

**Per Capita  
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**Wages**

**Employment**

**Labor**



# 2004

## Washington State Labor Market and Economic Report



**Employment Security Department**  
WASHINGTON STATE

December 2004

# 2004 Washington State Labor Market and Economic Report

This report has been prepared in accordance with *RCW 50.38.040* State of Washington

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# 2004 Washington State Labor Market Fast Facts

## Labor Force and Unemployment, Washington, 1980-2004

Year	Labor Force	Employment	Unemployment	Unemployment Rate
1980	1,984,000	1,828,000	156,000	7.9%
1985	2,091,000	1,921,000	170,000	8.1%
1990	2,538,900	2,413,700	125,200	4.9%
1995	2,817,200	2,637,700	179,500	6.4%
2000	3,055,600	2,896,300	159,300	5.2%
2001	3,024,000	2,830,600	193,400	6.4%
2002	3,109,300	2,882,600	226,700	7.3%
2003	3,139,900	2,902,900	237,000	7.5%
<b>2004</b>	<b>3,201,527</b>	<b>3,007,427</b>	<b>194,100</b>	<b>6.1%</b>

**Note:** Not seasonally adjusted. 2004 data are averages for year-to-date as of November.

**Source:** Workforce Explorer - Regions - Historical Rates

## Labor Force and Unemployment, Washington Metro Areas, 2004

Metro Area	Labor Force	Employment	Unemployment	Employment Rate
<b>Washington State</b>	<b>3,201,527</b>	<b>3,007,427</b>	<b>194,100</b>	<b>6.1%</b>
Bellingham MSA	92,127	87,445	4,664	5.1%
Bremerton PMSA	105,527	100,055	5,473	5.2%
Clark County	186,300	172,900	13,409	7.2%
Olympia MSA	113,018	107,555	5,500	4.9%
Richland-Kennewick-Pasco	106,764	99,973	6,773	6.4%
Seattle-Bellevue-Everett PMSA	1,419,909	1,339,727	80,191	5.7%
Spokane MSA	221,955	209,809	12,164	5.5%
Tacoma PMSA	366,373	342,755	23,609	6.4%
Wenatchee MSA	54,907	51,140	3,766	7.0%
Yakima MSA	113,345	102,900	10,445	9.3%

**Note:** Washington State and metro area data are averages, year-to-date as of November, not seasonally adjusted.

**Source:** Workforce Explorer - Regions - Historical Rates

## Recent and Projected Growth Rates, Washington, 2000-2012 (April 2004)

Industry	Annual Average Employment Growth			
	2000-2002	2003Q3-2005Q3	2002-2007	2007-2012
<b>Total</b>	<b>-1.0%</b>	<b>1.7%</b>	<b>1.6%</b>	<b>1.6%</b>
Construction	-2.2%	1.7%	1.5%	1.2%
Manufacturing	-7.4%	0.7%	-0.3%	1.4%
Trade, Transportation, and Utilities	-2.0%	1.3%	1.3%	1.2%
Information	-2.3%	3.3%	2.4%	2.5%
Financial Activities	0.9%	1.4%	2.1%	1.3%
Professional and Business Services	-2.4%	3.1%	2.9%	2.6%
Education and Health Services	2.7%	2.1%	2.1%	1.7%
Leisure and Hospitality	-1.5%	1.6%	1.7%	1.3%
Government	2.8%	1.3%	1.6%	1.5%

**Note:** Certain tribal employment, including gambling, was reclassified from other sectors to government in 2001.

**Source:** Washington State Employment Security Department

## Covered Employment, Employer Units, and Wages by Industry, Washington, 2003

Major Industry Division	Employer Units	Total Wages (in billions\$)	Employment	Average Annual Wage
<b>Total</b>	<b>207,357</b>	<b>\$101.1</b>	<b>2,643,715</b>	<b>\$38,244</b>
Trade, Transportation, and Utilities	33,331	\$16.3	492,272	\$33,087
Government (including public education)	2,017	\$19.3	490,324	\$39,360
Education and Health Services	14,899	\$9.1	287,410	\$31,725
Manufacturing	7,738	\$14.3	280,964	\$50,901
Professional and Business Services	25,582	\$12.9	279,997	\$45,933
Leisure and Hospitality	13,930	\$3.7	240,611	\$15,297
Construction	24,142	\$5.6	142,285	\$39,396
Financial Activities	11,878	\$6.5	141,710	\$45,883
Information	2,627	\$9.5	92,715	\$102,309
Natural Resources, Agriculture, Forestry, Fishing, and Mining	9,639	\$1.7	79,354	\$20,963
Other Services	10,857	\$1.9	74,461	\$25,336

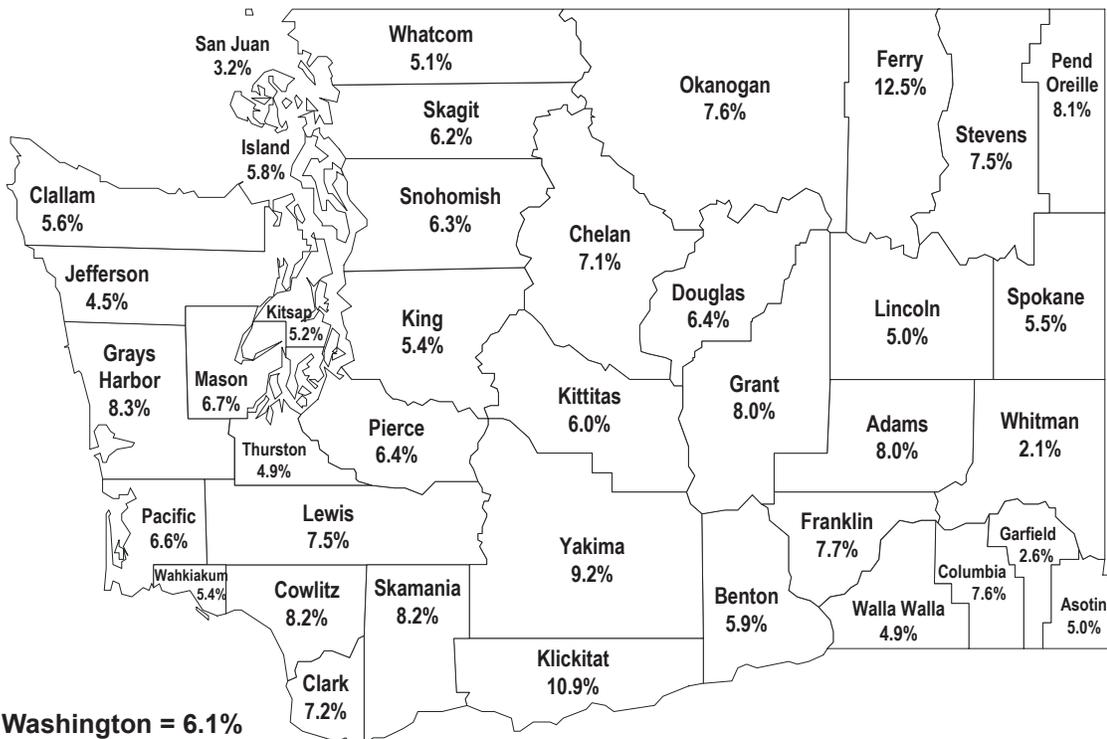
**Source:** Washington State Employment Security Department

