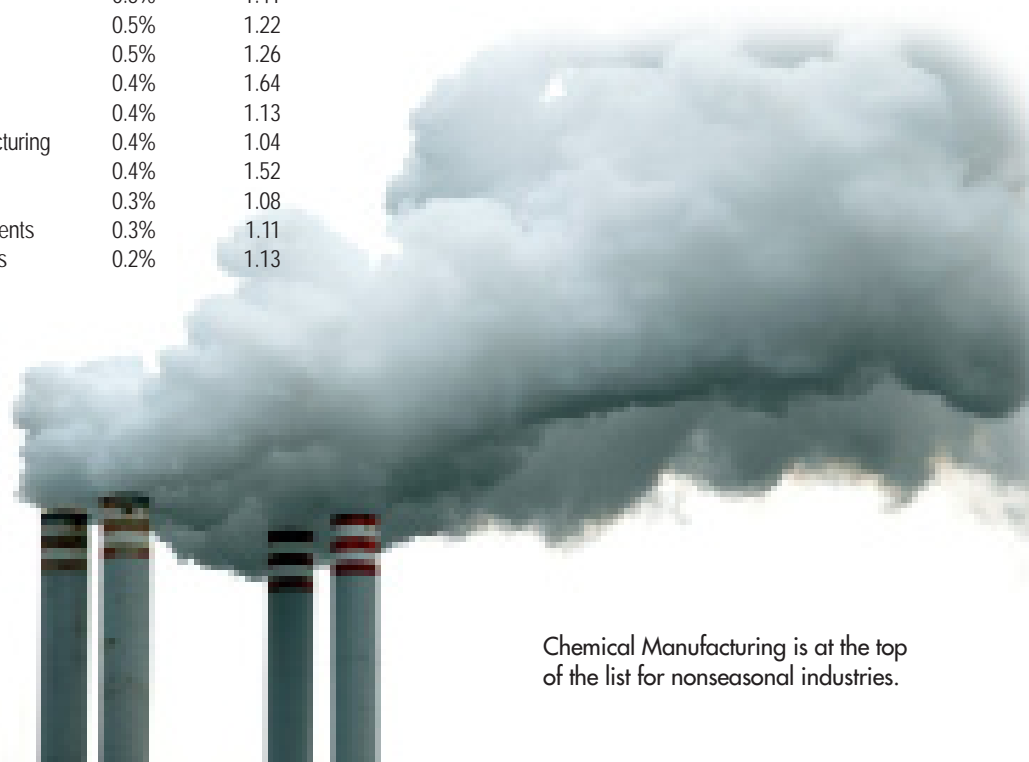
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Chapter Three - Seasonality in Employment Time Series

Industry	Seasonal Share	Error Ratio
Food Services and Drinking Places	2.1%	3.24
Textile Product Mills	2.1%	1.22
Petroleum and Coal Products Manufacturing	2.0%	1.33
Rental and Leasing Services	2.0%	1.69
Gasoline Stations	2.0%	1.87
Miscellaneous Store Retailers	1.9%	2.62
Furniture and Home Furnishings Stores	1.9%	1.66
Food and Beverage Stores	1.8%	1.59
Real Estate	1.6%	2.29
Furniture and Related Product Manufacturing	1.5%	1.37
Miscellaneous Manufacturing	1.4%	1.46
Transit and Ground Passenger Transportation	1.4%	1.64
Health and Personal Care Stores	1.3%	1.54
Plastics and Rubber Products Manufacturing	1.3%	1.31
Wood Product Manufacturing	1.3%	1.23
Motor Vehicle and Parts Dealers	1.2%	2.22
Paper Manufacturing	1.2%	1.53
Personal and Laundry Services	1.2%	2.02
Postal Service	1.1%	1.74
Utilities	1.1%	1.39
Fabricated Metal Product Manufacturing	1.1%	1.32
Repair and Maintenance	1.0%	1.61
Other Transportation Equipment Manufacturing	1.0%	1.12
Air Transportation	1.0%	1.21
Social Assistance	1.0%	1.52
State Government (other)	0.9%	1.58
Software Publishers	0.9%	1.21
Printing and Related Support Activities	0.8%	1.25
Broadcasting, except Internet	0.8%	1.16
Merchant Wholesalers, Durable Goods	0.5%	1.41
Nursing and Residential Care Facilities	0.5%	1.22
Other Publishers	0.5%	1.26
Ambulatory Health Care Services	0.4%	1.64
Hospitals	0.4%	1.13
Computer and Electronic Product Manufacturing	0.4%	1.04
Professional and Technical Services	0.4%	1.52
Insurance Carriers and Related Activities	0.3%	1.08
Securities, Commodity Contracts, Investments	0.3%	1.11
Credit Intermediation and Related Activities	0.2%	1.13

Figure 24
Nonseasonal Industries
Washington State, 1990 to 2006
Source: LMEA/ESD

Industry	Error Ratio
Chemical Manufacturing	1.04
Primary Metal Manufacturing	1.07
Machinery Manufacturing	1.02
Electrical Equipment and Appliance Manufacturing	1.04
Aerospace Product and Parts Manufacturing	0.87
Ship and Boat Building	1.09
Electronic Markets and Agents and Brokers	1.15
Nonstore Retailers	1.05
Support Activities for Transportation	1.13
Wired Telecommunications Carriers	1.04
Wireless Telecommunications Carriers	0.79
Other Telecommunications	0.95
ISPs, Search Portals, and Data Processing	1.02
Other Information Services	0.98
Management of Companies and Enterprises	1.01
Waste Management and Remediation Services	0.68
Federal Government (other)	1.07



Chemical Manufacturing is at the top of the list for nonseasonal industries.

Chapter Four - Unemployment and its Dimensions

Unemployment and its Dimensions

Many indicators are used to determine the difficulty of obtaining employment in a given labor market. The unemployment rate is widely used in economic research as a lagging indicator of the overall direction of the economy. Lesser used, but no less important, are the characteristics of the unemployed. We can get an earlier indication of changes in the economy by analyzing changes in the numbers of long-term unemployed as well as the industries that commonly contribute to cyclical unemployment spikes.

The Unemployment Rate

The **unemployment rate** is estimated based on three pieces of information. First is the Current Population Survey, in which households are asked whether unemployed adults in the household searched for work over the past four weeks. Second is the Current Employment Statistics survey, which estimates employment, based on a survey of firms. The last piece of information is the number of unemployment insurance beneficiaries, which is used in conjunction with the other two pieces of information to estimate the number of unemployed.

Washington's unemployment rate has historically been higher than the national average. From 1995 to 2005 the state unemployment rate averaged 5.9 percent, significantly higher than the national average of 5.1 percent. However, in 2006 the rates became very similar for a short time, then converged again in early 2007 and remained close through September (the most recent month available).

The largest contributing factor to Washington's unemployment rate is the unique industrial composition of the economy. Construction, manufacturing, administrative/waste services, and agriculture have consistently been the major contributors to Washington's high unemployment figures. Two of those industries, construction and manufacturing, have been especially strong in recent years. Manufacturing employment increased by 3.4 percent and 4.9 percent in 2005 and 2006, respectively. At the same time, construction boosted payrolls by 8.0 percent and 9.9 percent.

Each of the four industries mentioned above also contain sub-sectors that make up a larger share of total state employment than their share of national employment. For example, the aerospace sector of manufacturing has a

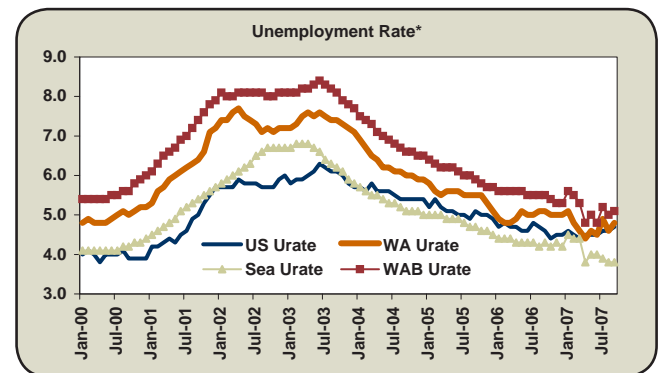
much larger than average share of total workers in Washington than the nation. Therefore, employment swings in aerospace will affect the state unemployment rate more than the nation's.

For 2007, Washington's seasonally adjusted unemployment rate has been relatively stable, starting the year off at 5.1 percent in January and decreasing to 4.8 percent in September¹ (Figure 25). The summer months of 2007 brought increases in the numbers of unemployed workers (as well as employed workers) that were due to large increases in labor force participation (Figure 26). The most simple explanation for this phenomenon is that we had larger than normal seasonal employment fluctuations during the summer months.

Figure 25

Unemployment Rates Over Time
United States Total and Washington,
January 2000 to September 2007

Source: Local Area Unemployment Statistics, Haver Analytics



* "Sea" denotes Seattle; "WAB" denotes WA less Seattle

Construction, manufacturing, administrative/waste services, and agriculture have consistently been the major contributors to Washington's high unemployment figures.

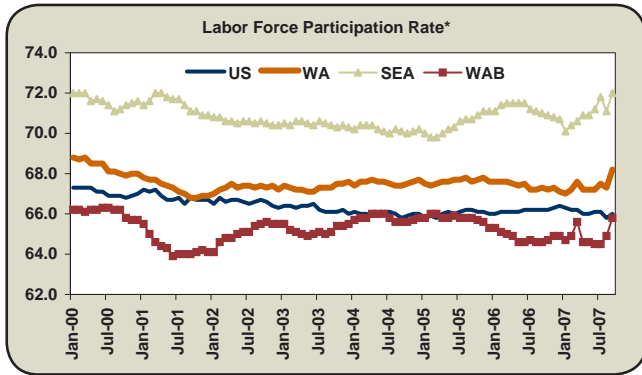


¹ Preliminary October 2006 figures showed the unemployment rate declining from September to 4.8 percent.

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Figure 26

Labor Force Participation Rates
United States Total and Washington,
January 2000 to August 2007
Source: LMEA/ESD



* "Sea" denotes Seattle and "WAB" denotes Balance of Washington

Unemployment Insurance Beneficiaries

Unemployment insurance beneficiaries represent just a portion of all unemployed people; they include only those who were qualified and received unemployment insurance payments. These individuals are quite interesting to track because we are able to get an exact count, and most provide us with their last occupation and industry. This section will concentrate on the industries from which these beneficiaries became unemployed.

Unemployment insurance beneficiaries

represent just the portion of those unemployment insurance claimants who are qualified and receiving unemployment insurance payments.

Each person who files a claim for unemployment insurance benefits is required to document their last employer, occupation, and a few other economic characteristics about themselves. From this information we are able to analyze unemployment insurance program data at the industry and occupation level and break it down by region. We compared the number of beneficiaries to industry employment in order to come up with a relative measure of unemployment insurance beneficiaries by industry. In *Figure 27*, the numbers represent the ratio of the share of beneficiaries per industry to the share of total employment per industry. For example, transportation and warehousing makes up 3.5 percent of total beneficiaries. It also

has a 2.9 percent share of total employment; therefore its ratio (3.5/2.9) is 1.2. A ratio of 1.0 means the industry has a share of beneficiaries that matches its share of total employment. Over 1.0 indicates a higher share of beneficiaries than employment with the opposite being true for a beneficiary ratio under 1.0.

Figure 27

Unemployment Insurance Beneficiaries Relative to Employment
Washington State, October 2006 to September 2007
Source: Unemployment Insurance Data Warehouse:
Continued Claim Database

Industry	Employment to Beneficiaries Ratio	Share of Total Employment	Share of Total Beneficiaries
Mining	4.3	0.1%	0.5%
Construction	3.0	6.4%	19.1%
Agric., Forestry, Fishing and Hunting	2.2	3.0%	6.5%
Admin. Support and Waste Mgmt.	1.6	5.1%	7.9%
Manufacturing	1.5	9.9%	14.9%
Transportation and Warehousing	1.2	2.9%	3.5%
Arts, Entertainment, and Recreation	1.1	1.6%	1.8%
Real Estate and Rental Leasing	0.9	1.7%	1.6%
Utilities	0.9	0.2%	0.1%
Finance and Insurance	0.9	3.6%	3.3%
Wholesale Trade	0.9	4.3%	3.9%
Professional and Technical Services	0.8	5.0%	4.2%
Retail Trade	0.7	11.1%	7.8%
Other Services	0.7	3.9%	2.7%
Information	0.6	3.4%	2.1%
Accommodation and Food Services	0.6	7.8%	4.6%
Health Care and Social Assistance	0.6	10.1%	5.8%
Pub. Admin. (excl. Educ. Svcs.)	0.5	10.3%	4.6%
Educational Services*	0.2	8.5%	1.5%
Mgmt. of Companies and Enterprises	0.1	1.2%	0.1%
Information not Available	--	--	3.6%

*Public and Private Combined

Mining had the highest beneficiary ratio in 2007 at 4.3, with a 0.5 percent share of total beneficiaries and a 0.1 percent share of total employment. This high ratio was the result of a major mine closure that occurred at the end of 2006. Construction and agriculture also had significantly high ratios of beneficiaries to employment. These two industries have commonly been at the top of this list due to cyclical and seasonal changes in employment throughout the year.

This measure really only scratches the surface of a greater issue facing the unemployment insurance system and industries that tend to use the system for maintaining an on-call workforce. In reality, the only thing we can glean from these numbers is a relative measure of which industries commonly have layoffs and which industries do not. From

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September 2006 to September 2007, the construction industry added 15,200 jobs, leading all industries in the state in total employment growth. Intuitively, we wouldn't expect to see the largest growing industry in the state also to be at the top of the list for unemployment beneficiaries, but sometimes reality is stranger than fiction.

Long-Term Unemployment

When a recently unemployed individual files a claim for benefits they receive a maximum weekly benefit amount, if all eligibility requirements are met, for a set number of weeks. Both the weekly benefit amount and the potential number of weeks of compensation are the result of a calculation using employment and earnings history from a base period. This discussion is concerned primarily with the potential duration of compensation.

During non-recessionary times, most discussions of long-term unemployment insurance usage center on those beneficiaries drawing 15 or more weeks of benefits. The potential duration of entitlement in the regular program ranges between 13 and 26 weeks in non-recessionary times. During periods of recession, when the Extended Benefit (EB) trigger has been activated, the length of entitlement increases to 30 weeks. *Figure 28* displays the three industries with the highest rates of long-term unemployed, compared to their share of total employment. *Figure 29* contains the other end of the spectrum with those industries that have relatively low rates of long-term unemployed compared to their share of total employment.

Figure 28
Three Industries with Highest Share of 15-Week Beneficiaries Relative to Share of Employment Washington, October 2006 to September 2007
Source: Unemployment Insurance Data Warehouse: Continued Claim Database

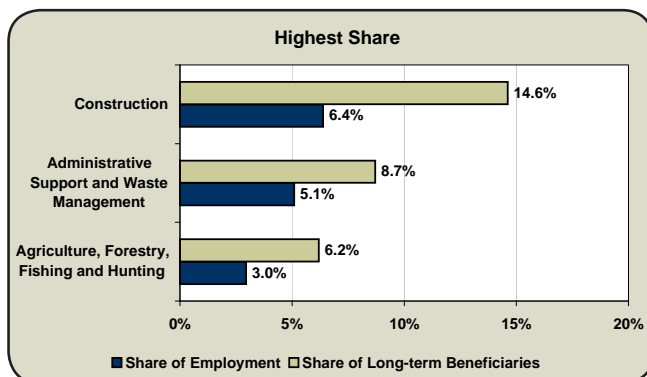
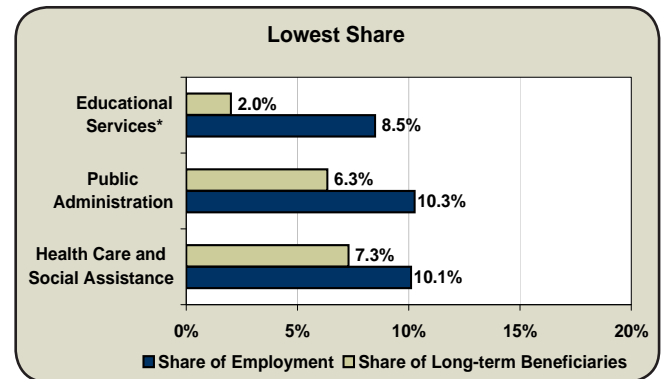


Figure 29
Three Industries with Lowest Share of 15-Week Beneficiaries Relative to Share of Employment Washington, October 2006 to September 2007
Source: Unemployment Insurance Data Warehouse: Continued Claim Database



*Public and Private Combined

Unemployment Insurance Exhaustions

Unemployment insurance exhaustions are one of many measures we can use to take the "pulse" of the economy at a point in time. When the economy is healthy and growing, we would expect to see low numbers of exhaustions as more unemployed workers are able to re-enter the workforce before running out of unemployment insurance benefits. In 2007, 21.7 percent of beneficiaries exhausted their claim. Surprisingly, the lowest exhaustion rates in the state were in rural areas with the North Central Workforce Development Area (WDA) coming in at 14.3 percent and the Northwest WDA at 17.1 percent.

North Central WDA



Northwest WDA



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Figures 30 through 32 display unemployment insurance exhaustions by industry, region, and occupation.