## Average Monthly Unemployment Insurance Claims by Occupation Groups, Washington, 2000-2003

Occupation Groups	Unemployment Claims 2000*	Unemployment Claims 2001*	Unemployment Claims 2003*	%Change 2000-2001	%Change 2001-2003	2002 Estimated Employment
<b>Total</b>	89,083	122,793	132,632	37.8%	8.0%	3,039,505
Production	12,632	18,294	17,180	44.8%	-6.1%	171,763
Construction and Extraction	13,598	18,777	19,858	38.1%	5.8%	186,585
Management	6,463	10,610	11,471	64.2%	8.1%	115,785
Farming, Fishing, and Forestry	7,041	8,273	7,375	17.5%	-10.9%	75,753
Transportation and Material Moving	10,382	13,274	12,484	27.9%	-6.0%	220,944
Installation, Maintenance, and Repair	3,904	5,479	6,237	40.3%	13.8%	117,038
Computer and Mathematical	1,410	4,014	4,023	184.6%	0.2%	98,004
Architecture and Engineering	1,630	2,023	3,686	24.1%	82.2%	80,594
Office and Administrative Support	10,269	14,462	15,361	40.8%	6.2%	452,240
Arts, Design, Entertainment, Sports, and Media	964	1,823	1,860	89.1%	2.0%	58,186
Healthcare Support	1,572	1,754	2,911	11.6%	65.9%	72,474
Protective Service	1,212	1,401	1,808	15.6%	29.1%	54,155
Sales and Related	5,559	7,468	8,774	34.3%	17.5%	310,973
Building and Grounds Cleaning and Maintenance	2,292	2,799	3,191	22.1%	14.0%	121,362
Business and Financial Operations	1,707	2,470	3,272	44.7%	32.5%	128,598
Food Preparation and Serving Related	3,653	4,432	5,420	21.3%	22.3%	219,179
Life, Physical, and Social Science	499	631	896	26.5%	41.9%	38,209
Legal	360	408	508	13.2%	24.4%	26,678
Personal Care and Service	1,187	1,454	1,918	22.5%	31.9%	123,389
Community and Social Services	528	573	786	8.3%	37.2%	53,618
Education, Training, and Library	1,156	1,353	1,946	17.0%	43.8%	179,559
Healthcare Practitioners and Technical	927	876	1,435	-5.5%	63.8%	134,417

\*Unemployment insurance claims are average of monthly continued claims filed.

## Unemployment Rates by County, 2004 (Year-to-Date Averages as of November) Not Seasonally Adjusted



**Washington = 6.1%**  
**United States = 5.5%**  
(Seasonally Adjusted)



**Employment  
Security  
Department**  
WASHINGTON STATE

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# Washington State Labor Market and Economic Report

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## Executive Summary: *The Year in Review*

In 2004, the state economy broke free from the lingering effects of the last recession with substantial gains in employment and a healthy reduction in unemployment.

Hiring took off in July of 2003, and has accelerated in 2004. Nonfarm employment was up 2.3 percent over the year versus 1.3 percent for the nation. Thus, given the weak national recovery, Washington has been doing relatively well. However, the recession and recovery played out very differently in different parts of the state. The Seattle metro area was hit harder and has recovered more slowly than most areas in the state. The Seattle economy has gained about 30,000 jobs since its recovery began, but is still short about 68,000 jobs from the end of 2000. However, the Seattle area's labor market should continue to expand in 2005, but it will likely take at least two years to match pre-recession job levels.

The manufacturing sector has been the slowest to recover; in fact, between June 2003 and September 2004, it lost an additional 5,100 jobs. Even after sixteen months of decent job growth, total nonfarm employment was still below 2000 employment levels. The aerospace industry clearly has bottomed out and is expected to add jobs as the 7E7 production assembly employment builds. Aerospace recovery should positively influence the economy of the Puget Sound region as well as other parts of the state where subcontractors are located.

### *National Outlook*

The labor force participation rate remained low at 65.9 percent, more than a percentage point below the peak in March of 2000.

Nonfarm employment spurted up in the spring of 2004, however, job growth has slowed in subsequent months and by summer was not creating enough jobs to keep up with population growth.

The prognosticators at Global Insights predict that the national economy will muddle on through in 2005. GDP growth rate will drop a bit, as consumers' spending will slacken, in part due to higher energy prices. Inflation is expected to stay low and the unemployment rate to remain above 5 percent. The factors to watch are oil prices, productivity growth, and inflation.

### *Cyclical, Structural, and Seasonal Employment*

Employment in seasonal industries fluctuates on a fairly predictable yearly pattern. In some industries employment changes because of economic cycles, while others undergo a long-range structural change. In 2004, the following industries were identified, based on historical data, as having relatively large seasonal employment: agriculture; amusement parks and arcades; RV parks and recreational camps; spectator sports; and scenic and sightseeing transportation firms. Structurally declining industries included: manufacturing; utilities; and agriculture, forestry, fishing and hunting operations. Structurally growing industries included: the information sector; professional and technical services;

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administrative and waste management services; and other services, except public administration. Cyclical industries included: real estate and rental and leasing firms; retail trade; finance and insurance firms; and accommodation and food services operations.

### *Unemployment and its Dimensions*

Washington's jobless rate has generally remained about one percent higher than the nation's rate for most of the time since 1990. However, by October 2004, the state's rate of 5.6 percent was within one-tenth of one percent of the nation's rate of 5.5 percent. The total number of people unemployed has declined from 223,800 in October of 2003, to 167,100 in October 2004.

The number of unemployment insurance beneficiaries has declined since a 220,000 peak in the first quarter of 2002, to 106,400 in the third quarter of 2004.

The number of workers affected by mass layoffs has dropped from a peak of 19,076 in the fourth quarter of 2001, to 1,100 in the third quarter of 2004.

### *Labor Force and Demographics:*

Local Employment Dynamics (LED) data show that stable employment is much more seasonal for men than for women, and the last recession affected men more than women. Also, during the recession, older workers fared better than younger workers.

### *Occupational Outlook*

The major occupational groups in the state are expected to change little over the coming years. The most populated groups will continue to be office and administrative support occupations, and sales and related occupations.

### *Income and Wages*

The 2003 average wage in Washington reached \$23.35 per hour, a one percent increase over 2002 after adjusting for inflation. Also, the gap between the highest paid 10 percent of jobs and the lowest paid 10 percent continued to widen in 2003 (the last year for which we have complete data). The median wage rate for the state in 2003 was \$17.28 per hour with King County topping the list with an hourly rate of \$20.16. Only three other counties bested the state median: Benton, Snohomish, and Thurston. Columbia County had the lowest median rate, at \$10.85 per hour.