Figure 30

Unemployment Insurance Exhaustions by Industry
Washington State, October 2006 to September 2007
Source: Unemployment Insurance Data Warehouse:
Continued Claim Database

Industry	Annual Exhaustions	Exhaustion Rate
Agriculture, Forestry, Fishing and Hunting	1,403	14.1%
Mining	228	29.0%
Utilities	81	35.7%
Construction	3,867	13.2%
Manufacturing	4,317	18.8%
Wholesale Trade	1,563	26.2%
Retail Trade	3,052	25.6%
Transportation and Warehousing	1,074	20.3%
Information	1,129	35.5%
Finance and Insurance	1,706	33.7%
Real Estate and Rental Leasing	738	29.3%
Professional and Technical Services	1,623	25.4%
Management of Companies and Enterprises	42	25.3%
Admin. Support and Waste Management	2,697	22.2%
Educational Services*	683	30.1%
Health Care and Social Assistance	2,439	27.6%
Arts, Entertainment, and Recreation	669	24.4%
Accommodation and Food Services	1,443	20.6%
Other Services	1,209	29.5%
Public Administration (excl. Educ. Svcs.)	2,079	29.3%
Information not Available	1,219	22.0%
Total	33,261	21.7%

*Public and Private Combined

Figure 31

Unemployment Insurance Exhaustions by Area
Washington State, October 2006 to September 2007
Source: Unemployment Insurance Data Warehouse:
Continued Claim Database

Workforce Development Area	Annual Exhaustions	Exhaustion Rate
Olympic Consortium	1,644	23.4%
Pacific Mountain	2,958	22.7%
Northwest	1,622	17.1%
Snohomish County	3,302	22.4%
Seattle-King County	8,601	25.0%
Pierce County	4,074	23.7%
Southwest Washington	2,427	21.9%
North Central	1,456	14.3%
South Central	2,546	20.3%
Eastern Washington	905	19.6%
Benton-Franklin	1,547	20.3%
Spokane	2,132	18.7%
Information Not Available	47	28.3%
Total	33,261	21.7%

Figure 32

Unemployment Insurance Exhaustions by Occupation Group
Washington State, October 2006 to September 2007
Source: LMEA/ESD

Occupational Group	Exhaustions	Exhaustion Rate
Management	3,584	29.5%
Business and Financial Operations	1,335	31.1%
Computer and Mathematical	879	24.3%
Architecture and Engineering	504	21.6%
Life, Physical, and Social Science	345	24.0%
Community and Social Services	277	29.5%
Legal	224	28.2%
Education, Training, and Library	456	22.7%
Arts, Design, Entertainment, Sports, and Media	519	24.8%
Healthcare Practitioners and Technical	499	27.4%
Healthcare Support	554	28.5%
Protective Service	564	29.2%
Food Preparation and Serving Related	1,205	20.1%
Building and Grounds Cleaning and Maint.	649	17.3%
Personal Care and Service	923	30.2%
Sales and Related	3,482	29.7%
Office and Administrative Support	4,526	30.3%
Farming, Fishing, and Forestry	1,698	16.4%
Construction and Extraction	3,882	13.3%
Installation, Maintenance, and Repair	1,504	20.0%
Production	3,168	18.5%
Transportation and Material Moving	2,207	16.2%
Military Specific	234	28.8%
Information Not Available	43	28.9%
Total	33,261	21.7%

Mass Layoff Statistics

The Mass Layoff Statistics program is a federally funded program that began in 1996. This program collects information on firms that lay off fifty or more employees over a five-week period. The rationale for this program is that large layoffs indicate areas of potential distress in the state and point to industries that may be in trouble. Also, since those involved in a mass layoff are more likely to have trouble finding re-employment than other laid off individuals, the mass layoff statistics program helps service providers target those unemployed who are most in need of services.

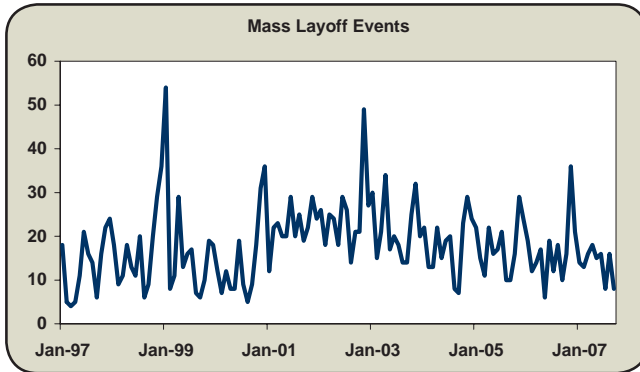
Further analysis of mass layoff statistics is available through the Employment Security Department upon request.

There were similar numbers of mass layoff events in the first three quarters of 2007 (*Figure 33*) as the same time frame in 2006. However, the total number of workers affected was up 3.1 percent year over year (*Figure 34*).

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Figure 33

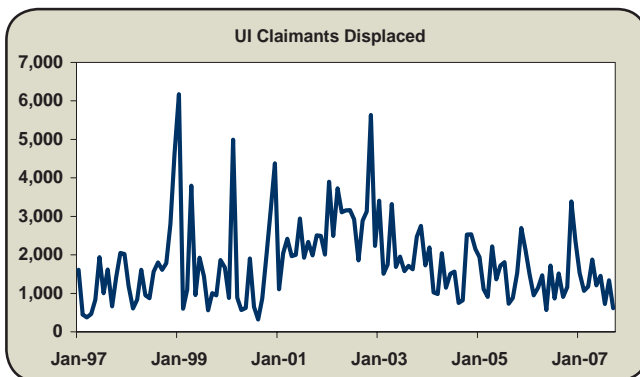
Total Number of Mass Layoff Events
Washington State, 1997 to 2007
Source: Bureau of Labor Statistics, Haver Analytics



Each year in November we see a spike in mass layoff events and the numbers of workers affected. Agriculture and construction have traditionally made up the bulk of these November layoffs as they made seasonal adjustments to their payrolls. For 2005 and 2006, though, manufacturing also had more events/workers affected in November than the rest of the year. Incidentally, most of the mass layoff events in manufacturing were in the food processing sector, closely linked to the agriculture industry.

Figure 34

Total Initial Unemployment Insurance Claimants
Displaced by a Mass Layoff
Washington State, 1997 to 2007
Source: Bureau of Labor Statistics, Haver Analytics



Plant Closures

The intent of this section when it was added to RCW was not to identify layoff events based on seasonal patterns. Rather, it was thought that it would be useful to have a discussion on major plant closures throughout Washington to

give the state legislature an overview of major happenings. Mass layoff statistics data give us a nice overview, but is too general to provide much useful analysis. Instead we will turn to the general news media as a resource for identifying major shutdowns and/or layoffs.

The following plant closure-related news was gleaned directly from the monthly *Around the State*² update published on WorkforceExplorer.com. The month and year listed refer to the date of publication. They are direct quotes, so they are a mixture of past, present, and future tense.

November 2006

The **TransAlta Corporation** shut down mining operations in Centralia, Washington, laying off 550 to 600 workers in the process.

November 2006

A vaccine-research company in Bothell will shut down operations by year-end. **GlaxoSmithKline** will lay off about 70 local biotech workers.

December 2006

Weyerhaeuser Company laid out its plan to eliminate 106 jobs with the replacement of one of its older sawmills in the town of Toutle in Cowlitz County. The new mill is expected to open in mid-2008.

December 2006

Paccar's Kenworth manufacturing plant in Renton will lay off about 400 of its employees effective January 3, 2007. Positions affected by this reduction will be the material handlers, assemblers, painters, and maintenance workers.

January 2007

The **Bessie Burton Sullivan Nursing Residence**, located on the Seattle University campus will close March 15. The closure of the facility will leave about 135 residents looking for a new home, and about 200 staff members jobless.

January 2007

A nationwide home-building slowdown has led to temporary layoffs and manufacturing cutbacks at a **Hearth and Home Technologies** factory in Colville. Hearth and Home issued temporary layoffs to 380 workers.

March 2007

CompUSA is closing both its Snohomish County locations. In addition to the local stores, CompUSA is leaving Kirkland, Bellevue, Tukwila, and Tacoma. The Spokane location will be the only store in Washington. The company did not specify how many employees will be affected by the closures and restructuring, but it is part of CompUSA's effort to improve its financial condition.

² *Around the State* is a summary of major employment-related news from around Washington. The news articles are submitted primarily by the Regional Labor Economists from information gleaned from non-confidential published sources.

Chapter Four - Unemployment and its Dimensions

April 2007

Alltel Wireless will close a call center in Issaquah in October, and will eliminate 260 jobs. After the call center closes, Alltel will have 115 employees left in the state.

April 2007

The **Camas Paper Mill** has started employment reductions. About 300 workers will lose their jobs over the next six months.

April 2007

The **Bank of America** in Spokane has announced the layoff of 205 employees between May and June this year. This is considered to be the first large layoff in Spokane since 2002.

May 2007

Commercial Vehicle Group Inc., which makes interior trim for trucks and boats – clients such as Kenworth, Freightliner, and Bayliner – plans to close its Seattle manufacturing plant, and could be closed by the end of this year. The closure will eliminate 115 jobs.

May 2007

Mortgage loan brokers **Millennium Funding Group** has stopped operations in Vancouver this week after laying off most of its Vancouver staff due to erosion in the subprime lending market, about 60 percent of Millennium's business. The layoff affected 73 employees, most from the company's downtown office personnel. The cuts follow an early March layoff of 76 employees.

May 2007

Mortgage Investment Lending Associates Inc. was a wholesale mortgage lender in Mountlake Terrace that dealt heavily in the subprime mortgage market. In 2005, the company employed about 700; early 2006, the company trimmed its workforce by about 120 people, and smaller groups of layoffs occurred over the next year. In April 2007, the lender laid off 300 employees and went out of business.

May 2007

King County Publications Ltd. plans to shut down a Kent printing plant and lay off all 109 employees between late June and early July. Some employees will be offered jobs at a new printing facility in Everett.

August 2007

The Seattle-based company, **Getty Images**, is cutting about 100 employees. About 25 percent of the layoffs were senior-level directors and executives in Seattle.

August 2007

American Home Mortgage, based in Melville, N.Y, filed for Chapter 11 bankruptcy protection, and as a result, has laid off employees from various locations around Washington state.

August 2007

Swedish Medical Center plans to close its Sleep Medicine Institute by the end of this year. The layoff of 75 workers on the Seattle and Issaquah campuses, including seven part-time workers and four physicians, are expected to begin in September.

August 2007

Last month, **HouseValues**, a primarily on-line marketing service, closed its store in Yakima and laid off 100 workers. Reasons for the closure given by company officials include sluggish national real estate sales, a declining customer base and increased competition.

September 2007

Welco Lumber Co. closed its cedar fencing mill in Marysville at the end of August; 57 employees were laid off. Welco blamed market conditions and "other strategic considerations" for the closure.

September 2007

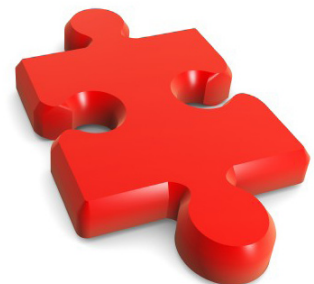
Kalama-based **NorthStar Yachts** laid off 60 people, shut down U.S. manufacturing, and is preparing for a move to China. NorthStar Yachts has been manufacturing boats in Kalama since 1998, and their boats were sold between \$6 million and \$13 million.

September 2007

Georgia-Pacific will shut down its waterfront tissue mill in December, eliminating more than 200 jobs and ending the company's 44-year history in Bellingham. Two issues factored into the closing: 1) Georgia-Pacific, unlike most mills, does not make its own fiber; and 2) the mill's location meant higher shipping costs compared to mills located closer to population centers. The company will work with union representatives to help as many workers as possible find new jobs in the company if they desire.

November 2007

Nichols Bros. Boat Builders unexpectedly closed down amid financial and legal troubles. The company laid off 250 workers, but later announced a possible re-opening.



Further analysis of mass layoff statistics is available through the Employment Security Department upon request.

Chapter Four - Unemployment and its Dimensions

Discouraged Workers

Discouraged workers are those unemployed workers who have given up looking for work because they believe that they will not find a job. This concept has been around since at least the 1970s, but due to a change in the definition, national estimates are only available since 1994 and Washington estimates are biannual dating back to 1998.

The term *discouraged worker* is often confused with the term *dislocated* or *displaced worker*. The most important distinction is that the dislocated or displaced worker is most often considered part of the labor force. **The discouraged worker is not in the labor force and is not part of the unemployment rate calculation.**

The state-level source of information on discouraged workers is the Washington State Population Survey³; national data are derived from the Current Population Survey. The State Population Survey asks why the person didn't seek work during the last four weeks. Three of the possible responses seem to be associated with what are thought of as discouraged workers. The first is, "no work in field," the second is, "can't find work," and the third is, "lack of skills." *Figure 35* displays those findings.

Most notable on *Figure 35* is the change in percent of discouraged workers due to "lack of skills." We would need to investigate the data much further to come up with any concrete reasons for the decrease from 29 percent in 2000 to 3 percent in 2006. However, one possibility is that the data for 1998 and 2000 reflected the lag between exceptional technological advance in the 1990s and (re) training of the labor force.



³ The Office of Financial Management administers the State Population Survey, see: <http://www.ofm.wa.gov/sps/default.asp>

Figure 35

Estimated Number of Workers Who Have Given up Looking for Work
Washington State, 1998 to 2006
Source: Washington State Population Survey, Office of Financial Management

	Reason for Giving Up Looking for Work			Total
	No Work in Field	Can't Find Work	Lack Skills	
1998	52%	25%	24%	6,583
2000	60%	12%	29%	5,556
2002	42%	49%	10%	11,694
2004	35%	56%	9%	24,128
2006	27%	71%	3%	8,094

While Washington's number of discouraged workers more than doubled between 2000 to 2002 and 2002 to 2004, the national numbers grew at a much smaller rate. The substantial growth in the number of discouraged workers in Washington in 2002 and 2004 can be mostly attributed to the especially tight job market the state experienced after 2001. Staying on par with recent employment gains as well as decreases in the unemployment rate, both the state and the nation saw the numbers of discouraged workers decrease substantially in 2006. *Figure 36* illustrates the difference between the state and the nation.

Figure 36

Estimated Number of Discouraged Workers (in Thousands)
Washington State, 1998 to 2006
Source: Washington State Population Survey, Office of Financial Management, Bureau of Labor Statistics

	Washington	United States
1998	6.6	331.0
2000	5.6	276.5
2002	11.7	325.6
2004	24.1	475.5
2006	8.1	395.0

The term *discouraged worker* is often confused with the term *dislocated* or *displaced worker*.



Chapter Five - Washington's Aging Workforce

Washington's Aging Workforce

The retirement of baby boomers will likely have huge impacts on the workforce for both the nation and the state. But what are those possible impacts? Which industries will most likely be affected? What can firms do to help ease this transition? With the help of the Local Employment Dynamics (LED)⁴ dataset, as well as a few other sources of demographic data, this chapter hopes to inform on the age demographics of Washington state's job holders. It will also identify specific industry sectors that are likely to be most affected, and discuss possible implications of an aging workforce on the state's firms and industries.

First, let us define a few items. This report defines "older workers" as those job holders aged 55 and older, as many reports on an aging workforce have done. Second, "baby boomer" refers to anyone born in this country between 1946 and 1964; this group began to turn 60 last year, nearing retirement age for many of them. And third, the LED program is a partnership between the U.S. Census Bureau and participating states that combines states' employment records and workers' demographic data from federal records. This new dataset provides age and gender demographic information at highly detailed industry levels that is updated quarterly and available at several different geographic levels, including state, workforce development area, county, and metro area.

What is the Age Demographic of our State's Workforce?

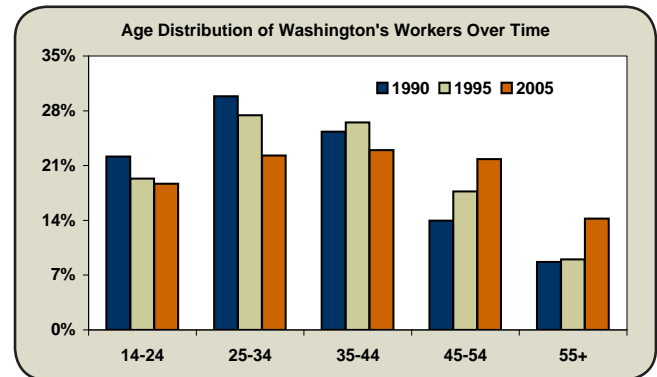
Figure 37 displays the age distribution of Washington's job holders over time. The data strikingly suggests that the state's workforce has indeed aged. The two older age

groups – those job holders between the ages of 45 and 54 and 55 and older – made up a substantially larger portion of the entire workforce in 2005 than they did in 1990.

Figure 37

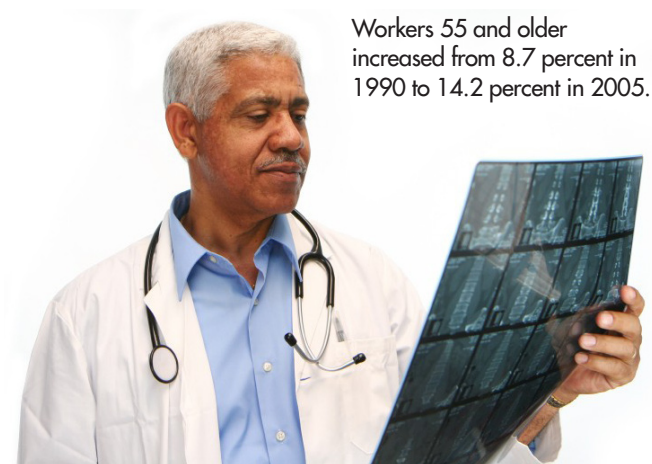
Age Distribution of Washington's Job Holders Over Time
Washington State, 1990 to 2005

Source: U.S. Census Bureau, Local Employment Dynamics



Specifically, workers between the ages of 45 and 54 made up 14 percent of all Washington job holders in 1990, but that portion jumped to just under 22 percent in the ensuing 15 years. (This portion is similar across the state, when comparing eastern and western Washington in 2005.) Likewise, the portion made up by workers 55 and older increased from 8.7 percent in 1990 to 14.2 percent in 2005. This oldest cohort will quickly continue to gain in proportion as the large multitude of workers in the 45 to 54 group age and pass into the 55 and older category.

As a side note, middle-aged job holders in Washington (between the ages of 35 and 44) made up a smaller portion of all job holders in the more recent period, while the two youngest age groups (14 to 24 and 25 to 34) have decreased rather drastically in proportion to the whole, especially the 25 to 34 year old age group. These declines will certainly affect the state's workforce since there will be a smaller fraction of workers in the pipeline to take the place of retiring workers in years to come.