In 2003, the state's per capita income was estimated at \$33,264. This ranked 12th in the nation and was 6 percent above the U.S. average. At the county level, the most recent data are for 2002. The four counties with the highest growth in per capita income over the 1992-2002 period were, in order, Jefferson, King, Kitsap, and Island counties. In 2002, King County topped the list with a per capita income of \$44,135. Rural counties averaged \$25,238 per capita while urban counties came in at \$34,259.

# Chapter 1 - The Year in Review

## The Year in Review

Washington's labor market peaked in December 2000, hit bottom in March of 2002, and then struggled for more than a year (see *Figure 1*). Finally, in July of 2003, hiring took off and accelerated in the first half of 2004. Over the past six months (May-October 2004), employment gains have been uneven but generally in a positive direction. Currently, nonfarm employment is 2.3 percent above the year-ago figure, versus 1.3 percent for the nation. Only eight other states had a faster growth rate over the past year. In other words, given the weak labor market recovery across the country, Washington is doing relatively well.

**Figure 1**

Nonfarm Employment, Actual and Seasonally Adjusted  
Washington State, January 1998 Through October 2004  
Source: Employment Security Department



If we use September 2004 as the cutoff date, the three periods of downturn, stagnation, and recovery are all 15 months in length. In the following review, all growth rates are over those 15 month periods, and so are comparable.

### *Going Down, Down, Down*

From December 2000 to March 2002, Washington lost 85,000 jobs, a 3.1 percent decline. While most major sectors lost jobs, this was essentially a manufacturing recession (see *Figure 2*): almost half of the drop came in factory jobs, initially in electronics, and then (after 9-11) aerospace. Both lost 8,000 jobs. Aluminum, which had been starting to slide before the recession began due to high energy prices, fell precipitously as most of the state's smelters were out of action at least part of the time. Outside of manufacturing, there were some notable hits: construction (-10,000, 6 percent), information (-8,000, 8 percent), computer systems design (-7,000, 21 percent), and employment services (-15,000, 28 percent).

A few industries continued to add jobs during the downturn. Software grew by 2,000 jobs (6 percent), but actually declined the last half of 2001. Banking, boosted by refinancing, added 2,000. Health services continued its seemingly inexorable march forward, bringing on 11,000 jobs. Finally, government payrolls, playing a countercyclical role, rose by nearly 12,000.

### Figure 2

Manufacturing Employment, Seasonally Adjusted  
Washington State, January 1998 Through September 2004

Source: Washington Employment Security Department



### *Rolling Along the Bottom*

From March 2002 to June 2003, the stagnant Washington economy added a net 3,800 jobs. Three sectors kept the labor market from heading further south: banking, health care, and government. Historically-low interest rates helped keep the housing finance market strong, and lenders boosted their staffing by 8,000. Health care providers expanded by another 6,000 jobs. The public sector added another 8,000 jobs. In software, hiring continued to be positive but slow by historic standards.

Some sectors that had lost jobs in the downturn began to turn around—as consumers improved their cash flow through refinancing and tax cuts, construction, retail trade, and leisure and hospitality all benefited, though growth rates were modest.

Other sectors remained in the red. Manufacturing continued to hemorrhage, losing another 24,000 jobs, including 13,000 in aerospace and 4,000 in electronics. Wholesale trade, transportation and warehousing, information, and computer design services all lost ground, but at a slower pace.

**Figure 3**  
 Seasonally Adjusted Change in Employment by Sector  
 Washington State, December 2000 Through September 2004  
 Source: Employment Security Department

Job Change by Sector, January 2001 through September 2004	Going Down Dec. 2000 - Mar. 2002	On the Bottom Mar. 2002 - Jun. 2003	Comeback Trail Jun. 2003 - Sept. 2004	Total
Total Nonfarm	-85,200	3,800	63,300	-18,000
Construction	-10,000	2,500	9,100	1,700
Manufacturing	-38,100	-24,400	-5,100	-67,600
Wholesale Trade	-6,500	-1,700	4,200	-4,000
Retail Trade	-11,500	2,000	4,000	-5,600
Transportation, Warehousing, and Utilities	-7,500	-1,200	1,700	-6,900
Information	-8,000	-2,700	1,300	-9,400
Financial Activities	2,000	7,700	800	10,500
Professional, Scientific, and Tech. Svcs.	-7,700	-3,000	5,900	-4,800
Mgmt. of Companies and Enterprises	-600	2,200	600	2,100
Administration and Support and Waste Management and Remediation	-14,400	2,000	11,100	-1,300
Education and Health Services	11,800	7,200	11,300	30,400
Leisure and Hospitality	-4,000	3,800	10,900	10,700
Other Services	-100	2,100	1,400	3,400
Government	9,700	7,700	5,600	23,000

**Note:** Employment for some sectors in December 2000 was adjusted to account for the shift of tribal employment from the private sector to the public sector in January 2001.

### *The Comeback Trail*

The state began picking up steam in July of 2003, and took off in earnest in the first months of 2004; nonfarm employment rose by 63,000 jobs. Manufacturing still bled, but lost only 5,000 jobs during this period. Aerospace and electronics continued to lay off workers, but other segments began calling workers back. Construction enjoyed a burst of activity, adding 9,000 jobs. The service sector expanded, almost across the board. Trade, transportation, and utilities chipped in 10,000 jobs, software picked up the pace (2,300 jobs, 6 percent), but the rest of information, and primarily wired telecom, cut back staffing. Financial activities slowed with the refi market, but professional, scientific, and technical services added 6,000 jobs (4 percent). Other strong performers included administrative services (11,000 jobs, 9 percent), education services (5,000 jobs, 11 percent), and arts, entertainment, and recreation services (4,000 jobs, 8 percent). Government was the slowest-growing of the services (1 percent).

### *In Summary...*

Even after sixteen months of decent job growth, total nonfarm employment remains 5,000 jobs below its peak. If population growth is factored in, the deficit is substantial: if jobs had grown at the same rate as residents over the past four years, the state would have 120,000 more jobs, not 5,000 fewer.

Compared with December 2000, manufacturing is 68,000 jobs short, including 25,000 in aerospace and 13,000 in electronics. A host of other sectors—wholesale trade, retail trade, transportation, information, professional and scientific services—have yet to regain pre-recession levels. Education and health services (30,000), government (23,000), leisure and hospitality (11,000) and financial activities (10,000) have generated the most new jobs (see *Figure 3*).

### *What Next?*

Over the past six months, Washington's labor market has been waltzing right along—literally following a waltz rhythm of one big month followed by two slow months. A strong April was followed by weakness in May and June. A strong July was followed by a lackadaisical August and a tepid September. October continued the pattern, adding a preliminary 10,000 jobs. It remains unclear whether, and at what rate, job creation will continue, but so far the big months have been enough to lift the economy. Nationally, even after a welcome return to job creation in October, the recovery remains touch-and-go in terms of employment.