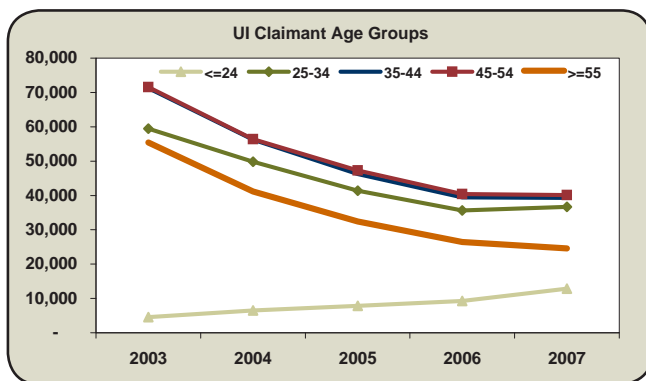


⁴ There are some important differences in how employment and industry are defined between LED and other LMEA data. LED defines employment as anyone who worked 1 hour for the same employer for two consecutive quarters. It includes private as well as all levels of government employment and introduces random error to protect confidentiality. Industries are defined strictly by NAICS, regardless of ownership. Detailed LED definitions are available at http://lehd.did.census.gov/led/library/techpapers/QWI_definitions.pdf

Chapter Five - Washington's Aging Workforce

Also, the Cascade Mountain divide does represent a small demographic difference. Those Washington counties east of the mountains have a slightly larger portion of younger workers (14 to 24 year-olds) than those counties to the west, while 25 to 34 year-olds make up a larger portion of the entire workforce in the western counties than the east. The percentage made up by the older age groups does not differ much across Washington's Cascade Range.

Figure 38
Age Distribution of Unemployment Insurance Claimants
Washington State, 2003 to 2007 Federal Fiscal Year
Source: LMEA/ESD



Another way to view the labor market is from those who have been displaced – recently unemployed persons. By looking at the data since 2003, we can see that claims from workers 24 and younger have been rising rapidly, while claims from those who are 55 and older have been dropping (*Figure 38*). This mirrors the workforce data and confirms that younger workers have been leaving or having a hard time finding new work, and older workers have been holding onto jobs. This is even more interesting in light of the fact that the period depicted was one of recovery from recession. Thus it appears that workers generally recovered well from the downturn with the glaring exception being the youngest workers.

Which Industry Sectors Have the Highest Portion of Older Workers?

Certain sectors in Washington's economy have a higher portion of older workers and will likely be affected more drastically by the wave of retiring baby boomers. These older workers are at or near retirement age, meaning they will leave their respective industries in a relatively short period of time. There are two ways of viewing this exodus; either

they are leaving their companies bereft of the experience and knowledge that they've acquired over years of work, or firms will adapt by getting leaner and more productive.

Figure 39 depicts the proportion of total employment made up by workers aged 55 and older in 2005, in each of Washington's major industry sectors.

Figure 39
Portion of Workers Aged 55 and Older Across Industries
Washington State, 2005
Source: U.S. Census Bureau, Local Employment Dynamics

	Total Employment Aged 55 and Older	Percent of Total Employment
Educational Services	63,634	24%
Utilities	3,724	23%
Public Administration	29,060	20%
Agriculture, Forestry, Fishing, and Hunting	14,502	18%
Mining	672	18%
Real Estate and Rental and Leasing	10,456	17%
Transportation and Warehousing	18,726	17%
Other Services (except Public Administration)	22,035	17%
Health Care and Social Assistance	57,992	16%
Manufacturing	44,887	15%
All NAICS Sectors	462,338	14%
Professional, Scientific, and Technical Services	18,965	14%
Wholesale Trade	19,111	14%
Arts, Entertainment, and Recreation	7,758	13%
Management of Companies and Enterprises	5,333	13%
Finance and Insurance	14,827	13%
Admin. and Support and Waste Mgmt. and Remediation Svcs.	23,605	12%
Retail Trade	42,795	11%
Construction	20,693	10%
Information	9,602	8%
Accommodation and Food Services	18,707	7%



Older workers are at or near retirement age, meaning they will leave their respective industries in a relatively short period of time.



Chapter Five - Washington's Aging Workforce

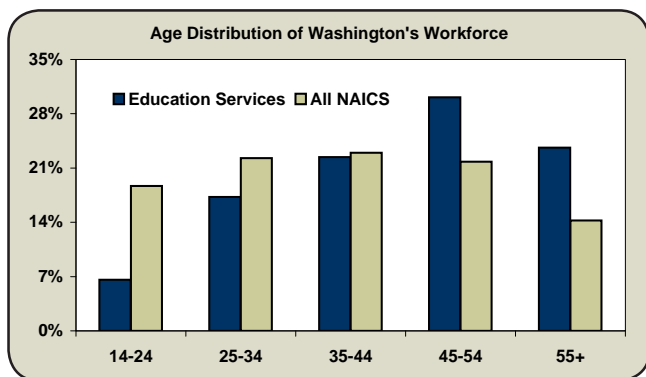
The education services, utilities, and public administration sectors ranked highest in the percentage of older workers, with at least 20 percent in that category in the state. On the other hand, older workers made up a very small percentage of the accommodation and food services, information, and construction sectors. When considering all industries, older workers made up about 14 percent of the state's workforce. (These same sectors represent the "older" sectors regardless of being on the west or east side of the mountain border.)

We should note, however, the several industry sectors that employ especially large numbers of older workers, regardless of having a significant proportion of older workers. Several sectors, including educational services, health care and social assistance, manufacturing, and retail trade, each employed more than 42,000 older workers in 2005, totaling 209,308 older workers in the four industries. So, if the average retirement age is 65, then more than 200,000 workers will be of retirement age within the next ten years. Such massive retirement numbers would leave tremendous voids in these industries, considering that there are relatively small portions of younger workers to fill these jobs.

The educational services sector in Washington displays both a high proportion and large numbers of "older" workers (*Figure 40*).

Figure 40

Age Distribution of Washington's Educational Services Sector
Washington State, 2005
Source: U.S. Census Bureau, Local Employment Dynamics

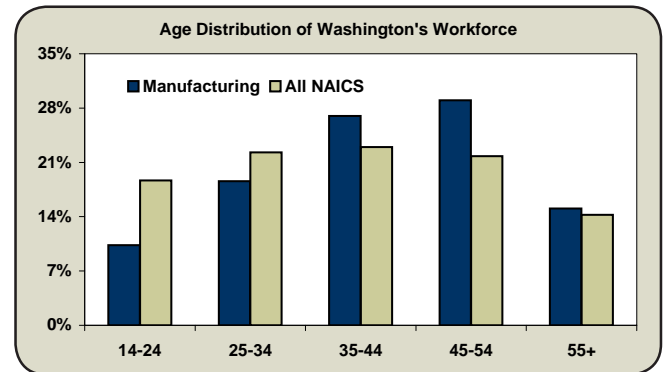


Washington's manufacturing sector is a good example of an industry with an older workforce (*Figure 41*). Notice that workers in the older three categories made up a significantly larger portion of total employment than the all-industry average – and a relatively small number of workers

in the pipeline, acquiring the skills and knowledge to take over when the baby boomers retire. Of course the manufacturing sector is also well positioned to add technology and increase efficiency to replace lost workers.

Figure 41

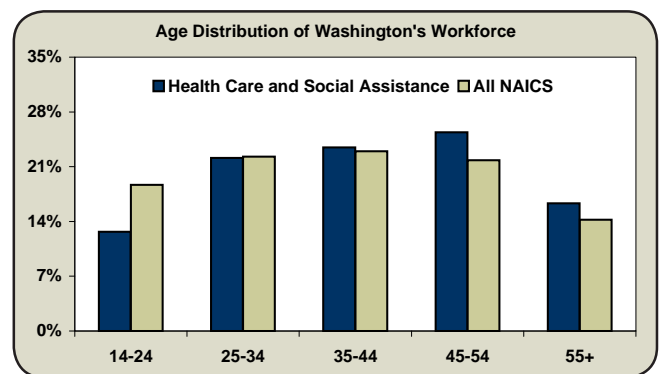
Age Distribution of Washington's Manufacturing Sector
Washington State, 2005
Source: U.S. Census Bureau, Local Employment Dynamics



Meanwhile, Washington's health care and social assistance sector also has significant numbers of "older" workers, but the distribution across age categories is much more similar to the all-industry average. This means that there are relatively more young people working in the industry, and thus this industry sector will likely be less affected by an aging workforce than the manufacturing sector, for example.

Figure 42

Age Distribution of Health Care and Social Assistance Sector
Washington State, 2005
Source: U.S. Census Bureau, Local Employment Dynamics



Washington's manufacturing sector is a good example of an industry with an older workforce.



Chapter Five - Washington's Aging Workforce

Occupations

Another way to look at data is by occupation as opposed to industry. By and large demographic occupational data is hard to come by, but there is some available in the 2006 Washington State Population Survey.⁵

Occupational groups such as “education, training, and library” and “health care practitioners” closely match their industry counterparts, but many don't. Legal occupations had the highest proportion of workers aged 50 and over – 46 percent (*Figure 43*). However, it should be noted that the data do not include self employed workers, which are fairly common in legal occupations. The education, social services, and health care occupations all had high shares of older workers. Military, food preparation, computer, and construction-related occupations all had comparatively low portions of workers 50 and over. This tracks closely to the industry side where accommodation and food services, information, and construction sectors had relatively fewer older workers. (Note: Military data by industry are not available.)

Figure 43
Occupational Groups by Percent Aged 50+
Washington State, 2006
Source: 2006 Washington State Population Survey

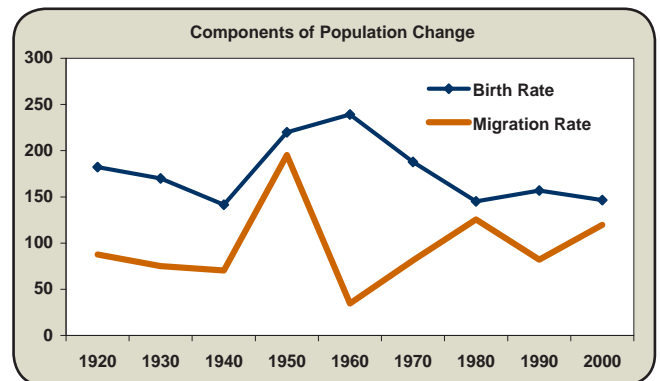
Occupational Group	Percent of Workforce 50+
Legal	46.2%
Education, Training and Library	45.7%
Community and Social Service	45.6%
Health Care Practitioners and Technical Management	43.4%
Management	43.0%
Business and Financial	42.7%
Architecture and Engineering	42.4%
Office and Administrative Support	40.2%
Installation, Maintenance, and Repair	40.0%
Building and Grounds, Cleaning and Maintenance	39.6%
All Occupations	37.1%
Life, Physical, and Social Science	36.1%
Productions	34.4%
Sales and Related	34.2%
Farming, Fishing, and Forestry	33.6%
Arts, Design, Entertainment, Sports, and Media	32.8%
Personal Care and Service	32.4%
Transportation and Material Moving	31.5%
Protective Service	30.2%
Health Care Support	30.1%
Construction and Extraction	29.1%
Computer and Mathematical	26.0%
Food Preparation and Serving Related	14.9%
Military Specific	5.9%

⁵ The 2006 Washington State Population Survey can be found at the Office of Financial Management's Website: <http://www.ofm.wa.gov/sps/default.asp>.

What is Driving this Trend?

As we can see from *Figure 44*, these trends are being caused primarily by changes in the larger population. Since the 1960s, the birth rate in Washington has been on decline. However, until the 1980s or so, this declining birth rate was offset by rising net migration. Since that period, migration has been a mixed bag and for the most part birth rates declined.

Figure 44
Population and Components of Population Change for the State: Per 1,000 Persons
Washington State, 1920 to 2000
Source: Office of Financial Management



According to the Office of Financial Management (OFM), since 1990 the Washington population of 20-somethings has risen by 20 percent; 30-somethings by 1 percent; 40-somethings by 48 percent; and those 50 and over by 68 percent. The Washington state population is aging quickly and it is being matched by the age structure in the state's workforce.



Military, food preparation, computer, and construction-related occupations all had comparatively low portions of workers 50 and over.

Chapter Five - Demographics of the Labor Force

Forecasts out to 2030 by OFM see the population of those in their 20s growing by 17 percent; in their 30s by 27 percent; their 40s by 19 percent; in their 50s by 6 percent; and those 60 and older by 100 percent. If accurate, Washington state will continue to see a relative shrinkage of its core age labor force, with those at or near retirement age increasing rapidly.

Implications of an Aging Workforce

This quickly aging workforce means that large numbers of employees will likely retire within a relatively short time-span, taking with them a great deal of knowledge and experience, and thus possibly affecting firms' productivity. It is often the case that those employees in management positions are also older workers – because they have invaluable industry wisdom – and so as baby boomers retire, a good chunk of today's management will retire as well.

Of course, the ranks of management have always been filled by more senior employees and no doubt the retiring baby-boomers will be followed by the next generation of managers. Also as previously mentioned, retiring workers shouldn't always be seen as a negative. In many cases, the loss of workers can allow companies to become leaner, more adaptive, innovative, and infuse more technology.

Naturally, some retirement-age employees will continue to work for myriad reasons, such as to keep from becoming bored in retirement or because he or she truly enjoys the work. Also due to a low savings rate in this country's recent past, a decline in the number of pensions offered

to loyal workers, and increases in the Social Security program's eligibility age, many retirement-aged workers will not be financially able to retire at the typical retirement age.

However, local firms have begun to alter their recruiting methods and policies in anticipation of this inevitable retirement en masse. Local firms, such as the Weyerhaeuser Company, have decided to accommodate older workers in order to entice them to work into typical retirement ages, by creating flexible schedules that allow for weeks with lessened work hours or for extended periods of time off. The Boeing Company, whose employees' average age is 50, has also focused on recruiting younger workers in order to better maintain the pipeline of workers and on educating students on careers in manufacturing. Organizations, such as Washington's Dream It-Do It, focus on broadening awareness of manufacturing careers and recruiting young people into the industry. Hopefully, such efforts will alleviate the challenges caused by a larger proportion of workers nearing retirement.

The Boeing Company, whose employees' average age is 50, has also focused on recruiting younger workers in order to better maintain the pipeline of workers and on educating students on careers in manufacturing.



Chapter Six - Employment Projections

Employment Projections

Occupational and industry employment projections are used by policy makers, job seekers, and economic analysts. Producing accurate employment projections at the state and smaller sub-state levels in a rapidly changing economy is a challenging task.

Currently, industry forecasts are produced for two, five, and ten years in the future. The occupational staffing pattern for each industry is then used to convert the industry projections into occupational projections.

The standard time series technique advised by The Projections Workgroup and the Projections Managing Partnership combines alternative econometric forecasting methods to choose the best fit based on performance measures over the observed time periods.

There are two major sets of data required to produce a forecast: employment time series and the indicators (independent variables such as the national employment forecast). Autoregressive models only use historical employment time series to forecast future employment. Models that are more complex incorporate dependent and independent variables. Structural changes in employment should be incorporated in such complex models through the use of independent leading indicators.

The variance between predicted and actual observed results measures the accuracy of projections. Typically, time series models produce accurate results for industries, areas, and occupations with smooth patterns of development. However, such models tend to fail to predict sharp changes. There are no developed tools to predict structural changes; despite the fact that such predictions are very important.

The different goals for projections justify different priorities. In some cases the results are intended to be used to develop fast corrective actions. For example, employment

projections which are used to drive budget forecasts and anticipated changes in the budget should be identified and dealt with immediately. In such cases, we mainly speak about adaptive controls and forecasts which should be updated often to reflect the best and most current data. Up-to-date data take priority over consistency in such cases.

In other cases, projections are intended to be used for career development. Sharp changes that occur frequently would drive the value of such projections down significantly. Consistency takes priority in these cases.

The compromise between statistical accuracy and the ability to predict sharp changes could be achieved by developing a relatively smooth base line forecast (what happens if nothing changes) and a few alternative scenarios which would address the possibility of positive and negative shocks.

The details of methods and the data used to produce industry and occupational projections can be found at: www.workforceexplorer.com/admin/uploadedPublications/8401_Projectionsjul_07.pdf

Due to the combination of private and government employment for education and hospitals, industry control totals could not be directly aggregated to conventional industry sectors. In addition, it is not advisable to use them as detailed industry projections due to very low statistical reliability of detailed industry cells. The goal of these processes is to provide input for occupational projections.



The variance between predicted and actual observed results measures the accuracy of projections.



Chapter Six - Employment Projections

Detailed employment projections can be found online.

Medium and long-term industry projections:

www.workforceexplorer.com/admin/uploadedPublications/5004_indlongp.xls

Short-term industry projections:

www.workforceexplorer.com/admin/uploadedPublications/5003_indshortp.xls

Industry control total files:

www.workforceexplorer.com/admin/uploadedPublications/4957_ictall.xls (for combined data)

Medium and long-term industry control totals:

www.workforceexplorer.com/admin/uploadedPublications/1608_1608_long.xls

Short-term control totals:

www.workforceexplorer.com/admin/uploadedPublications/1609_short.xls

Combined occupational projections:

www.workforceexplorer.com/admin/uploadedPublications/4960_alloccupproj.xls

Medium and long-term occupational projections:

www.workforceexplorer.com/admin/uploadedPublications/1647_longoccup.xls

Short-term occupational projections:

www.workforceexplorer.com/admin/uploadedPublications/1646_shortoccup.xls

Staffing patterns used for employment estimations and projections:

www.workforceexplorer.com/admin/uploadedPublications/4959_ocup_indmatrixes.xls

Due to confidentiality, staffing patterns for suppressed industries are not published.

Projections Results

To compare the structural changes in long-term employment projections for the main nonfarm industry sectors we moved logging employment out of nonfarm employment for our state.



Figure 45

Estimated and Projected Statewide and National Structure of Industry Employment⁶

United States and Washington State, 2004 and 2014

Source: LMEA/ESD

Industry Title	Washington State			Nation	
	Estimated Employment 2004	Employment Shares in 2004	Employment Shares in 2014	Employment Shares in 2004	Employment Shares in 2014
Mining	3,300	0.1%	0.1%	0.4%	0.3%
Construction	164,100	6.1%	6.8%	5.3%	5.1%
Manufacturing	263,400	9.8%	9.1%	10.8%	9.0%
Wholesale Trade	119,300	4.4%	4.4%	4.3%	4.1%
Retail Trade	309,700	11.5%	11.0%	11.4%	11.1%
Transportation, Warehousing and Utilities	89,400	3.3%	3.2%	3.6%	3.5%
Information	92,400	3.4%	3.7%	2.4%	2.3%
Financial Activities	152,100	5.6%	5.3%	6.1%	5.9%
Professional and Business Services	302,400	11.2%	12.6%	12.4%	13.9%
Education and Health Services	320,100	11.9%	12.6%	12.8%	14.7%
Leisure and Hospitality	255,200	9.5%	9.4%	9.4%	9.7%
Other Services	99,900	3.7%	3.5%	4.7%	4.6%
Government	523,900	19.4%	18.2%	16.4%	15.8%

⁶ Ten-year national projections are produced by BLS every other year. BLS does not develop medium, 5-year projections. The latest available national projections were for 2004 to 2014.

Chapter Six - Employment Projections

Overall, the expected structural changes between national and statewide long-term industry projections are similar. However, significant differences were seen in the information and construction sectors where the national forecast calls for a slight decrease in industry employment shares. Statewide employment shares for these sectors are significantly higher than national shares in the base year. We expect further increases in these shares. We also expect a smaller decrease in manufacturing employment shares for the state than nationwide. The major balancing differences are smaller than national increases in employment shares for education and health services. There is a slight decrease in projected leisure and hospitality employment shares. National forecasts call for this share to increase. The difference in shares does not reflect the difference in the growth rate which is 1.7 percent for the state, slightly higher than the nation at 1.6 percent.

The fastest growth rate in new industry employment projections is expected to be in Clark County. An annual growth rate of 2.5 percent is projected, which is down slightly from the previous ten-year average growth rate of 2.6 percent. Still, Clark County moved from fourth place in historical growth rates to first. The slowest growth rate is expected to be in Columbia (-0.9 percent), which reflects the recent drop

in employment (after 2004) due to the loss of asparagus manufacturing. Forecasted annual average growth rates for Washington state (1.8 percent) and King County (1.6 percent) are slightly larger than the actual rate of 1.6 percent for the last ten years. Among large areas, Yakima and Snohomish are projected to have significantly higher growth rates for the next ten years compared to the previous ten-year period. The projected variance between area growth rates is significantly lower than the variance in the past ten years. This is probably due to different techniques used to smooth the projection results. Still, smoothing will probably lead to lower errors. It is not reasonable to expect small projections errors for detailed areas (especially for the smaller areas). Any unexpected event could turn results around for such areas. However, projections do represent a reasonable guess about possible employment growth in the area under normal conditions.

Results of Occupational Projections

Figure 46 contains a comparison of occupational employment estimations and long-term projections at state and national levels. Compared with the nation, Washington has significantly lower employment shares for management and production occupations, but significantly higher shares for farming, science, computer, architecture, and engineering-related occupations.

Figure 46

Estimated and Projected Occupational Employment Structure
United States and Washington State, 2004 and 2014

Source: LMEA/ESD

Occupational Title	Estimated and Projected Employment Shares				Shares of Total Average Annual Openings	
	Washington State		Nation		Washington State	Nation
	2004	2014	2004	2014		
Management	3.3%	3.3%	6.3%	6.2%	2.9%	5.0%
Business and Financial Operations	4.5%	4.4%	4.0%	4.3%	3.7%	4.0%
Computer and Mathematical	3.0%	3.4%	2.2%	2.5%	3.2%	2.5%
Architecture and Engineering	2.4%	2.4%	1.7%	1.7%	2.4%	1.6%
Life, Physical, and Social Science	1.5%	1.5%	0.9%	0.9%	1.5%	1.0%
Community and Social Services	1.6%	1.7%	1.6%	1.7%	1.6%	1.7%
Legal	0.9%	0.9%	0.8%	0.9%	0.5%	0.6%
Education, Training, and Library	5.9%	5.8%	6.0%	6.3%	4.9%	6.5%
Arts, Design, Entertainment, Sports, and Media	2.0%	2.1%	1.7%	1.8%	1.9%	1.6%
Health Care Practitioners and Technical	4.3%	4.5%	4.7%	5.2%	4.3%	5.6%
Health Care Support	2.4%	2.5%	2.4%	2.8%	2.3%	3.1%
Protective Service	1.6%	1.6%	2.2%	2.2%	1.8%	2.4%
Food Preparation and Serving Related	7.5%	7.5%	7.4%	7.6%	10.7%	10.9%
Building and Grounds Cleaning and Maintenance	3.7%	3.7%	3.8%	4.0%	3.5%	3.8%
Personal Care and Service	4.4%	4.3%	3.2%	3.5%	4.2%	3.9%
Sales and Related	10.7%	10.5%	10.5%	10.2%	12.2%	11.9%
Office and Administrative Support	15.0%	14.9%	16.4%	15.4%	14.6%	13.6%
Farming, Fishing, and Forestry	2.9%	2.5%	0.7%	0.6%	1.7%	0.5%
Construction and Extraction	6.0%	6.6%	5.3%	5.3%	7.1%	4.5%
Installation, Maintenance, and Repair	4.1%	3.9%	3.9%	3.9%	3.5%	3.6%
Production	5.5%	5.2%	7.3%	6.4%	4.9%	5.3%
Transportation and Material Moving	6.9%	6.9%	6.9%	6.8%	6.7%	6.3%

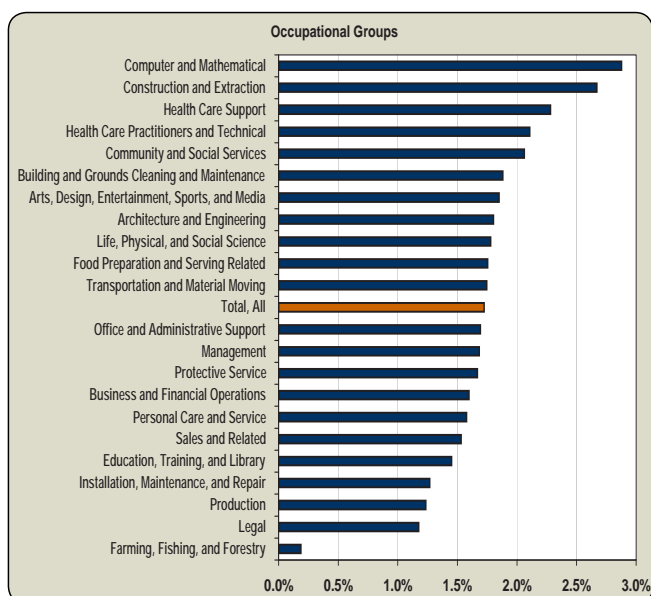
Chapter Six - Employment Projections

National occupational projections are more optimistic about the prospects for the education, training, and library occupations; personal care; and business and financial operations occupations. State projections are more optimistic about office and administrative support; production; and construction and extraction occupations. For other occupational groups, there are no significant differences for structural changes in employment. Both projections anticipate that the top three sectors for job openings (respectively) will be office and administrative support, sales and related, and food preparation occupations. Combined, these three sectors represent 37.5 percent of total openings for the state and 36.4 percent for the nation.

Overall, by 2014 the state and national occupational employment structures are expected to be closer than they were in 2004. The index of dissimilarity⁷ is expected to decrease from 7.5 percent in 2004 to 7.0 percent in 2014.

The average growth rate for total employment is 1.7 percent. Half of the 22 occupational groups have projected growth rates larger than the average, while the other half are projecting lower than average growth rates. The fastest growing group was computer and mathematical occupations, while the slowest was farming and production occupations.

Figure 47
Annual Average Projected Growth Rates for Major Occupational Groups
Washington State, 2004 to 2014
Source: LMEA/ESD



For all areas, the higher education levels⁸ are associated with higher wages⁹. *Figure 48* contains the average employment and wage estimations for the state. All occupations are divided into four educational categories.

Figure 48
Employment and Wages by Educational Levels
Washington State¹⁰
Source: LMEA/ESD

Education Level	Est. Empl. 2004	Average Annual Growth Rate 2004-2014	Annual Openings Due to Growth 2004-2014	Average Annual Total Openings 2004-2014	Average Annual Wages (est. for March 2007)
Bachelor's Degree or higher	615,000	1.8%	12,200	24,700	\$71,400
AA Degree, Post-secondary training, or long-term on-the-job trng.	725,700	1.8%	14,100	30,700	\$50,400
Moderate on-the-job training (1-12 months)	566,600	1.8%	11,100	24,000	\$39,100
Short-term on-the-job trng. (short demonstration up to one month)	1,085,600	1.7%	19,400	55,600	\$26,200

The gain for the state in wages is largest with the transition from AA degree to bachelor's degree, equal to \$21,000. The same is true for all other sub-state areas which average a gain of \$20,900 for each higher level of education. The gain due to the transition from moderate on-the-job training to AA degree for the state is \$11,300 and averages \$10,900 for all other areas. There is a difference of \$12,900 in wages between moderate on-the-job training and short-term on-the-job

⁷ Index of dissimilarity between two vectors X and Y is defined as $\frac{1}{2} * \sum |X-Y|$. The theoretical possible value of the index is between 0 and 1 (0 for fully equal structures and 1 for completely opposite structures).

⁸ The education categories for specific occupations are an aggregated version of education clusters from the Occupational Outlook Handbook, Bureau of Labor Statistics. They are estimates of typical preparation levels required for the occupation. Only occupations, which are not suppressed and for which educational codes and wages are identified are included in calculations.

⁹ Wages are not part of the occupational projections. Source data for wages come from the Occupational Employment Statistics (OES) survey and are subject to restrictions and limitations of the survey. Agricultural employment is excluded except for agricultural services. Self-employment and private households are not included in the survey. All wage estimations are adjusted as of March 2007. For more information regarding OES programs, go to www.bls.gov/oes/oes_data.htm.

¹⁰ Employment and wage numbers are rounded to 100.

Chapter Six - Employment Projections

training for the state and \$13,300 on average for all other areas. Occupations which require the lowest educational level are expected to have the lowest growth rates.

In our article, *Employment Projections, Methodology, and Results, July 2007* (www.workforceexplorer.com/admin/uploadedPublications/8401_ProjectionsJul_07.pdf) we presented tables for the top 10 ranked occupations for the state and each local area (2004 to 2014). The data were affected by actual employment changes between 2004 and 2006Q2 (latest available actual data). The tables based on forecasts for 2009 to 2014¹¹ are at the end of this chapter.

Medical secretaries; registered nurses; nursing aides, orderlies, and attendants; and dental assistants appear most frequently in the list of top 10 occupations. They are followed by child care workers and landscaping and groundskeeping workers.

Registered nurses; landscaping and groundskeeping; nursing aides, orderlies, and attendants; and medical secretaries are leading in number of total openings among top 10 occupations, followed by computer programmers, security guards, and child care workers. However, if we rank total openings among all occupations (except those suppressed) the largest number of openings will be for retail salespersons, combined food preparation and serving workers, and cashiers – registered nurses would be ranked number 6 on this list.

Occupations requiring little preparation are most common on the list of top ten (53 occurrences), followed by the middle-level preparation (46 occupations). Occupations which require long preparation made the list of top ten, 10 times. Seven of the cases are in Washington state and King County.

Use and Misuse of Occupational Projections

Occupational projections show how many job openings are expected due to occupational employment and replacement needs. Replacement includes openings created

Medical secretaries; registered nurses; nursing aides, orderlies, and attendants; and dental assistants appear most frequently in the list of top 10 occupations.



by retirement and separation from occupations for other reasons. It does not include the normal turnover in each occupation as workers go from one employer to another or from one area to another without changing their occupations. Total openings from occupational projections do not represent the total demand, but can be used as an indicator of the demand. Occupational details for employment not less than 50 are presented for all areas.

Observed and predicted extremes in employment growth and indicators, such as fastest growing occupations and shortage of skills, can be used for placement and short-term training decisions. However, this should be limited for use in developing long-term education programs. There are two main reasons for this limitation. First, with more education targeting occupations (skills) with shortages, there is a higher probability that this will cause an oversupply in those occupations (skills). Second, the general development of transferable skills is much more productive than trying to catch up with the shortage.

The purpose of our projections is to provide a general outlook for industries and occupations in Washington. While results may not provide a complete picture, our projections do provide the best guess about Washington's industry and occupational future. For any serious decisions, you will not want to limit your research to just one information source.¹²

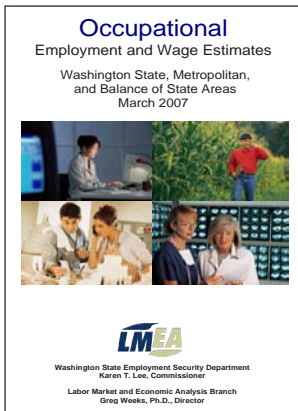
Different programs use slightly different coding systems. Combining the employment projections with other data sources generally requires case-by-case analysis and an understanding of the differences in the programs. When this combination is done, by simple formal matching of the directories, it might create biases and misleading information. In all cases, restrictions and differences of each program should be clearly explained and handled properly.

¹¹ Occupations are ranked based on the average of two criteria: average annual growth rate for 2009-2014 and total number of job openings due to growth and replacement.

¹² It is important to remember, that according to BLS: "SOC (Standard Occupational Classification) was designed solely for statistical purposes. Although it is likely that the SOC will also be used for various nonstatistical purposes (e.g., for administrative, regulatory, or taxation functions), the requirements of government agencies that choose to use the 2000 SOC for nonstatistical purposes have played no role in its development, nor will OMB (Office of Management and Budget) modify the classification to meet the requirements of any nonstatistical program. Consequently, as has been the case with the 1980 SOC (Statistical Policy Directive No. 10, Standard Occupational Classification), the SOC is not to be used in any administrative, regulatory, or tax program unless the head of the agency administering that program has first determined that the use of such occupational definitions is appropriate to the implementation of the program's objectives."

Chapter Six - Employment Projections

For example, combining occupational projections with wages requires an explanation. Wages come from the Occupational Employment Statistics (OES) survey and are subject to restrictions and limitations of the survey. The coding systems are slightly different and should be matched.



Agricultural employment is excluded from the survey except for agricultural services. Self-employment and private households are also excluded from the survey. Wages for occupations with a significant share of excluded (from the survey) employment may contain significant biases and can be misleading. The best example of such biases is applying the wages from the

agriculture services survey to general agriculture occupations. The proposed solution would be to avoid publishing such data when biases are obvious and give implicit warnings when the biases are expected.

One significant problem occurs when attempts are made to use not-representative results of the projections to support an established point of view. Such cases are expressed well by the famous joke of Andrew Lang: “He uses statistics as a drunken man uses lampposts – for support rather than for illumination.”

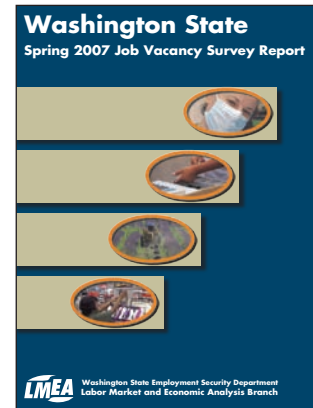
Occupational Projections and the Job Vacancy Survey

The Job Vacancy Survey (JVS) provides unique up-to-date information about the current state of the labor market. Detailed results can be found in the Washington State Spring 2007 Job Vacancy Survey Report at: www.workforceexplorer.com/admin/uploadedPublications/8259_JVSApr_07Rep.pdf.

¹³ Some employers use openings as a marketing tool or attempt to create a pool of potential candidates. It may also express the need for people, but not necessarily the ability to hire. For example, an extreme number of job openings for registered nurses may not translate to extreme job growth in the occupation and can coexist with a significant number of unemployed workers in this occupation.

¹⁴ The ranking of construction related occupations could reflect differences in time frame. While the industry was booming in the last two years, it was probably slowing in growth by the time of the survey.

Survey results allow us the opportunity to compare Washington’s occupational employment projections to another source of occupational information. The fundamental difference between the two is that the JVS gives a snapshot picture of vacancies at one point in time, while projections estimate the annual number of openings. In addition, since the JVS represents one month of the year, it exhibits a high impact of seasonal variations not seen in the projections data. Occupational projections estimate anticipated changes in employment, while job vacancies from the JVS do not necessarily translate to hiring.¹³ Due to these differences, data are not directly comparable. However, relative rankings of occupations can be used to apply a “reality check” on both.



However, there are significant differences in individual occupations’ rank. On the aggregated level, the first and last ranked occupational groups are the same: office and administrative support occupations are ranked first and legal occupations are ranked last. For some occupational groups, there are significant differences in ranking aggregated and detailed occupations. For example, the JVS ranked health care practitioners and technical occupations much higher than did projections, but this is mainly due to a huge share of openings for registered nurses. The projections rank opticians, dental-related family, and general practitioners and surgeons significantly higher than the JVS. The same is the case for computer and mathematical occupations which, as a group, are ranked higher in the JVS. However, computer programmers, software engineers and computer support specialists are ranked higher in projections. For groups, projections have a significantly higher ranking for personal care and service and construction-related occupations.¹⁴

For some occupational groups, there are significant differences in ranking aggregated and detailed occupations.



Chapter Six - Employment Projections

Regional structures of job openings in the Job Vacancy Survey and short-term projections (*Figure 49*) are close, with an index of dissimilarity less than 8.5 percent.

Figure 49

Regional Structure of Job Openings
Washington State, JVS-2007, Projections-2006:Q2 to 2008:Q2
Source: LMEA/ESD

Workforce Development Area	Job Vacancy Survey March, 2007	Short-Term Projections 2006:Q2-2008:Q2
Olympic Consortium	4.1%	4.0%
Pacific Mountain	4.1%	5.4%
Northwest	6.3%	5.6%
Snohomish County	7.7%	9.8%
Seattle-King County	45.9%	40.0%
Pierce County	9.1%	9.6%
Southwest Washington	4.5%	6.2%
North Central	4.9%	3.3%
South Central	2.5%	3.9%
Eastern Washington	2.3%	2.3%
Benton-Franklin	2.0%	2.7%
Spokane	6.4%	7.3%

The occupational structure of job openings for state short-term projections and the JVS (*Figure 50*) differ significantly more than the regional structure with an index dissimilarity of 16.4 percent. The Job Vacancy Survey indicates a significantly larger share of openings (compared with short-term projections) for health care practitioners and technical occupations (2.7 times), computer and mathematical occupations (2.3 times), farming, fishing, and forestry occupations (1.9 times) and health care support occupations (1.8 times). The share of openings for protective service occupations, legal occupations, food preparation and serving-related occupations, construction-related occupations, and personal care and service occupations are significantly larger for short-term projections than they are for the Job Vacancy Survey.