### *The Future of Manufacturing*

With little fanfare, a milestone was reached in August of 2003: manufacturing, as a share of nonfarm employment, fell below 10 percent of the total. Only five years earlier, factory jobs were 14 percent of the total, but since then more than 100,000 of them have disappeared, and half of those were in aerospace. In 1998, 31 percent of all factory jobs were involved in making aircraft; as 2004 comes to a close, that figure has fallen to 23 percent.

Manufacturing employment looks to have stabilized, and will likely resume growing in the coming months. Boeing had announced plans to hire 3,000 workers by the end of the year, and the Office of the Forecast Council predicts that the state will add 20,000 factory jobs over the next three years, with 14,000 of those in aerospace.

Even with that optimistic scenario, manufacturing would remain below 10 percent of total jobs. Between productivity gains and outsourcing, employment growth in future years will be limited.

### *Services: More of the Same?*

While manufacturing's share of employment has slipped, a number of other industries have grown in importance in the labor market. Contrary to prevailing public opinion, retail trade, while adding jobs, is now a slightly smaller percentage of total employment. Software has gained more than a full percentage point. Administration and support services—including employment agencies, call centers, building services (janitorial, landscaping), security services, and those ubiquitous mailbox-r-us

centers—have also captured a larger share of employment. The largest positive swing has been towards education and health services. Most of the shift in government is due to the reclassification of tribal agencies into that category in 2001.

### Figure 4

Change in Seasonally Adjusted Employment Share by Sector  
Washington State, January 1990 Through September 2004

Source: *Employment Security Department*

Sector	1990	2004	Change in Employment Percent	Change
Total Nonfarm	100.0%	100.0%	-	597,500
Construction	5.4%	6.1%	0.7%	50,300
Manufacturing	16.0%	9.6%	-6.3%	-76,700
<i>Aerospace</i>	5.4%	3.2%	-2.3%	-54,100
Wholesale Trade	4.7%	4.4%	-0.3%	19,100
Retail Trade	11.6%	11.4%	-0.1%	65,700
Transportation, Warehousing, and Utilities	3.9%	3.3%	-0.7%	5,700
Information	2.3%	3.4%	1.1%	43,100
<i>Software</i>	0.3%	1.4%	1.1%	32,300
Financial Activities	5.3%	5.7%	0.4%	42,200
Professional, Scientific, and Technical Services	4.4%	5.2%	0.8%	47,400
Management of Companies and Enterprises	1.0%	1.2%	0.2%	10,600
Administration and Support and Waste Management and Remediation Services	3.6%	4.9%	1.2%	55,200
Education and Health Services	9.4%	11.9%	2.5%	123,900
Leisure and Hospitality	9.0%	9.5%	0.5%	68,300
Other Services	4.2%	3.7%	-0.5%	11,600
Government	18.5%	19.4%	0.9%	134,800

**Note:** Employment NOT adjusted for the shift of tribal employment from the private sector to the public sector in January 2001.

For the near future, services should continue to capture a growing share of employment, although things aren't quite as clear-cut as they were a few years ago. A decade ago, it seemed a sure bet that all of the offspring of the computer age—the web, communications gadgets, entertainment media, and so on—would generate jobs aplenty. High tech's younger cousin, biotechnology, seemed ready to bust out, again with the promise of lots of high-wage jobs. Technological innovations and the mass of baby boomers gimping towards retirement sent projections of health care employment soaring. And then there were all the services catering to the growing number of women entering the paid workforce.

While computers and electronic paraphernalia continue to penetrate into every corner of our society, it is less clear now about the domestic job-generating potential of the various suppliers of new ideas, equipment, software, and services. Economists point to the “S” curve, in which a new innovation starts off slowly, takes off like gangbusters, and then plateaus as the technology matures. So it would be no surprise to see the relative employment growth of these services slow, in part to maturity, and in part to outsourcing. Biotech, while important in a handful of metro areas across the country (including Seattle), has yet to live up to its expectations in terms of jobs.

As this report goes to press, a number of hospitals around the state are cutting employment. In health care, push has come to shove, with increasing demand running straight into budget constraints. In economics, “demand” is only felt if there is a dollar bill to be spent; the growing numbers of the uninsured populace illustrate the gap between human need and the ability of the current system to provide services. How this plays out in the coming decade should be interesting.

Finally, it appears that the percent of women who enter into the paid labor force has crested. Services that cater to working women and the shift in home responsibilities will still grow, just not as fast as before. For example, food service employment has grown faster than average for several decades, in part due to growth in income, but also in part due to working moms. We might see this industry’s growth rate taper off a tad in the coming years.

### *At the County Level*

All politics, according to Tip O’Neill, are local. The same can be said for economics. Abstractions like the “state” and “national” economies might be up or down, but the very real local labor market is what counts. Indeed, the recession and recovery played out very differently in different parts of the state. Because most local employment data is not seasonally adjusted, the last four Octobers were used as a basis for comparison.

### *Recession? What Recession?*

Eleven labor markets showed October-to-October employment growth in each of the past four years. Government played an important role in five of those areas. Federal spending boosted jobs in the Tri-Cities and Bremerton, while Olympia enjoyed steady growth in state payrolls. Both Bellingham and Kittitas have universities. Eight of the areas were clustered around Puget Sound, while three were east of the Cascades.

#### **Figure 5**

Percent Change in Nonfarm Employment  
Washington State, Comparing the Month of October,  
2000 Through 2004

Source: *Employment Security Department*

Area	2000-01	2001-02	2002-03	2003-04	2000-04
Jefferson	5.2%	0.7%	5.0%	2.8%	14.4%
Tri-Cities	4.2%	2.9%	2.2%	2.2%	11.9%
Kittitas	5.6%	1.3%	3.3%	0.9%	11.6%
Bremerton	1.9%	3.7%	2.8%	2.0%	10.8%
Mason	0.2%	4.9%	1.8%	2.8%	10.0%
Bellingham	0.9%	3.1%	2.0%	3.5%	9.8%
Olympia	1.8%	2.4%	2.4%	2.6%	9.5%
Island	1.7%	4.2%	0.8%	1.4%	8.3%
Tacoma	0.1%	0.7%	1.4%	4.2%	6.6%
Clallam	1.1%	1.0%	1.6%	2.5%	6.5%

### *On the Rebound*

Fifteen areas had one or two down years, before bouncing back in the last two years. Nine were in the eastern half of the state.