Employment projections concentrate more on expected employment changes and number of jobs filled. On the other hand, the JVS concentrates on the number of announced vacant positions, but not necessarily filled positions. For example, the estimated¹⁵ (based on OES survey) annual average employment growth for the last three years for health care-related occupations (2003 to 2006) was 3,148, computer and mathematical occupations were estimated at 3,066 jobs.¹⁶

¹⁵ OES estimations do not represent the historical series and should be used with a high level of caution. However, for some major occupational groups the estimations are relatively stable and can give a general idea regarding the magnitude of the employment changes.

Figure 50

Occupational Structure of Job Openings
Washington State, JVS-2007, Projections-2006:Q2 to 2008:Q2
Source: LMEA/ESD

Occupational Title	Projections	JVS
Management	2.8%	3.6%
Business and Financial Operations	3.7%	5.1%
Computer and Mathematical	3.1%	7.1%
Architecture and Engineering	3.0%	3.3%
Life, Physical, and Social Science	1.6%	1.6%
Community and Social Services	1.5%	1.8%
Legal	0.5%	0.4%
Education, Training, and Library	4.9%	4.0%
Arts, Design, Entertainment, Sports, and Media	1.8%	1.4%
Health Care Practitioners and Technical	3.7%	10.0%
Health Care Support	2.1%	3.8%
Protective Service	1.8%	1.3%
Food Preparation and Serving Related	12.5%	8.9%
Building and Grounds Cleaning and Maintenance	3.5%	2.5%
Personal Care and Service	4.4%	3.2%
Sales and Related	13.2%	9.9%
Office and Administrative Support	14.4%	11.5%
Farming, Fishing, and Forestry	1.9%	3.5%
Construction and Extraction	5.2%	3.8%
Installation, Maintenance, and Repair	3.3%	3.3%
Production	4.8%	3.9%
Transportation and Material Moving	6.2%	6.3%

In our short-term projections we predict annual growth of 4,741 for health care-related occupations and 3,366 for computer and mathematical occupations. This translates to 8,377 total annual openings due to growth and net replacement for health care-related occupations and 4,492 for computer and mathematical occupations. The JVS estimations of openings are 12,086 for health care-related occupations and 6,237 for computer and mathematical occupations.

The fundamental difference between the two is that the JVS gives a snapshot picture of vacancies at one point in time, while projections estimate the annual number of openings.



¹⁶ OES estimations exclude self-employed which, in projections, are estimated to be 5.6 percent for computer and mathematical occupations and 6.1 percent for health related occupations. To make OES growth comparable with projections we need to increase them by this percent.

Chapter Six - Employment Projections

Top Ten Occupations for Washington State

Occupational Titles	Preparation Level	Estimated Employment 2009	Average Annual Growth Rate	Average Annual Total Openings	Estimated Average Wage May 2007
Computer Programmers	Long	13,545	2.8%	763	\$88,681
Medical Secretaries	Middle	19,735	2.3%	910	\$34,732
Computer Software Engineers, Systems Software	Long	13,803	2.8%	577	N/A
Landscaping and Groundskeeping Workers	Little	28,248	2.2%	1,287	\$27,847
Dental Assistants	Short	10,313	2.4%	582	\$35,861
Registered Nurses	Middle	53,155	2.1%	2,464	\$67,003
Nursing Aides, Orderlies, and Attendants	Middle	25,921	2.2%	987	\$25,415
Multimedia Artists and Animators	Long	5,246	3.0%	291	\$55,883
Security Guards	Little	17,010	2.1%	741	\$28,473
Home Health Aides	Little	12,008	2.3%	469	\$21,901

Top Ten Occupations for Benton-Franklin

Occupational Titles	Preparation Level	Estimated Employment 2009	Average Annual Growth Rate	Average Annual Total Openings	Estimated Average Wage May 2007
Registered Nurses	Middle	1,667	2.3%	81	\$62,879
Graders and Sorters, Agricultural Products	Middle	544	2.5%	29	\$17,771
Dental Assistants	Short	381	2.6%	22	\$32,585
Medical Secretaries	Middle	617	2.4%	29	\$32,122
Nursing Aides, Orderlies, and Attendants	Middle	843	2.2%	32	\$23,042
Child Care Workers	Little	1,568	1.6%	67	\$18,866
Teacher Assistants	Little	1,328	1.5%	49	\$25,521
Elementary School Teachers, Except Special Education	Long	967	1.5%	39	\$49,144
Licensed Practical and Licensed Vocational Nurses	Middle	306	2.2%	15	\$38,799
Maids and Housekeeping Cleaners	Little	1,230	1.4%	45	\$20,411

Top Ten Occupations for Eastern Washington

Occupational Titles	Preparation Level	Estimated Employment 2009	Average Annual Growth Rate	Average Annual Total Openings	Estimated Average Wage May 2007
Nursing Aides, Orderlies, and Attendants	Middle	1,059	2.1%	39	\$22,695
Registered Nurses	Middle	1,424	1.9%	62	\$57,104
Home Health Aides	Little	490	2.5%	20	\$19,357
Janitors and Cleaners, Exc. Maids and Housekeeping Cleaners	Little	1,761	1.6%	64	\$23,267
Child Care Workers	Little	2,036	1.5%	84	\$20,522
Medical Secretaries	Middle	438	1.9%	18	\$29,650
Personal and Home Care Aides	Little	604	1.8%	21	\$20,031
Landscaping and Groundskeeping Workers	Little	846	1.6%	33	\$24,596
Licensed Practical and Licensed Vocational Nurses	Middle	290	1.9%	13	\$39,195
Dental Assistants	Short	214	2.1%	11	\$31,266

N/A = Wages not available. The preparation categories for specific occupations are an aggregated version of education clusters from the *Occupational Outlook Handbook*, Bureau of Labor Statistics. They are estimates of typical preparation levels required of those currently working in the occupation. According to BLS definitions, **Long** preparation is a combination of all occupations which require a bachelor's degree or higher; **Middle-Level** preparation is a combination of occupations which require an AA degree, post-secondary training, or long-term on-the-job training; **Short** preparation is equivalent to moderate on-the-job training (1-12 months); and **Little** preparation is equivalent to short-term, on-the-job training (short demonstration up to one month).

Chapter Six - Employment Projections

Top Ten Occupations for North Central

Occupational Titles	Preparation Level	Estimated Employment 2009	Average Annual Growth Rate	Average Annual Total Openings	Estimated Average Wage May 2007
Graders and Sorters, Agricultural Products	Middle	1,705	2.2%	86	\$19,135
Packers and Packagers, Hand	Little	2,101	2.1%	86	\$22,148
Registered Nurses	Middle	1,830	2.0%	83	\$60,083
Farm Workers and Laborers, Crop, Nursery, and Greenhouse	Little	1,255	2.1%	61	\$19,882
Child Care Workers	Little	2,200	1.8%	99	\$19,739
Personal and Home Care Aides	Little	1,293	2.0%	49	N/A
Medical Secretaries	Middle	429	2.4%	20	\$28,930
Agricultural Equipment Operators	Short	329	2.5%	18	\$27,152
Laborers and Freight, Stock, and Material Movers, Hand	Little	2,727	1.8%	128	\$23,993
Home Health Aides	Little	516	2.2%	20	\$20,495

Top Ten Occupations for Northwest

Occupational Titles	Preparation Level	Estimated Employment 2009	Average Annual Growth Rate	Average Annual Total Openings	Estimated Average Wage May 2007
Landscaping and Groundskeeping Workers	Little	1,951	2.3%	92	\$26,948
Registered Nurses	Middle	2,518	2.1%	116	\$57,443
Medical Secretaries	Middle	1,060	2.2%	48	\$32,585
Dental Assistants	Short	493	2.3%	27	\$36,538
Medical Assistants	Short	768	2.2%	33	\$31,560
Child Care Workers	Little	2,684	1.9%	125	\$20,283
Janitors and Cleaners, Except Maids and Housekeeping Cleaners	Little	2,856	1.9%	115	\$26,177
Nursing Aides, Orderlies, and Attendants	Middle	1,043	2.1%	39	\$23,025
Rehabilitation Counselors	Long	644	2.1%	31	\$40,558
Licensed Practical and Licensed Vocational Nurses	Middle	552	2.2%	26	\$36,297

Top Ten Occupations for Olympic Consortium

Occupational Titles	Preparation Level	Estimated Employment 2009	Average Annual Growth Rate	Average Annual Total Openings	Estimated Average Wage May 2007
Medical Secretaries	Middle	1,143	2.7%	58	\$32,063
Nursing Aides, Orderlies, and Attendants	Middle	1,902	2.5%	78	\$24,171
Dental Assistants	Short	600	2.7%	36	\$30,609
Registered Nurses	Middle	2,410	2.3%	117	N/A
Personal and Home Care Aides	Little	1,223	2.4%	53	\$20,502
Landscaping and Groundskeeping Workers	Little	1,532	2.3%	71	\$27,046
Security Guards	Little	810	2.4%	38	\$28,507
Medical Assistants	Short	586	2.7%	29	\$29,776
Licensed Practical and Licensed Vocational Nurses	Middle	632	2.5%	32	\$40,447
Janitors and Cleaners, Except Maids and Housekeeping Cleaners	Little	2,097	1.8%	80	\$25,827

N/A = Wages not available.

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Top Ten Occupations for Pacific Mountain

Occupational Titles	Preparation Level	Estimated Employment 2009	Average Annual Growth Rate	Average Annual Total Openings	Estimated Average Wage May 2007
Registered Nurses	Middle	2,716	2.3%	131	\$65,794
Customer Service Representatives	Short	2,319	2.2%	91	N/A
Medical Secretaries	Middle	1,348	2.2%	61	\$32,935
Nursing Aides, Orderlies, and Attendants	Middle	1,557	2.3%	60	\$22,985
Licensed Practical and Licensed Vocational Nurses	Middle	825	2.3%	40	\$39,203
Dental Assistants	Short	641	2.3%	35	\$37,731
Child Care Workers	Little	3,005	1.7%	131	\$18,954
Personal and Home Care Aides	Little	1,248	2.0%	48	\$21,954
Medical Assistants	Short	657	2.2%	28	\$30,282
Receptionists and Information Clerks	Little	1,300	1.7%	55	\$23,498

Top Ten Occupations for Pierce County

Occupational Titles	Preparation Level	Estimated Employment 2009	Average Annual Growth Rate	Average Annual Total Openings	Estimated Average Wage May 2007
Landscaping and Groundskeeping Workers	Little	3,206	2.6%	162	\$27,181
Laborers and Freight, Stock, and Material Movers, Hand	Little	5,993	2.0%	298	\$26,910
Medical Secretaries	Middle	2,109	2.3%	96	\$33,541
Nursing Aides, Orderlies, and Attendants	Middle	3,185	2.1%	116	\$26,212
Registered Nurses	Middle	6,436	1.9%	283	\$68,557
Dental Assistants	Short	1,150	2.4%	64	\$36,560
Janitors and Cleaners, Except Maids and Housekeeping Cleaners	Little	4,963	1.9%	194	\$26,450
Child Care Workers	Little	5,303	1.8%	239	\$19,796
Personal and Home Care Aides	Little	2,757	1.9%	102	N/A
Medical Assistants	Short	908	2.3%	40	\$31,987

Top Ten Occupations for Seattle-King County

Occupational Titles	Preparation Level	Estimated Employment 2009	Average Annual Growth Rate	Average Annual Total Openings	Estimated Average Wage May 2007
Computer Programmers	Long	11,005	3.0%	646	N/A
Computer Software Engineers, Systems Software	Long	12,030	3.0%	532	N/A
Registered Nurses	Middle	20,197	2.2%	957	\$73,137
Multimedia Artists and Animators	Long	3,704	3.1%	212	\$56,162
Security Guards	Little	8,750	2.3%	397	\$29,565
Nursing Aides, Orderlies, and Attendants	Middle	7,975	2.4%	318	\$28,846
Medical Secretaries	Middle	6,940	2.3%	319	\$36,672
Dental Assistants	Short	3,397	2.5%	193	\$40,218
Landscaping and Groundskeeping Workers	Little	9,168	2.2%	415	\$29,644
Market Research Analysts	Long	7,806	2.2%	389	\$88,846

N/A = Wages not available.

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Top Ten Occupations for Snohomish County

Occupational Titles	Preparation Level	Estimated Employment 2009	Average Annual Growth Rate	Average Annual Total Openings	Estimated Average Wage May 2007
Landscaping and Groundskeeping Workers	Little	2,738	2.6%	138	\$29,420
Medical Secretaries	Middle	1,868	2.3%	87	\$40,424
Registered Nurses	Middle	3,496	2.2%	165	\$68,383
Rehabilitation Counselors	Long	1,219	2.3%	62	\$35,497
Janitors and Cleaners, Except Maids and Housekeeping Cleaners	Little	3,665	2.1%	153	\$28,675
Dental Assistants	Short	850	2.4%	48	\$37,428
Laborers and Freight, Stock, and Material Movers, Hand	Little	3,159	2.0%	157	\$27,457
Carpenters	Middle	5,270	1.9%	201	\$45,191
Nursing Aides, Orderlies, and Attendants	Middle	1,480	2.2%	56	\$25,932
Child Care Workers	Little	3,253	1.9%	150	\$19,307

Top Ten Occupations for South Central

Occupational Titles	Preparation Level	Estimated Employment 2009	Average Annual Growth Rate	Average Annual Total Openings	Estimated Average Wage May 2007
Packers and Packagers, Hand	Little	3,347	3.0%	172	\$21,399
Graders and Sorters, Agricultural Products	Middle	1,404	3.5%	92	\$19,705
Farm Workers and Laborers, Crop, Nursery, and Greenhouse	Little	730	3.2%	45	\$21,915
Industrial Truck and Tractor Operators	Little	1,413	2.2%	63	\$27,410
Installation, Maintenance, and Repair Workers, All Other	Short	483	2.4%	24	\$33,527
Registered Nurses	Middle	2,286	1.9%	100	\$60,102
Nursing Aides, Orderlies, and Attendants	Middle	1,210	2.0%	44	\$21,934
Child Care Workers	Little	2,562	1.8%	116	\$18,151
Laborers and Freight, Stock, and Material Movers, Hand	Little	2,055	1.8%	99	\$22,340
Medical Secretaries	Middle	730	2.1%	32	\$31,810

Top Ten Occupations for Southwest Washington

Occupational Titles	Preparation Level	Estimated Employment 2009	Average Annual Growth Rate	Average Annual Total Openings	Estimated Average Wage May 2007
Dental Assistants	Short	1,114	3.0%	70	\$33,387
Registered Nurses	Middle	3,075	2.8%	167	\$67,115
Sales Representatives, Services, All Other	Short	890	3.1%	48	\$56,412
Nursing Aides, Orderlies, and Attendants	Middle	2,137	2.9%	97	\$24,105
Medical Secretaries	Middle	1,217	2.9%	64	\$33,510
Medical Assistants	Short	1,006	2.9%	52	\$28,437
Gaming Dealers	Middle	723	3.1%	40	\$19,823
Amusement and Recreation Attendants	Little	695	3.0%	38	\$18,570
Home Health Aides	Little	1,025	2.9%	47	\$20,713
Retail Salespersons	Little	5,699	2.5%	347	\$25,146

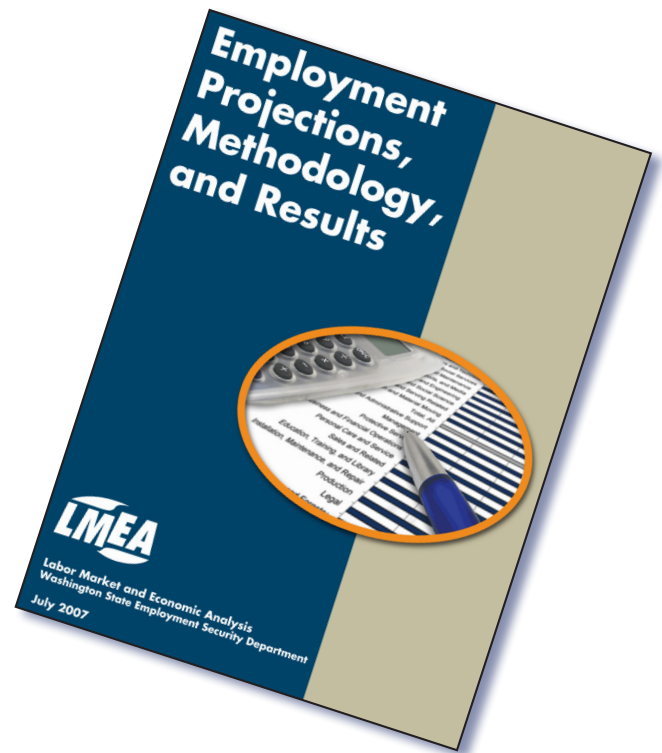
Chapter Six - Employment Projections

Top Ten Occupations for Spokane County

Occupational Titles	Preparation Level	Estimated Employment 2009	Average Annual Growth Rate	Average Annual Total Openings	Estimated Average Wage May 2007
Landscaping and Groundskeeping Workers	Little	2,524	2.6%	126	\$27,539
Telemarketers	Little	1,771	2.8%	85	\$20,219
Customer Service Representatives	Short	4,045	2.1%	152	\$26,409
Security Guards	Little	1,400	2.3%	64	\$23,815
Medical Secretaries	Middle	1,676	2.0%	71	\$29,323
Janitors and Cleaners, Except Maids and Housekeeping Cleaners	Little	4,321	1.8%	167	\$23,997
Child Care Workers	Little	3,837	1.8%	171	\$18,377
Home Health Aides	Little	1,622	2.0%	57	\$20,392
Dental Assistants	Short	832	2.1%	43	\$32,005
Maids and Housekeeping Cleaners	Little	3,379	1.8%	137	\$19,260

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On Workforce Explorer, you will find the *Employment Projections, Methodology, and Results* report for more indepth information.



Chapter Seven - Wages and Income

Wages and Income

As Washington's strong economic performance continued in 2006 and into 2007, the question has been raised as to the quality of the recovery in terms of wages and income. Following the 2001 recession, job growth in the state of Washington didn't resume until June of 2003, so 2006 could be classified as the third year of the state's recovery. Typically, as a recovery unfolds, it takes a while for the labor market to tighten up again and generate any increase in wages. This was the case for both the nation and the state following the last downturn.

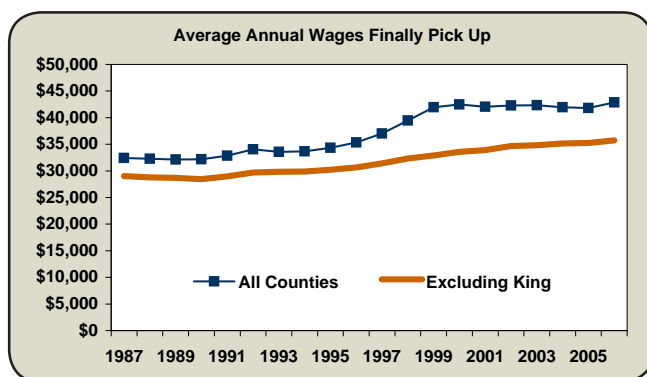
So, has the recovery generated high-wage jobs or low-wage jobs, or both? Have wages moved up at all? How have individual wage-earners fared? How about households and families? This article will present a number of indicators to answer these questions. All wage data have been adjusted for inflation to 2006 constant dollars. Personal income data were converted to 2005 constant dollars.¹⁷

Average Annual Wages

Most jobs in the state of Washington are covered by unemployment insurance. In 2006, monthly covered employment averaged over 2.8 million jobs, with a total payroll of \$122 billion. Divide the two, and the average annual wage comes out to be \$42,881. This was 2.5 percent above the 2005 inflation-adjusted figure, and was the highest on record. Annual wages had been flat since 1999, as shown in *Figure 51*.

Figure 51

Average Annual Wage, Adjusted for Inflation
Washington State, 1987 to 2006
Source: LMEA/ESD



If King County is taken out of the picture, things look different – the average annual wage has increased steadily since the early 1990s.

So our first tentative finding is that, on average, wages have gone up. But averages can be deceptive, so let's dig deeper.

Hourly Wages

Washington is one of three states in the country that collects data on hours worked on a job, allowing the calculation of an average hourly wage, median hourly wages, and a mapping of the full spectrum of hourly wages for over 3 million jobs each year.

- Average hourly wages are calculated by dividing total payroll by total hours worked. The average jumped in the late 1990s when stock options were the rage, reaching an inflation-adjusted peak of \$25.40 per hour in 2000. New regulations have excluded stock options from wage data since 2004, so the past two years cannot be fairly compared with the 1998 to 2004 period. However, it can be said that the 2006 average hourly wage of \$25.19 per hour was 1.8 percent higher than the year before, and close to the stock-option peak. It was also \$5.50 higher (28 percent) than the pre-option 1990 era.
- The median hourly wage is the wage at which half of all jobs pay more, and half pay less.¹⁸ In 2006, the median reached \$18.66 per hour; 15 cents more than the previous year but 11 cents below the inflation-adjusted 2002 peak of \$18.77 per hour.
- The median wage increased by 16 percent from 1990 to 2006, considerably less than for the average wage (28 percent) over that same period.
- The average hourly wage was 23 percent above the median in 1990, before rising to 42 percent in 2000, and has been close to 35 percent higher over the past six years.

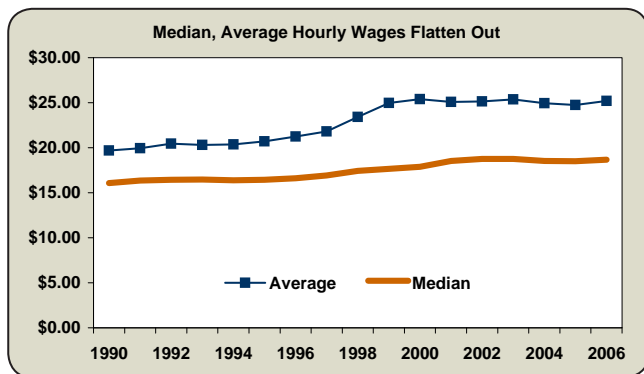
¹⁷ The U.S. Implicit Price Deflator for Personal Consumption Expenditures was used to adjust for inflation. Other sources sometimes use the Consumer Price Index (CPI), but many economists believe that the CPI overstates inflation. Using different deflators can lead to different conclusions about wage trends.

¹⁸ Jobs in this case are calculated on an FTE basis, with 2,080 hours per year equal to one full-time job.

Chapter Seven - Wages and Income

The median wage gives a more accurate picture of what is happening with the “average” job than does the average wage. While the median may be rising, it hasn’t caught up with 2002 yet. But this one-dimensional approach is too limiting; let’s dig deeper into the data.

Figure 52
Average Hourly Wage, and Median Hourly Wage, Adjusted for Inflation
Washington State, 1990 to 2006
Source: LMEA/ESD



Wage Distribution

In 2006, the lowest-paid 10 percent of jobs averaged \$8.09 per hour (Figure 53) – eight cents (1 percent) above the previous year and eight cents below 2003 after adjustment for inflation. The best-paid 10 percent of jobs averaged \$77.21 per hour – \$2.35 per hour higher than in the previous year, a 3.1 percent increase, but \$18.20 below the 1999 peak of \$95.41 per hour. The decline of stock options in the intervening years, and the elimination of stock options from the reporting system after 2004 had an impact on the upper end.

For the other deciles, the percentage gain in the average wage grew larger as wages increased. The next-to-bottom decile increased by 0.6 percent, the median by 0.8 percent, and the next-to-top by 1.9 percent. In other words, wage disparity increased in 2006.

The disparity in wages widened from 1990 (the first year data are available) through 2000, but has narrowed since then. In 1990, the average wage for the top 10 percent of jobs was 7.6 times the average wage for the lowest-paid 10 percent (the 90/10 ratio). By 2000, that ratio had grown to 12.4, before narrowing in the next five years to 9.3. In 2006 it increased a bit to 9.5; the gap was 26 percent larger than

in 1990. The distance between the median wage and the top 10 percent similarly expanded and contracted, and is now at 4.1, a 28 percent increase. However, the bottom 10 percent is slightly closer to the median, stretching from 2.4 to 2.5 before closing to 2.3, due to the increase and indexing of the minimum wage in recent years (Figure 55). If King County is removed from the picture, the results are somewhat different. There is still a modest increase in inequality across the wage spectrum, but it is not as pronounced, and did not widen in 2006.

Figure 53
Average Hourly Wage, by Decile (10 percent) of FTE Jobs
Washington State, 2006
Source: LMEA/ESD

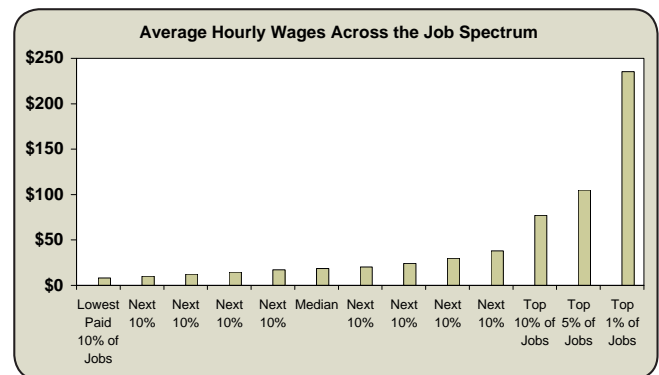
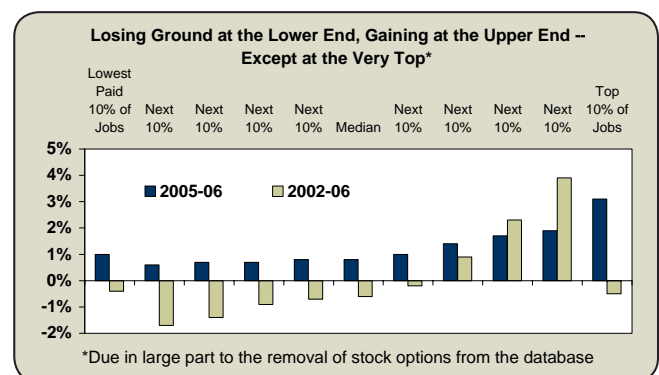


Figure 54
Increase in Average Hourly Wage, by Decile (10 percent) of FTE Jobs
Washington State, 2005 to 2006 and 2002 to 2006
Source: LMEA/ESD



Chapter Seven - Wages and Income

Figure 55

Measuring the Wage Gap, in 2006 Constant Dollars
Washington State, 1990 to 2006
Source: LMEA/ESD

	All Counties		All Except King	
	1990	2006	1990	2006
Average Wage for...				
Lowest-paid 10 Percent of Jobs	\$6.82	\$8.09	\$6.56	\$7.89
Median Job	\$16.07	\$18.66	\$14.70	\$16.68
Highest-paid 10 Percent of Jobs	\$51.77	\$77.25	\$44.35	\$58.10
Highest 10/Lowest 10 Ratio	7.6	9.5	6.8	7.4
Highest 10/Median Ratio	3.2	4.1	3.0	3.5
Median/Lowest 10 Ratio	2.4	2.3	2.2	2.1

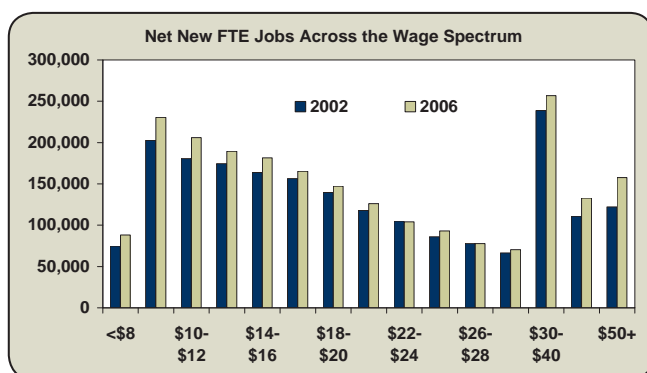
Returning to the question of the quality of the recent recovery – the data for deciles add some complexity to the picture by showing the uneven character of the labor market and a near-linear relationship between deciles and loss or gain in the 2002 to 2006 period – particularly if the results for the top decile are adjusted to compensate for stock options. Only the minimum wage, by shoring up the bottom decile, spoils the linearity.

Wages by Wage Range

Another way to slice and dice the wage data is to look at the number of jobs within a range of hourly wages. In 2006, over 88,000 jobs – four percent of the total – paid below \$8.00 per hour. Over 230,000 jobs (10.3 percent of the total) paid between \$8.00 and \$9.99 per hour. *Figure 56* shows the full distribution of jobs for 2002 and 2006, with the last three ranges having a wider span (\$30.00 to \$39.99, \$40.00 to \$49.99, \$50+).

Figure 56

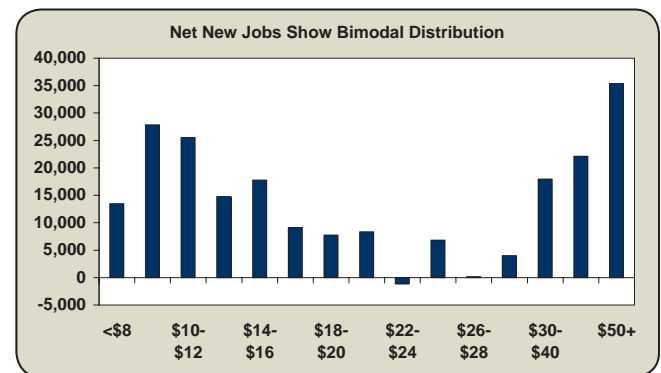
FTE Jobs by Hourly Wage
Washington State, 2002 and 2006
Source: LMEA/ESD



The number of jobs increased in most wage ranges, but the change was smaller in the middle. As *Figure 57* shows, the change in jobs had a distinctly bimodal distribution, with more new jobs at the low end and at the high end of the spectrum, and fewer in the middle. There were slightly more net new jobs paying below \$18 per hour than above – another way of saying that the median hourly wage was lower in 2006 than in 2002.

Figure 57

Change in FTE Jobs by Hourly Wage
Washington State, 2002 to 2006
Source: LMEA/ESD



From the vantage point of what jobs pay, then, we can say that since 2002 the wage market has gotten better and worse, with the balance slightly tipped toward the negative. But perhaps it depends on where one lives?

Wages by Area

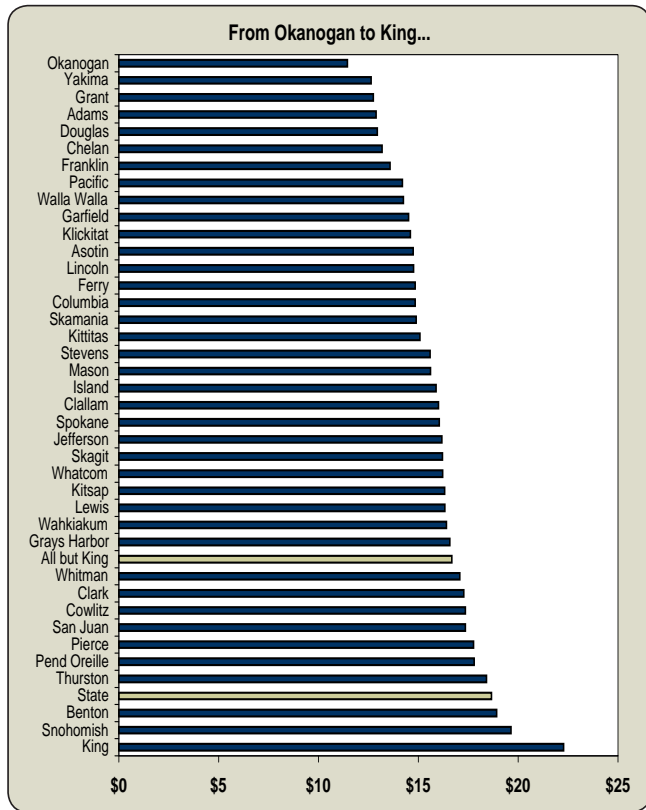
Hourly wages vary widely across the state. In 2006, King County once again topped the state with a median wage of \$22.28. Only two other counties – Benton and Snohomish – topped the state median, while Thurston came close. Excluding King, the rest of the state had a median hourly wage of \$16.68. Okanogan had by far the lowest median, at \$11.45. Out of the eighteen lowest-wage counties, seventeen were located east of the Cascades.

Median wages rose in 2006 in two-thirds of Washington counties, but not always because fortune was smiling. Columbia County had by far the largest increase (+\$3.35), following the closure of a major employer and drop in its employment base. Pend Oreille's median jumped by 63 cents; over the past four years this county has had by far the largest gain among all counties (\$1.28). On the other

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end of the spectrum, Benton County had a sharp drop of \$1.03 in 2006, while Wahkiakum County's median has fallen by \$1.44 over the past four years.

Figure 58
Median Hourly Wage by County
Washington State, 2006
Source: LMEA/ESD



Since 1990, the state median hourly wage has increased by 15 percent after adjustment for inflation. Many counties had larger increases – along with Columbia County's unfortunate increase, the San Juans were 33 percent higher, and Asotin, Garfield, Island, and King were all around +25 percent. Three counties had a lower median in 2006: Cowlitz County suffered a slight drop, while Klickitat's (-5 percent) and Ferry's (-6 percent) were more substantial.

From 2002 to 2006, twelve counties (a mix of metro areas, micropolitans, and rural) had job growth and a higher median, five (all rural) had job loss and a higher median, three had job growth and no change in the median, and nineteen (again a mix) had job growth and a lower median.

Wages for Full-Time Workers

The preceding sections looked at jobs; this section looks at individual workers. Of the 3.4 million individuals who were employed in the state at some point in 2006, 30 percent worked at least 2,000 hours, the equivalent of working full time for 50 weeks. Half worked at least 1,560 hours – the equivalent of working full time for nine months of the year. More than a fifth worked fewer than 520 hours (one full quarter).

For the purposes of this report, we'll consider anyone who worked 1,560 hours or more in a year as a "full-time" worker. If we compare 2002 and 2006, we find that 15 percent of the full-time workers in 2006 were not in the 2002 database. Similarly, 16 percent of the full-time workers from 2002 were not employed in Washington in 2006. About a million workers were full time in both years. The median change in hourly wages for these workers was \$1.57 per hour. Seventy percent of them had higher wages in 2006, while 30 percent suffered a decline in hourly pay.

How do these figures stack up? In order to add some context, these two statistics were calculated for each four-year time-span starting in 1990. Did workers employed full time in both 1990 and 1994 have a higher or lower median increase in hourly wages? Did more workers experience a drop in hourly wages from 1994 to 1998?

Figure 59
Median Increase in Hourly Wage for Full-Time Workers
Over Four-Year Spans
Washington State, 1990 to 2002
Source: LMEA/ESD

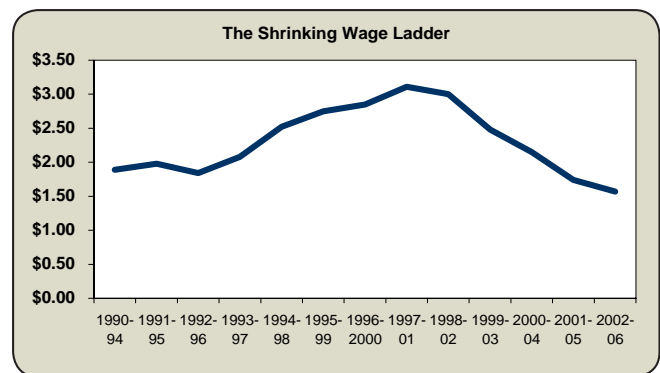


Figure 59 shows that this was the lowest median increase for the study period. The results differ somewhat depending upon the worker's hourly wage in the base year.