#### **Figure 6**

Percent Change in Nonfarm Employment  
Washington State, Comparing the Month of October,  
2000 Through 2004

*Source: Employment Security Department*

#### **Down And Out, But Now Back, Bigger Than Ever...**

Area	2000-01	2001-02	2002-03	2003-04	2000-04
Pend Oreille	8.4%	-4.6%	3.3%	0.7%	7.6%
San Juan	-2.3%	0.6%	2.7%	6.0%	7.0%
Skagit	-0.7%	-0.2%	2.3%	3.1%	4.5%
Clark	-1.4%	1.1%	1.9%	2.4%	4.1%
Garfield	3.6%	-3.5%	2.4%	1.2%	3.6%
Whitman	-2.5%	-0.6%	3.5%	2.9%	3.2%
Asotin	-0.8%	-0.6%	2.3%	2.1%	3.0%
Walla Walla	-0.0%	0.5%	1.2%	1.3%	3.0%
Grays Harbor	-1.4%	0.1%	0.6%	3.2%	2.5%
Grant	2.1%	-1.2%	1.1%	0.5%	2.5%
Stevens	-0.8%	-0.5%	1.3%	2.1%	2.1%
Okanogan	-4.7%	-0.1%	2.8%	4.2%	2.0%
Spokane	0.5%	-0.5%	0.4%	1.4%	1.8%
Snohomish	-1.2%	-1.4%	0.4%	3.8%	1.4%
Skamania	-5.5%	3.7%	0.5%	2.6%	1.0%

### *Up and Down*

Five labor market areas have had alternating years of job losses and gains, though all are having positive years in 2004.

#### **Figure 7**

Percent Change in Nonfarm Employment  
Washington State, Comparing the Month of October,  
2000 Through 2004

*Source: Employment Security Department*

#### **Riding a Seesaw...**

Area	2000-01	2001-02	2002-03	2003-04	2000-04
Pacific	-1.4%	1.0%	-1.0%	5.7%	4.3%
Chelan and Douglas	-3.3%	2.5%	-0.6%	3.2%	1.8%
Ferry	-2.9%	5.3%	-6.2%	6.0%	1.7%
Adams	-0.6%	0.2%	-3.4%	4.5%	0.6%
Lewis	-1.2%	0.4%	-0.4%	1.2%	0.0%

### *Still Ailing*

Six counties were still below 2000 employment levels in 2004. Yakima's major industries, food processing and fruit packing, have undergone consolidations and productivity improvements, leading to substantial job losses. Durable goods manufacturing, retail trade, and transportation have also declined. Wahkiakum County has lost 50 jobs in its major industry, logging. Cowlitz County has been plagued by the closure of its aluminum smelter and layoffs in the paper industry. Ripple effects have led to losses in retail trade and food services. Klickitat County also had its aluminum smelter closed, devastating the economy in and around Goldendale. Columbia County has had lower seasonal employment in food processing, and is now threatened with the closure of its major employer, the largest asparagus processor in the world, due to foreign competition and the state's high minimum wage.

#### **Figure 8**

Percent Change in Nonfarm Employment  
Washington State, Comparing the Month of October,  
2000 Through 2004

Source: *Employment Security Department*

#### **Still in Intensive Care...**

<b>Area</b>	<b>2000-01</b>	<b>2001-02</b>	<b>2002-03</b>	<b>2003-04</b>	<b>2000-04</b>
Yakima	-2.8%	1.1%	0.1%	1.3%	-0.4%
Wahkiakum	-2.3%	-4.8%	-1.3%	6.3%	-2.3%
Cowlitz	-2.6%	-2.0%	-0.5%	0.8%	-4.2%
King	-3.8%	-2.6%	-0.6%	1.3%	-5.7%
Klickitat	-9.7%	2.2%	-6.3%	0.8%	-12.8%
Columbia	-9.8%	-6.7%	0.9%	0.0%	-15.0%

### *And Then There's Seattle*

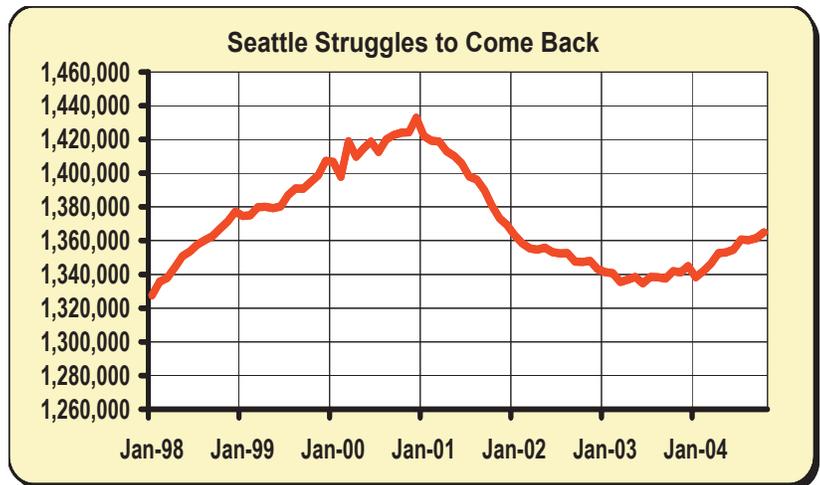
The Seattle Metro area was hit harder and has recovered more slowly than almost any area in the state. Beginning in January 2001, Seattle's nonfarm employment began to recede. By the time it bottomed out in June 2003, almost 100,000 jobs had disappeared.

Interestingly, through the first nine months of the recession, aerospace and software—two of the major drivers of the region's economy—were hiring. Outside of software, however, other technology sectors were in a world of hurt. Electronics manufacturing lost 1,400 jobs (-7 percent), information outside of software shed 6,500 workers (-14 percent), and computer systems design dropped by 4,500 jobs (-18 percent). Manufacturing outside of electronics slipped by 6,100 jobs (-7 percent). The multiplier effect spread to construction, wholesale trade, retail trade, and transportation. Employment services accounted for more than one fourth of the loss in the first nine months (-12,600 jobs, -30 percent). Only finance, health care, and government continued to hire.

**Figure 9**

Seattle Metro Nonfarm Employment, Seasonally Adjusted  
Washington State, January 1998 Through October 2004

Source: Employment Security Department



After 9/11, aerospace began laying off workers in earnest—almost 22,000 until the Seattle economy turned the corner in June 2003, and another 5,000 until the industry resumed hiring in September of 2004. Cuts continued in most other industries as well.

The recovery, when it came, was lukewarm. It was initially led by hiring by temp agencies and in the leisure and hospitality industry. Construction picked up, and other services such as wholesale trade and professional and technical services and administrative services also began adding workers. Manufacturing outside of aerospace was essentially flat, and electronics continued to slide.

As of October 2004, the Seattle economy had gained 30,000 jobs since its recovery began, still short 68,000 jobs (-4.8 percent) from the end of 2000. Manufacturing remains 44,000 jobs below its pre-recession level, including a 24,000 shortfall in aerospace. Wholesale and retail trade have both declined, as has transportation, including a 20 percent drop in air transportation. Professional, scientific, and technical services, though adding jobs of late, was still behind by 11,000 jobs, mostly in computer systems design services. Only finance, health care, leisure and hospitality, and government added jobs during this period.

**Figure 10**

Change in Seattle Metro Nonfarm Employment, Selected Industries,  
in Thousands of Jobs Seasonally Adjusted  
Washington State, December 2000 and October 2004

Source: *Employment Security Department*

Industry	December 2000	October 2004	Change	Percent
Total Nonfarm Employment	1,433.0	1,364.8	-68.1	-4.8%
Construction	86.5	78.7	-7.8	-9.0%
Manufacturing	189.6	146.0	-43.6	-23.0%
<i>Electronics</i>	20.6	14.2	-6.4	-30.9%
<i>Aerospace</i>	83.2	59.2	-24.0	-28.9%
Wholesale Trade	73.8	70.9	-2.9	-4.0%
Retail Trade	152.0	144.7	-7.2	-4.8%
Transportation, Warehousing, and Utilities	56.1	49.6	-6.6	-11.7%
<i>Air Transportation</i>	14.2	11.3	-2.9	-20.3%
Information	79.7	73.0	-6.6	-8.3%
<i>Software Publishers</i>	32.9	37.8	0.0	0.0%
Financial Activities	88.4	92.1	3.7	4.2%
<i>Banking</i>	24.5	30.2	5.7	23.4%
Professional, Scientific, and Tech. Svcs.	101.3	89.9	-11.3	-11.2%
<i>Computer Systems Design</i>	25.5	15.9	-9.6	-37.7%
Administrative and Support Services	84.3	73.1	-11.2	-13.3%
<i>Employment Services</i>	42.0	30.0	-12.0	-28.6%
Health Care	89.4	96.6	7.2	8.0%
Leisure and Hospitality	124.5	128.1	3.6	2.9%
Government	191.8	202.8	11.0	5.7%

Seattle's labor market should continue to expand in 2005, but it will likely take at least two years to match pre-recession job levels, much less accommodate a growing population. Whether manufacturing and technology employment (outside of software) ever reach earlier benchmarks remains to be seen.

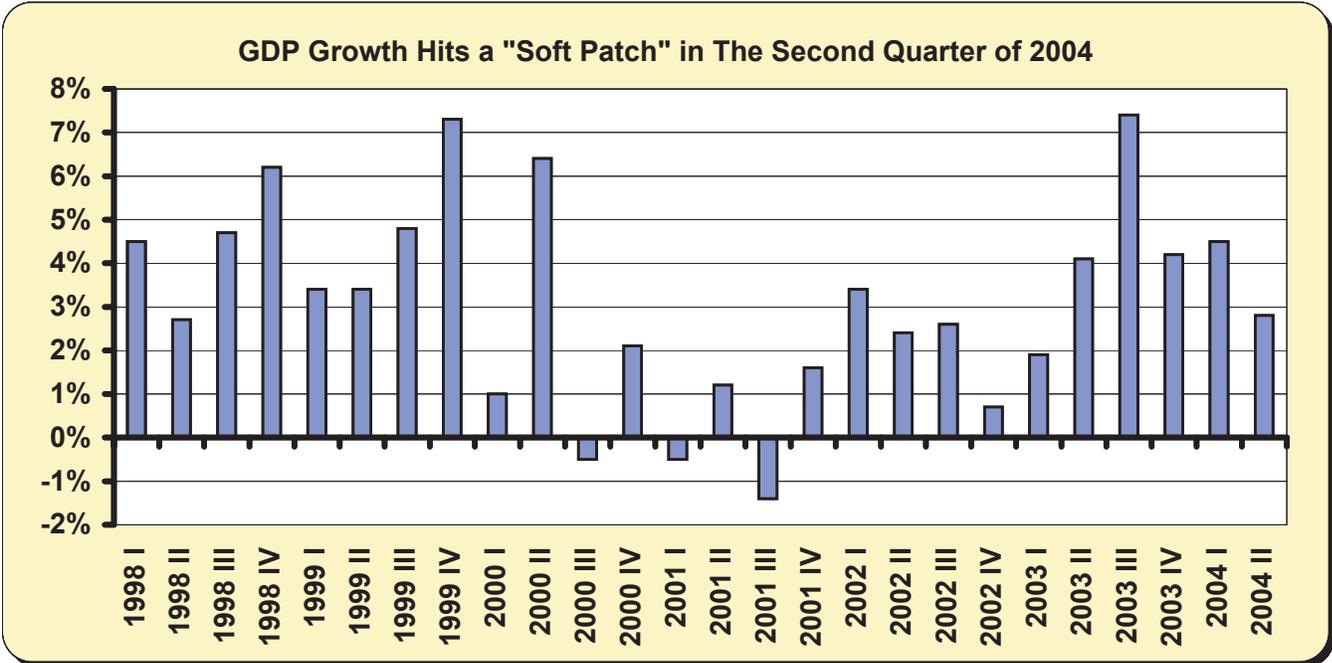
## National Outlook, 2004

As of September 2004, the nation's job-creating machine remained stuck in neutral. Despite decent growth in production (as measured by GDP), high corporate profits, and a slowdown in productivity growth, employment was barely keeping up with population growth.

After the recession year of 2001 and a modest pickup in 2002, Gross Domestic Product (GDP) roared ahead in 2003 and early 2004, before hitting a "soft patch" in the second quarter of 2004. GDP growth topped 4 percent for four straight quarters, including a 7.4 annualized rate in the third quarter of 2003, before slowing a bit to 2.8 percent. The pick-up in production helped boost corporate profits, which in the second quarter of 2004 were 40 percent higher than three years earlier. When compared with the past two recessions, the drop in profits was much milder, and the recovery much quicker and more robust.

Consumer spending, which had been unusually strong during the recession, eased back during the quarter. Spending had been boosted by tax cuts and especially by home refinancing after mortgage rates fell to historically low levels, but by 2004, these stimuli had by and large run their course.

**Figure 11**  
 Growth in U.S. Gross Domestic Product  
 First quarter 1998 Through Second Quarter 2004  
 Source: U.S. Bureau of Economic Analysis



The recession was characterized by a sharp drop in private investment in new buildings, equipment, and software. It took until the third quarter of 2003 for investment to recover, and it has continued to expand at double-digit rates since. Government spending, another component of GDP, usually slows during recessions, but not in this one. Defense spending, which had declined steadily during the 1990s, began to increase in 2000 and then accelerated, growing at an 8 percent annual rate over the past two years. Nondefense spending at the federal level, and state and local government expenditures, have grown erratically, averaging only about 1 percent.

The fourth component of GDP, the trade balance, continued to plunge, falling to 5.5 percent of GDP in mid-2004. High oil prices were a contributing factor. The trade deficit is being financed by foreigners gobbling up U.S. assets (they now own 45 percent of federal debt). There is some worry that, should the deficit continue, foreign exchange speculators could bet against the dollar and force a sudden, sharp devaluation, as they did with some Asian currencies in the late 1990s. Such a move would be hugely disruptive of global financial markets, and would raise the price of imports in the U.S., increasing inflation and likely leading to higher interest rates and a general slowdown in the economy.