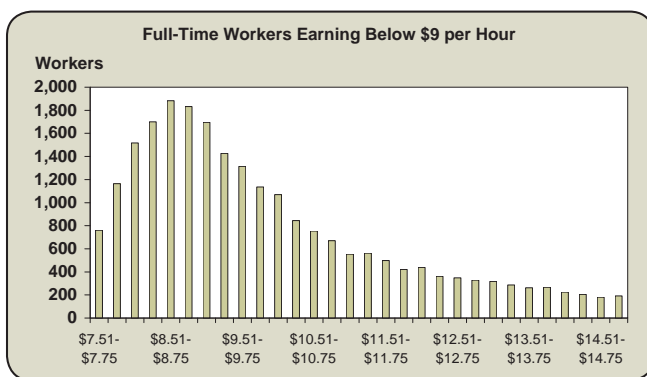
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The wage ladder decreased for all wage groups from 1998-2002 to 2002-2006. But a comparison of 1990 to 1994 with 2002 to 2006 shows that the median wage increase declined for workers earning below \$25 per hour, and increased for those earning above \$25 per hour.

Similarly, the percent of full-time workers with lower hourly wages was higher in the 2002 to 2006 period than any preceding span. In 1990 to 1994, 25 percent suffered a decline in wages; the percentage dropped to 17 percent in 1997 to 2001, before increasing steadily every period since then.

Finally, we can look at wage progression for low-wage workers from the framework of welfare reform, and its guiding principle of getting welfare recipients into the labor force, so that they can attain self-sufficiency. WorkFirst Program clients who find a job usually start at less than \$9 per hour. There were almost 26,000 individuals working full time in both 2002 and 2006 who earned below \$9 per hour in 2002. Four years later, 35 percent of these individuals were still earning below \$9 per hour. More than half were earning below \$9.75 per hour. Two-thirds were earning less than \$10.75 per hour. Only 10 percent were earning above \$14.50 per hour.

Figure 60
2006 Wages for Full-Time Workers Earning Below \$9/Hr. in 2002 Washington State, 2006
Source: LMEA/ESD



In summary, we can say that the recovery brought lots of new jobs, which were bimodally distributed: lots of jobs on the lower end of the wage scale, lots on the upper end, with a slight tilt toward the lower end. Different counties fared differently, some seeing a rise in median wages, others a decline. Compared with past years, the wage ladder

was shorter in the 2002 to 2006 period, and more full-time workers suffered a decline in hourly wages. Finally, prospects for low-wages workers gaining a self-sufficient wage through wage progression are as bleak as ever.

Personal Income

Personal income data are compiled by the U.S. Bureau of Economic Analysis. It reflects pre-tax income received by or on behalf of individuals from all sources:

- 1) Wages and Salaries
- 2) Proprietors' Income
- 3) Investment Income
- 4) Government Transfer Payments
- 5) Employer Payments for Employee Insurance (Other Labor Income)

Adjustments are made for contributions to social security and for cross-border commuters, so that income is truly residence-based.

Pension checks are not tracked in personal income; instead, the net earnings of pension funds are allotted to counties and states in proportion to actual payments of interest and dividends.

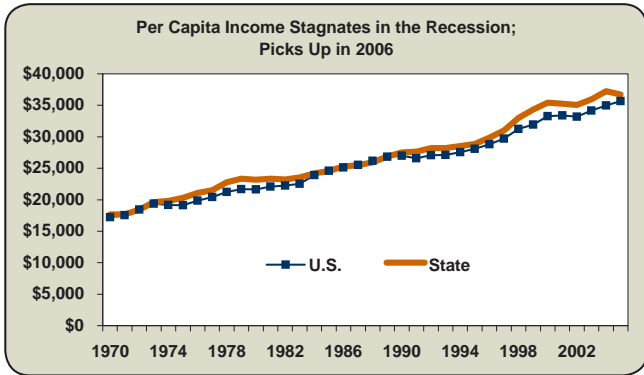
The most commonly used datum from personal income is per capita income, which equals total personal income divided by population. The advantages of using per capita income as an economic measure include its broad definition (more than wages) and its comparability across all geographic areas. The main disadvantage is that it is an average, while income is highly skewed.

All personal income data have been adjusted for inflation using the U.S. implicit price deflator for personal consumption.

After growing rapidly during the 1990s, inflation-adjusted per capita personal income peaked in Washington in 2000 at \$36,438 (in 2006 constant dollars), 6.5 percent above the national average. Income then declined over the next three years, more so than for the rest of the nation. In 2004, the Microsoft dividend gave some pocketbooks a huge shot in the arm; as a result, per capita income jumped by 3.6 percent before falling in the next. If the dividend is factored out, per capita income increased in both years, and recovered to pre-recession levels in 2005. The 2006 preliminary estimate of \$38,067 was a substantial 3.7 percent gain over the year. All components of personal income jumped, especially investment income (+6.1 percent).

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Figure 61
Inflation-Adjusted Per Capita Income
United States and Washington State, 1971 through 2005
Source: U.S. Bureau of Economic Analysis



As noted in the sidebar, 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 and unemployment insurance. Each of these three contributed to the rapid climb in Washington's per capita income during the 1990s. Over the past six years, however, per capita earnings increased only slightly, with most of the gain coming in 2006. Per capita investment income, despite the jump in 2006, is still slightly below the 2000 figure. Only transfer payments continued to expand with gusto (by 15 percent), mostly in Medicare and Medicaid, but also in social security and food stamp payments. Two types of transfer payments that have not increased are welfare – which on a per capita basis has been cut in half over the past decade, despite an increase in the poverty rate – and unemployment insurance.

Figure 62
Selected Per Capita Transfer Payments, Adjusted for Inflation
Washington State, 1995 to 2006
Source: U.S. Bureau of Economic Analysis

Type of Payment	1995	2000	2006	Average Annual Growth Rate		
				1995-2000	2000-2006	1995-2006
Total Transfer Pmnts.	\$3,879	\$4,209	\$4,739	1.6%	2.4%	2.0%
Total Transfer Pmnts.	\$3,990	\$4,328	\$4,989	1.6%	2.4%	2.1%
Retirement & Disability	\$1,704	\$1,820	\$2,052	1.3%	2.0%	1.7%
Medical	\$1,307	\$1,485	\$1,946	2.6%	4.6%	3.7%
Income Support	\$408	\$353	\$423	-2.9%	3.1%	0.3%
Family Support (Welfare)	\$141	\$70	\$63	-13.0%	-1.7%	-7.0%
Food Stamps	\$96	\$47	\$94	-13.2%	12.1%	-0.2%
Unemployment Insurance	\$212	\$185	\$121	-2.7%	-6.9%	-5.0%
Veterans' Benefits	\$122	\$145	\$183	3.5%	4.0%	3.8%

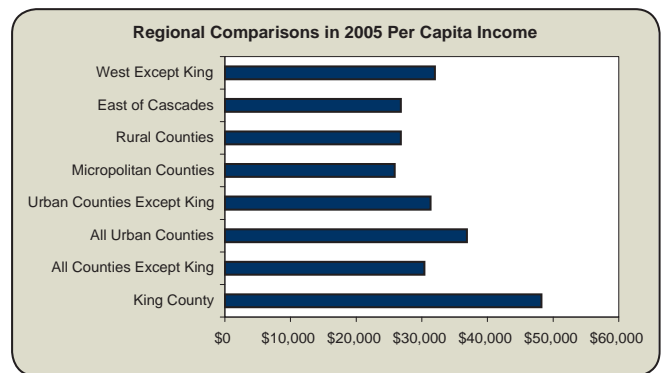
Regions and Counties, 2005

Personal income data at the county level become available a year later than the state due to the enormous amount of source data that are analyzed (e.g. all Schedule C tax returns from the IRS).

Twelve counties reached their all-time high for per capita income in 2005. One of them was not King County, which again had the highest income in the state at \$48,216. This was more than \$2,000 below the 2004 figure, which was inflated by the Microsoft dividend. One of them was also not Garfield County, which had the lowest per capita income at \$18,928 – a cool \$25,000 below its 1973 peak, which was the result of a spike in the price of wheat. With a bushel of wheat currently fetching \$10 a bushel, 2007 could be a very good year for Garfield County.

Other collections of counties that peaked in per capita income in 2005: rural counties (\$26,799), metropolitan areas (\$30,170 – excluding metropolitan divisions – King, Snohomish, Pierce), counties east of the Cascades (\$26,798), and counties west of the Cascades (\$31,981 – excluding King). Rural counties did somewhat better than their larger, micropolitan cousins (\$25,860).

Figure 63
2005 Per Capita Income for Selected Sub-State Areas
Washington State, 2005
Source: U.S. Bureau of Economic Analysis



Cross-County Commuting

In Skamania County, 58 percent of earned income came from residents working in a different county. That was on a net basis, which means that the actual incoming flow was higher, but there was also a small offsetting outflow due to residents of other counties working in Skamania. Douglas,

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Asotin, Wahkiakum, and Mason all had between 30 and 40 percent net inflows. On the other hand, in King County there was a net outflow equal to 18 percent of its earned income. Whitman, Chelan, and Walla Walla were also in the double digits.

Household Income, Family Income, and Poverty Rates

Annual estimates of median and family income and poverty rates are now available through the Census Bureau's American Community Survey. The Census Bureau recommends looking at a three-year trend as opposed to year-to-year fluctuations.

Median household income for the state was \$52,583 in 2006, almost \$2,000 more than in the 2002 to 2005 period.¹⁹ Washington still exceeded the national average by \$4,000 or nine percent. Median family income, at \$63,705, also jumped by \$2,000, and was slightly higher but not significantly different from the 2000 Census. Non-family households – most of which are comprised of one person living alone – had a smaller increase, climbing to \$33,602. The poverty rate was estimated at 11.8 percent in 2006, almost identical with 2005 and higher than the Census rate of 10.6 percent.²⁰

Washington still exceeded the national average for household income by \$4,000 or nine percent.



What do we mean by a job?

Everybody knows what a job is, right? Well, yes, sort of. In fact, we tend to use the term quite loosely, and it can take on different meanings in different contexts.

Let's start with a fairly straightforward definition: a job is a relationship between a particular employer and a particular employee. At any point in time we can tally the number of jobs within an industry or a geographic area.

Things get a little complicated when we compare jobs over time. When we say that the number of aerospace jobs went up this year, we're really talking about the net number of jobs in the industry. Some aerospace jobs that existed a year ago don't exist today, due to turnover. Some aerospace firms have expanded, others have contracted, some may have closed, others may be brand new, and some may have restructured – they may have the same number of employees, but the occupational and wage distribution may be substantially different.

So when we're talking about industry employment over time, we're using a different definition of jobs, where the actual individuals and the actual employers don't factor in.

Full-time equivalent (FTE) jobs involve another definition. Instead of a count of individual employees, they are a count of hours worked, with 1 FTE job defined as 2,080 hours worked in a year's time. The concept of an individual worker is even more abstracted here, because 1 FTE job may be an amalgamation of a number of different individuals. The advantage of using FTE employment is that it adjusts for turnover and part-time jobs.

A potential pitfall comes into play when we compare two different time periods and start drawing conclusions based on an analysis of net new jobs. If the economy grows from 2 million jobs to 2.2 million, it is tempting to focus on the net new 0.2 million jobs and assume that the 2.0 million jobs are unchanged; we might even harbor the assumption that it's the same two million individuals working at the same jobs at the same employer. In fact, many of those 2.0 million jobs are different – different individuals, at different employers, with different job titles and responsibilities, with different work schedules (e.g. part time vs. full time) and with different wages – even if, by industry, the job count hasn't changed.

¹⁹ Comparing income data from the 2000 Census with the annual American Community Survey (ACS) should be done "with caution," according to the Census Bureau. The 2000 Census asked about income from the calendar year 1999, while the ACS collects data throughout the year, asking respondents about their income in the past 12 months. They then correct data for inflation, and combine it to produce an annual average. A test comparison showed the Census figure to be 4.6 percent higher than the ACS.

²⁰ The poverty rates quoted here are from the American Community Survey (ACS), which collects data from 3,000 households throughout the year. The ACS asks about income in the prior 12 months. A separate Census Bureau survey, the Annual Social and Economic Supplement (ASEC) to the Current Population Survey, also produces an estimate of the poverty rate. This survey takes place early in the year, and asks about income in the previous calendar year. About 100,000 households are in the sample. According to the Census Bureau website, "Because of its large sample size, the ACS methodology holds the most promise of providing timely subnational data on income and poverty." The 2006 ASEC reported a very low poverty rate for Washington – 8.0 percent, a sharp drop from 2005 and lower than the reported rates for the late 1990s.

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State Comparison

Where does Washington rank relative to other states in the nation? This chapter presents tables that show how Washington ranks relative to other states in terms of:

- Minimum Wage
- Unemployment Rate
- Population
- Labor Force
- Nonfarm Employment
- GDP
- Exports
- Single-Family House Permits
- Existing House Sales
- Median House Prices
- Education

Figure 64

20 Highest Minimum Wage States
United States, Effective January 1, 2008
Source: U.S. Department of Labor

Rank	State	Minimum Wage
1	Washington	\$8.07
2	California*	\$8.00
2	Massachusetts	\$8.00
4	Oregon	\$7.80
5	Illinois	\$7.75
6	Connecticut	\$7.65
7	Vermont	\$7.53
8	Rhode Island	\$7.40
8	Michigan	\$7.40
10	Hawaii	\$7.25
10	Iowa	\$7.25
12	Alaska	\$7.15
12	New Jersey	\$7.15
12	New York	\$7.15
12	Pennsylvania	\$7.15
12	Delaware	\$7.15
17	District of Columbia	\$7.00
17	Maine	\$7.00
19	Colorado	\$6.85
19	Ohio	\$6.85
	Federal Minimum Wage	\$5.85

*San Francisco \$9.14 effective January 1, 2007

Figure 65

10 Highest/Lowest Unemployment Rates
United States, 2006
Source: U.S. Bureau of Labor Statistics

Rank	State	Unemployment Rate
	U.S.	4.6%
1	Hawaii	2.4%
2	Utah	2.9%
3	Nebraska	3.0%
4	Virginia	3.0%
5	Montana	3.2%
6	North Dakota	3.2%
7	South Dakota	3.2%
8	Wyoming	3.2%
9	Florida	3.3%
10	Idaho	3.4%
40	Washington	5.0%
42	Tennessee	5.2%
43	Arkansas	5.3%
44	Oregon	5.4%
45	Ohio	5.5%
46	Kentucky	5.7%
47	Dist. Of Columbia	6.0%
48	South Carolina	6.5%
49	Alaska	6.7%
50	Mississippi	6.8%
51	Michigan	6.9%

Figure 66

10 Largest/Smallest States: Share of Total U.S.
Nonfarm Employment
United States, 2006
Source: U.S. Bureau of Labor Statistics

Rank	State	Share of U.S.
1	California	11.1%
2	Texas	7.4%
3	New York	6.3%
4	Florida	5.9%
5	Illinois	4.4%
6	Pennsylvania	4.2%
7	Ohio	4.0%
8	Michigan	3.2%
9	Georgia	3.0%
10	New Jersey	3.0%
16	Washington	2.1%
42	Hawaii	0.5%
43	Maine	0.5%
44	Rhode Island	0.4%
45	Delaware	0.3%
46	Montana	0.3%
47	South Dakota	0.3%
48	North Dakota	0.3%
49	Alaska	0.2%
50	Vermont	0.2%
51	Wyoming	0.2%

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Figure 67

10 Largest/Smallest Labor Forces, Not Seasonally Adjusted
United States, 2006

Source: U.S. Bureau of Labor Statistics

Rank	State	Labor Force
1	New York	9,498,563
2	Florida	8,988,611
3	Illinois	6,613,346
4	Pennsylvania	6,306,050
5	Ohio	5,933,957
6	Michigan	5,081,336
7	Georgia	4,741,860
8	New Jersey	4,518,035
9	North Carolina	4,464,875
10	Virginia	3,998,569
12	Washington	3,326,524
42	Hawaii	643,486
43	Rhode Island	577,338
44	Montana	493,842
45	Delaware	440,322
46	South Dakota	430,992
47	Vermont	361,044
48	North Dakota	357,960
49	Alaska	346,769
50	Dist. of Columbia	315,874
51	Wyoming	284,690

Figure 68

Top/Bottom Ten States by Gross Domestic Product (GDP)
by State in Current Dollars (Millions)

United States, 2006

Source: Bureau of Economic Analysis/Haver Analytics

Rank	State	GDP
1	California	\$1,727,355
2	Texas	\$1,065,891
3	New York	\$1,021,944
4	Florida	\$713,505
5	Illinois	\$589,598
6	Pennsylvania	\$510,293
7	Ohio	\$461,302
8	New Jersey	\$453,177
9	Michigan	\$381,003
10	Georgia	\$379,550
14	Washington	\$293,531
42	West Virginia	\$55,658
43	Idaho	\$49,907
44	Maine	\$46,973
45	Rhode Island	\$45,660
46	Alaska	\$41,105
47	South Dakota	\$32,330
48	Montana	\$32,322
49	Wyoming	\$29,561
50	North Dakota	\$26,385
51	Vermont	\$24,213
	United States	\$13,149,033

Figure 69

Top/Bottom Ten States, Exports (in Thousands)
United States, 2006

Source: WISER, Haver Analytics

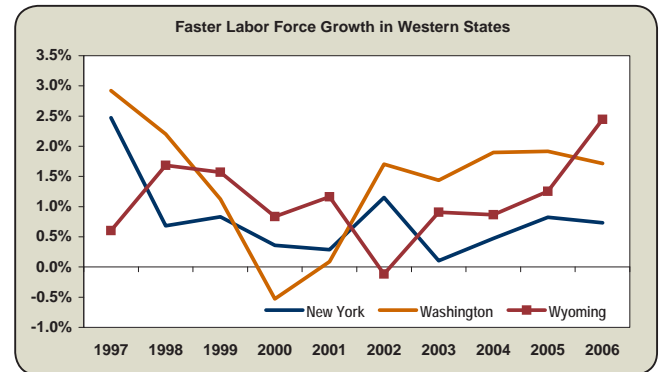
Rank	State	State Exports
1	Texas	\$150,850,306
2	California	\$127,351,003
3	New York	\$57,369,301
4	Washington	\$53,068,713
5	Illinois	\$42,084,594
6	Michigan	\$40,405,378
7	Florida	\$38,544,531
8	Ohio	\$37,832,695
9	New Jersey	\$27,001,730
10	Pennsylvania	\$26,333,926
42	New Mexico	\$2,890,861
43	New Hampshire	\$2,810,965
44	Maine	\$2,626,616
45	Rhode Island	\$1,531,233
46	North Dakota	\$1,508,070
47	South Dakota	\$1,185,200
48	DC	\$1,039,868
49	Montana	\$886,573
50	Wyoming	\$829,465
51	Hawaii	\$705,592

Figure 70

Labor Force Growth

Washington State, 1997 to 2006

Source: U.S. Bureau of Labor Statistics



New York state's labor force is ranked number 1 and Wyoming's labor force is ranked number 51 (after the District of Columbia) in size. Washington is ranked 12. While Wyoming has posted healthy growth in its labor force in the past couple of years, the pace of labor force growth in Washington state has generally surpassed it, except for 2006. Washington was hit harder by the recession, but has recuperated sharply over the past several years.