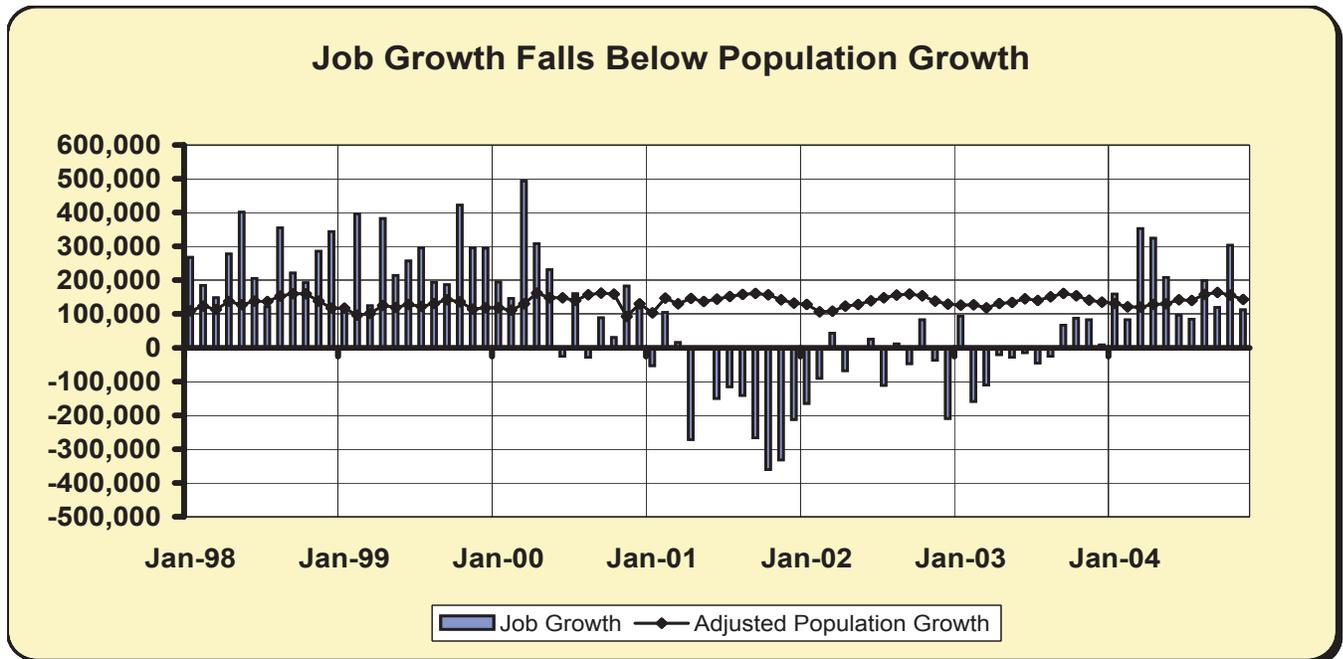
With just about every economic stimulus in full play—low interest rates, deficit spending, tax cuts—one would expect the labor market to respond positively. Such was not the case. True, the unemployment rate improved steadily, falling from 6.1 percent in September of 2003 to 5.4 percent in September 2004. However, the labor force participation rate remained low at 65.9 percent, more than a percentage point below the peak in March of 2000 and lower than any month during the 1990s.

When nonfarm employment spurted upward in the spring of 2004, it looked like the job machine was back in business. However, job growth slowed in subsequent months, and by summer was not creating enough jobs to keep up with population growth.

**Figure 12**

Change in U.S. Job Growth, Compared With Change in Working-Age Population Seeking Nonfarm Jobs  
January 1998 Through September 2004

Source: U.S. Bureau of Labor Statistics, With Calculations by The Employment Security Department



The initial explanation for the jobless recovery was that productivity was also increasing, and that as soon as productivity growth tapered off, businesses would start hiring in droves. Unfortunately, this scenario did not pan out. Productivity grew by 7 percent and 9 percent in the spring and summer of 2003, before falling below 4 percent in the next two quarters and slipping to 2.5 percent in the second quarter of 2004. Another explanation is that businesses, while content to invest in productivity enhancements, are too pessimistic to expand hiring, due to factors such as high oil prices and the war in Iraq.

What's ahead for 2005? The prognosticators at Global Insight predict that, essentially, the economy will muddle on through. GDP growth will drop a bit, as consumer spending slackens, in part due to high energy prices. The housing market cools from red hot as long-term interest rates rise, but still remains strong. Oil prices come down into the \$40s (higher than previously predicted), and remain a threat, but inflation stays low. The unemployment rate remains above 5 percent. Nonfarm employment spurts in the first half of the year, averaging job growth of over 220,000 per month, before tailing off to the current growth rate by the end of the year. Finally, with consumption dropping and a modest decline in the value of the U.S. dollar, imports decline and exports increase, improving the trade balance.

## Chapter 2 - National Outlook

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The factors to watch: oil prices, productivity growth, and inflation.

If productivity growth is strong, oil prices drop more than expected, inflation stays under control, GDP could grow faster than expected, and a more optimistic corporate sector could boost hiring. On the down side, higher than expected oil prices, and higher inflation as the price of imports goes up, could put a damper on the economy.

# Chapter 3 - Cyclical, Structural, and Seasonal Employment ==

## Structural Versus Cyclical Employment Change

Industries are not affected equally by economic change. For example, the real estate industry is highly dependent on interest rates, timber on government regulations, aerospace on flows of international trade, and information on technological advances. To understand labor markets, it is critical to be able to understand the difference between these effects.

In the early part of the 20th century, a majority of American workers were engaged with farm work. Now it is less than five percent of the workforce. These job losses in farming over time have been replaced by manufacturing and service jobs as technology allowed fewer farm workers to produce more goods. This type of change is referred to as structural change. The idea is that the structure of the economy is fundamentally shifting. This would include education and technological advances, altered trade barriers, and adding or removing government regulations. These types of changes often lead to long-term employment gains and losses.

Cyclical employment changes, on the other hand, are driven by the ups and downs of the business cycle, which stimulates or dampens demand. During an economic downturn, people cut back on purchases of luxuries, for example, leading to cutbacks for those involved in the production of those goods. Note that all industries are potentially affected by both cyclical and structural factors, but not equally. Therefore, there are many industries that can be labeled as both cyclical and structural.

**Methodology: Cyclical-Structural Industry Analysis**

The period from 1990 to 2003 was used to identify what part of an industry’s employment change was due to long-term structural forces and which were due to the cyclical downturn.

Most industries grew in terms of total employment over this period, however, some grew more slowly than total employment, which expanded by about 25 percent from 1990 to 2003. For example, the wholesale trade industry trended upwards overall, but its employment, as a share of total employment, fell in almost every year. The industry’s share of total employment will be used to identify expanding and declining industries.