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Figure 71

Permits: Single-Family Homes (Units)
United States, 2006

Source: U.S. Bureau of the Census, Haver Analytics

Rank	State	Permits Issued
1	Texas	162,750
2	Florida	146,236
3	California	107,714
4	Georgia	86,106
5	North Carolina	82,672
6	Arizona	55,633
7	South Carolina	41,675
8	Tennessee	39,196
9	Virginia	38,977
10	Illinois	37,903
11	Washington	35,611
42	Delaware	5,015
43	New Hampshire	4,826
44	South Dakota	4,013
45	Montana	3,405
46	Wyoming	3,087
47	North Dakota	2,297
48	Vermont	2,071
49	Rhode Island	1,801
50	Alaska	1,612
51	D.C.	126

Figure 72

Existing House Sales (in Thousands)
United States, 2006

Source: National Association of Realtors

Rank	State	Sales
1	Texas	578.6
2	California	459.9
3	Florida	395.3
4	New York	303.4
5	Illinois	289.0
6	Ohio	275.4
7	Georgia	248.8
8	North Carolina	234.8
9	Pennsylvania	234.5
10	Michigan	182.4
12	Washington	154.2
41	Alaska	30.7
41	Maine	30.7
43	Montana	26.8
44	South Dakota	18.3
45	Delaware	17.8
46	Rhode Island	17.4
47	Vermont	15.0
48	North Dakota	14.1
49	Wyoming	13.6
50	District of Columbia	10.1

Figure 73

Median House Prices, Single-Family (in Thousands)
United States, 2006

Source: National Association of Realtors

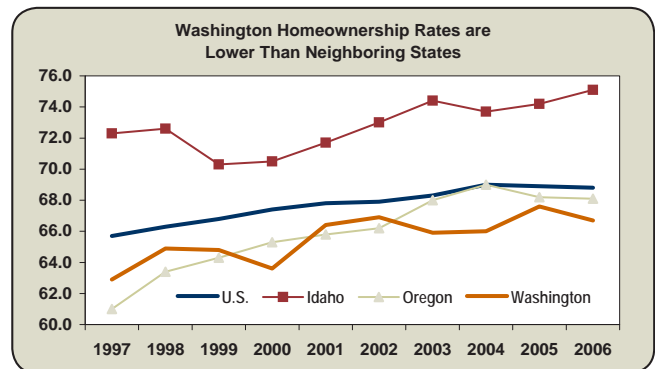
Rank	Metropolitan Area	House Prices
1	San Jose-Sunnyvale-Santa Clara, CA	775.0
2	San Francisco-Oakland-Fremont, CA	736.8
3	Anaheim-Santa Ana, CA (Orange Co.)	709.0
4	Honolulu, HI	630.0
5	San Diego-Carlsbad-San Marcos, CA	601.8
20	Seattle-Tacoma-Bellevue, WA	361.2
28	Portland-Vancouver-Beaverton, OR-WA	280.8
78	Kennewick-Richland-Pasco, WA	156.1
107	Yakima, WA	136.5
146	Cumberland, MD-WV	95.7
147	South Bend-Mishawaka, IN	92.7
148	Elmira, NY	86.8
149	Decatur, IL	85.4
150	Youngstown-Warren-Boardman, OH-PA	81.5

Figure 74

Homeownership Rates

Washington State, 1997 to 2006

Source: National Association of Realtors



Homeownership rates in Washington state are lower than the average for the U.S. and also lower than our neighboring states Oregon and Idaho. Home prices in Idaho have risen much more slowly than in Oregon and Washington and this could partly explain the higher homeownership rates. In 2006, seven states and the District of Columbia had lower homeownership rates than Washington state. These include New York, Texas and California.



Chapter Eight - Data Comparisons with Other States

Figure 75

10 Most/Least Populated States (in Thousands)
United States, 2006

Source: U.S. Bureau of the Census, Haver Analytics

Rank	State	Population	Share of U.S.
1	California	36,458	12.2%
2	Texas	23,508	7.9%
3	New York	19,306	6.4%
4	Florida	18,090	6.0%
5	Illinois	12,832	4.3%
6	Pennsylvania	12,441	4.2%
7	Ohio	11,478	3.8%
8	Michigan	10,096	3.4%
9	Georgia	9,364	3.1%
10	North Carolina	8,857	3.0%
14	Washington	6,396	2.1%
42	Hawaii	1,285	0.4%
43	Rhode Island	1,068	0.4%
44	Montana	945	0.3%
45	Delaware	853	0.3%
46	South Dakota	782	0.3%
47	Alaska	670	0.2%
48	North Dakota	636	0.2%
49	Vermont	624	0.2%
50	Dist. of Columbia	582	0.2%
51	Wyoming	515	0.2%

Figure 76

Percent of People, 25 Years and Over, Who Have
Completed High School (Includes Equivalency)
United States, 2006

Source: 2006 American Community Survey, U.S. Bureau
of the Census

Rank	State	Percent
1	Minnesota	90.7
2	Utah	90.2
2	Wyoming	90.2
4	Montana	90.1
5	New Hampshire	89.9
6	Vermont	89.8
7	Alaska	89.7
8	Nebraska	89.5
9	Hawaii	89.0
9	Washington	89.0
	United States	84.1
42	South Carolina	81.3
43	West Virginia	81.0
44	Tennessee	80.9
45	Arkansas	80.5
46	Alabama	80.1
46	California	80.1
48	Kentucky	79.6
49	Louisiana	79.4
50	Texas	78.6
51	Mississippi	77.9

Figure 77

Percent of People, 25 Years and Over, Who Have
Completed a Bachelor's Degree
United States, 2006

Source: 2006 American Community Survey, U.S. Bureau
of the Census

Rank	State	Percent
1	District of Columbia	45.9
2	Massachusetts	37.0
3	Maryland	35.1
4	Colorado	34.3
5	Connecticut	33.7
6	New Jersey	33.4
7	Virginia	32.7
8	Vermont	32.4
9	New Hampshire	31.9
10	New York	31.2
11	Washington	30.5
	United States	27.0
42	Oklahoma	22.1
43	Indiana	21.7
43	Tennessee	21.7
45	Alabama	21.1
46	Nevada	20.8
47	Louisiana	20.3
48	Kentucky	20.0
49	Mississippi	18.8
50	Arkansas	18.2
51	West Virginia	16.5

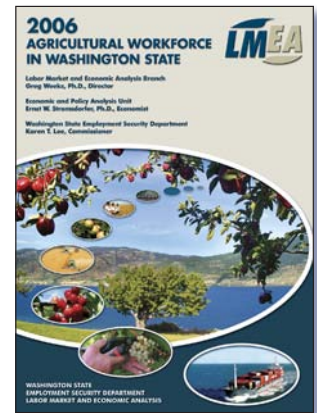
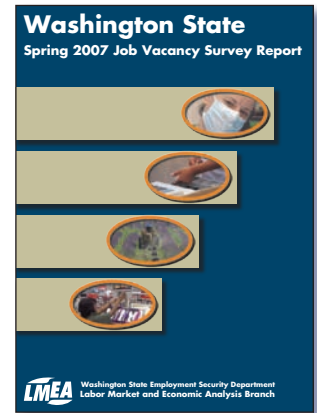
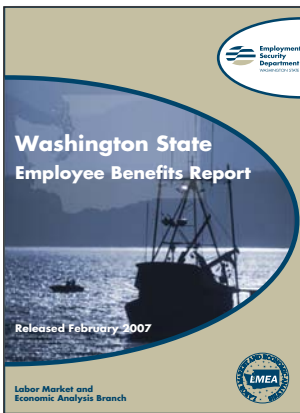
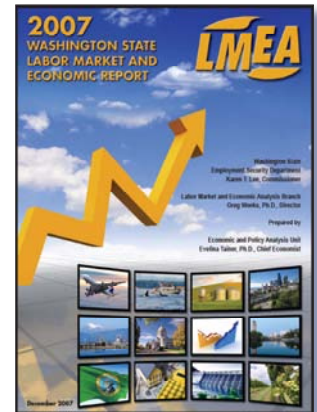


About the Economic and Policy Analysis Unit

The Economic and Policy Analysis unit within the Labor Market and Economic Analysis (LMEA) branch of the Employment Security Department has primary responsibility for providing occupational information analysis and commentary on Washington's current labor market situation. Toward that end, it is the chief voice for the department and principal point of contact with the public for statewide labor market information and analysis. In addition to the *Labor Market and Economic Report*, the unit's other notable publications include the *Washington Labor Market Quarterly Review*, *Employment Situation Report*, *Job Vacancy Survey Report*, *Employee Benefits Report*, *County Profiles*, *Agricultural Workforce in Washington State*, and many others. These publications are available on the Workforce Explorer (www.workforceexplorer.com). The unit's work is also showcased at the annual LMEA Economic Symposium, presentations from which are available on the Workforce Explorer.

LMEA Publications

- ◆ **Washington Labor Market Quarterly Review** - A quarterly report that covers labor market issues affecting state employers and policymakers.
- ◆ **Washington State Labor Market and Economic Report** - An annual report that includes the national and state year in review, seasonality in employment time series, unemployment and its dimensions, Washington's aging workforce, employment projections, wages and income, and data comparisons with other states.
- ◆ **Washington State Employee Benefits Report** - An overview of health insurance, retirement plans, and paid leave for workers and their dependents. Information is displayed by industry, region, and size of business.
- ◆ **Washington State Job Vacancy Survey Report** - A snapshot of demand for workers taken each spring and fall. Results are broken down by several characteristics of available jobs such as wage offered, educational requirement, and length of time job has been vacant.
- ◆ **Washington State Employment Situation Report** - A monthly tool giving you an up-to-date report on the state of the state economy as reflected in our labor market data. Employment by industry and labor force data at the state and substate level are displayed.
- ◆ **Agricultural Workforce in Washington State** - A report that brings together all relevant information on this critical industry's workforce. The report includes employment by industry and location, wage information by activity, farm worker demographic information, and industry outlook.

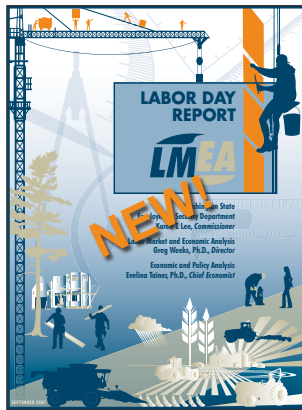


LMEA Publications



Washington State
Employment Security Department

Labor Market and Economic Analysis



◆ **Labor Day Report** - This year's Labor Day Report reveals employment by age and gender among key industry sectors for eastern and western Washington. The Labor Day Report will focus on topical issues.

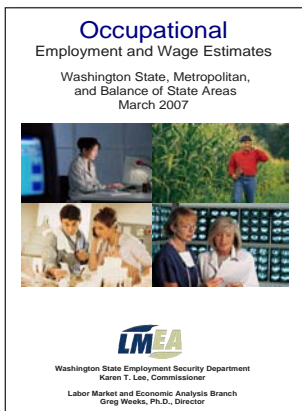
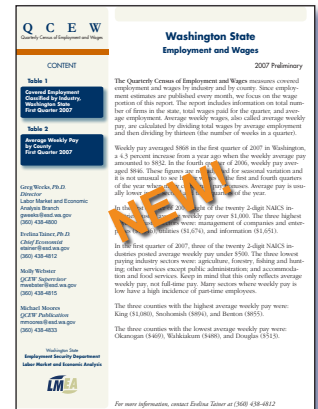
◆ **Washington State Business Employment Dynamics** - A new set of data available in seasonally and non-seasonally adjusted form that can highlight the forces behind the dynamics of labor markets at the state level. In addition, users can compare a given state's performance against other states.

◆ **Pacific County Profile** - One of 32 online reports profiling individual or groups of counties. Each report deals with the economic health of a specific area – including employment trends, demographics, wages, and changes in labor force and population.

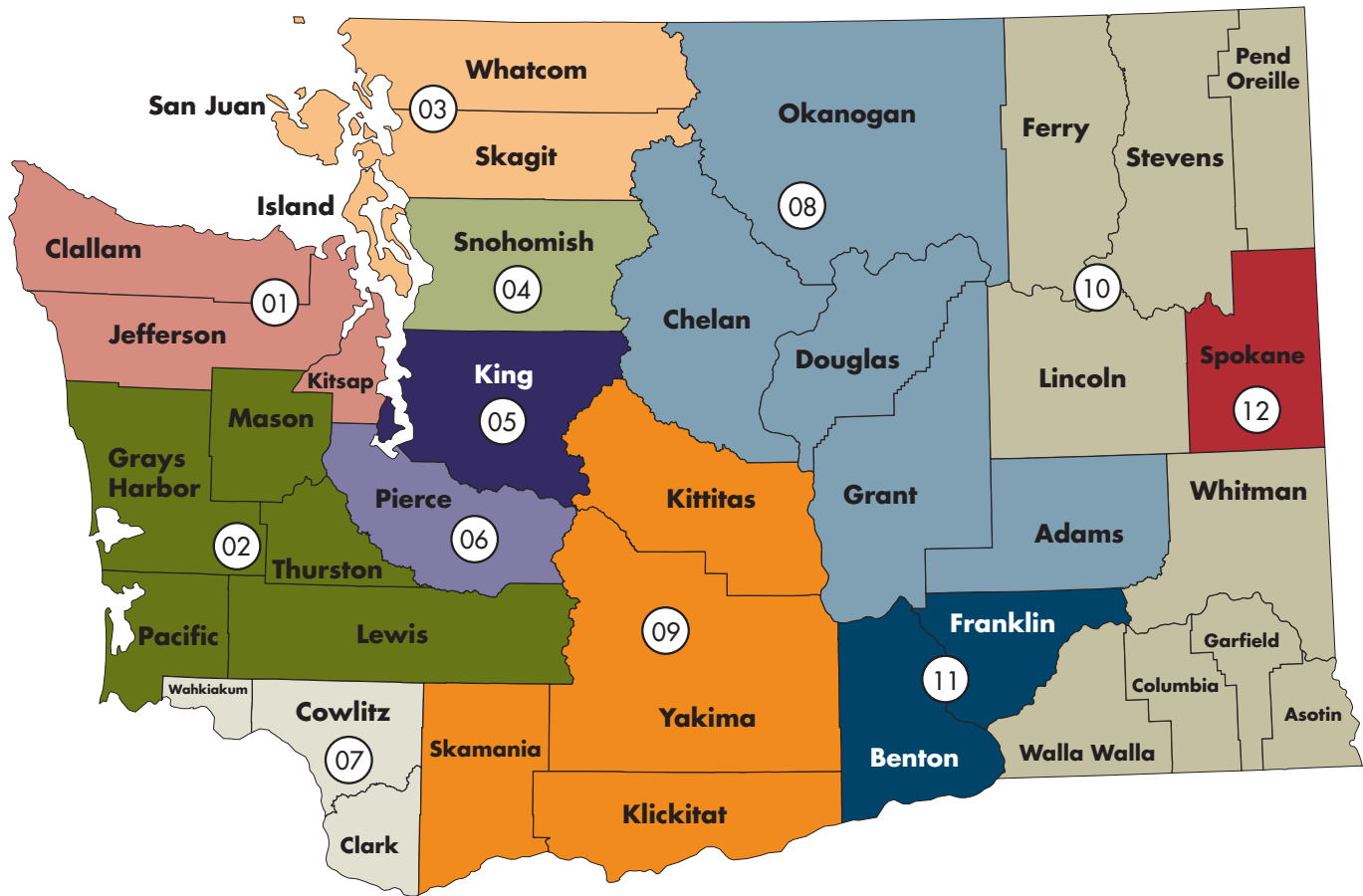
◆ **Quarterly Census of Employment and Wages** - Measures covered employment and wages by industry and by county. We focus on the wage portion of this report and cover information on the total number of firms in the state, total wages paid for the quarter, and average employment.

◆ **Occupational Employment and Wage Estimates** - Data which are presented by area for statewide, metropolitan statistical areas, and four balance of state areas.

◆ **Agricultural Labor Employment and Wages** - A monthly report that covers total and seasonal agricultural employment, statewide and regional employment and wage trends, crop area harvest periods, weather conditions by area, and factors affecting farm labor supply and demand. Provides the methodology behind the Farm Labor Survey data.



Washington State Workforce Development Areas



- WDA 1 – Olympic Consortium
- WDA 2 – Pacific Mountain
- WDA 3 – Northwest Washington
- WDA 4 – Snohomish County
- WDA 5 – Seattle-King County
- WDA 6 – Pierce County
- WDA 7 – Southwest Washington
- WDA 8 – North Central Washington/Columbia Basin
- WDA 9 – South Central
- WDA 10 – Eastern Washington
- WDA 11 – Benton-Franklin
- WDA 12 – Spokane County