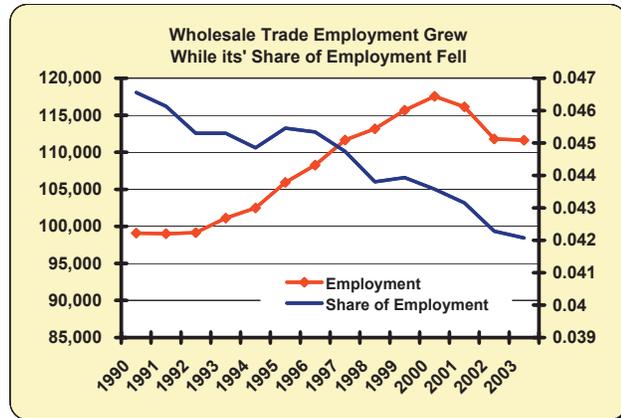
**Figure 13**

Wholesale Trade Employment Growth  
Washington State, 1990 - 2003

Source: Employment Security Department

Total variation in employment share for a given industry is divided into that which can be explained by a linear trend (structural) and that which can be explained by variation around a linear trend (cyclical).

Consider, for example, the computer system design industry and wired telecommunications industry illustrated below. Both industries have experienced declines in employment share since the recession began. One, however, seems to have much better prospects for recovery than the other.

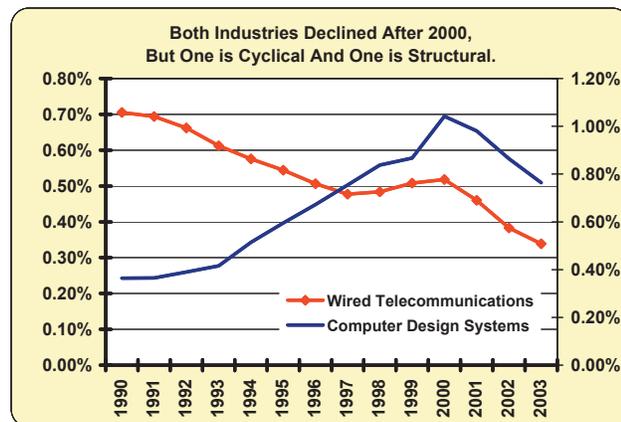


**Figure 14**

Declining Industries  
Washington State, 1990 - 2003

Source: Employment Security Department

By examining the behavior of employment share before the recession began, two different longer-term patterns are identified. While the computer systems design industry grew as a share of total employment throughout the nineties, the wired telecommunications industry declined at a somewhat steady pace. A general economic recovery should, in itself, bring about a recovery in the computer systems design industry. The wired telecommunications industry, on the other hand, would be expected to continue to deal with structural problems. This may lead the industry to continue a slow decline or to eventually level out.



### Analysis of Industries

In this section, the structural elements of employment change will be isolated from the cyclical impact. A growing industry was identified as one that increased as a share of total employment over the 1990s, while a declining industry is one that saw its employment share decline. Structural employment change is that change which is consistent with the trend change in employment, while cyclical change is employment variation around that trend.

The general implication of this study is that structurally changing industries (either growing or declining) will continue to grow or decline in the recovery, as long as the conditions causing their structural change remain. An industry that has experienced primarily a cyclical decline or expansion will likely resume its long-term trend growth once the recovery is firmly under way.

*Figure 15* below shows the degree of structural variation and the trend change in employment (1990-2003) for industries at the 2-digit NAICS level. Industries with a trend change of 100 percent kept a constant share of employment, those below suffered declining share of employment, and those above 100 percent saw rising shares of employment. Structural variation, on the other hand, indicates the degree to which an industry is more strongly influenced by structural forces than cyclical. If the structural variation is higher than 50 percent then structural changes dominated, if below 50 percent then cyclical changes dominated.

#### Figure 15

Trend and Structural Variation Employment Change

Washington State, 1990 - 2003

Source: Employment Security Department

Industry	Trend Change in Employment 1990 - 2003	Structural/Total Variation
Utilities	53.5%	85.3%
Manufacturing	68.2%	82.9%
Mining	72.8%	75.5%
Federal Government (except post offices)	72.9%	76.5%
Agriculture, Forestry, Fishing and Hunting	76.7%	85.2%
State Government (other)	88.1%	74.3%
Management of Companies and Enterprises	90.7%	41.8%
Wholesale Trade	91.3%	86.6%
Transportation and Warehousing	92.1%	81.4%
Accommodation and Food Services	97.3%	47.8%
Retail Trade	99.1%	39.0%
Real Estate and Rental and Leasing	100.0%	0.6%
Finance and Insurance	103.9%	39.3%
Construction	108.2%	61.0%
Educational Services	110.4%	76.7%
Health Care and Social Assistance	110.9%	72.8%
Local Government (other)	113.2%	58.9%
Professional and Technical Services	117.0%	82.3%
Arts, Entertainment, and Recreation	123.0%	71.5%
Administrative and Waste Services	132.4%	78.8%
Other Services, except Public Administration	153.2%	91.5%
Information	164.5%	84.2%

Most industries experienced rising employment, but some actually suffered overall declining payrolls between 1990 and 2003. However, most did see employment growth, some with rising shares and some with falling shares of employment. The following industrial analysis will be broken down into those with declining employment, those with rising employment but a falling share, and those with a rising share of employment. Industries within these three groups showed, for the most part, similar patterns of growth or decline.

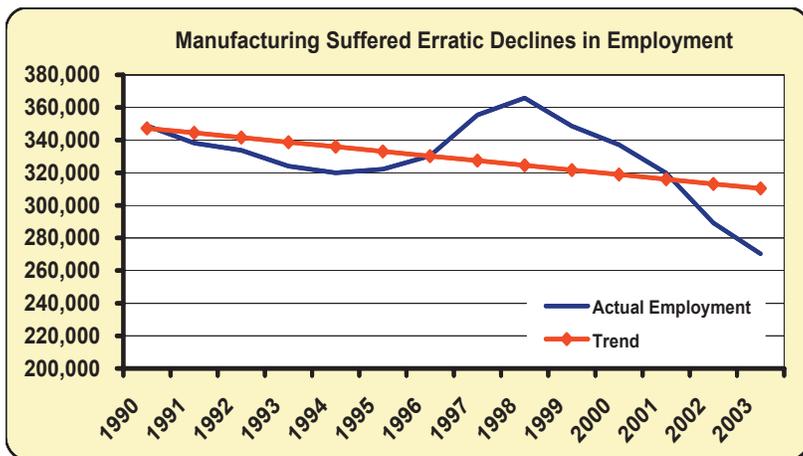
### *Industries with Declining Employment*

*Figure 15* sorts industries by trend change in employment from lowest to highest. The four listed at the top (utilities, manufacturing, mining, and federal government) are the only industry groups that actually saw declining employment trends between 1990 and 2003. In addition, each of these groups face fairly significant structural issues, with most of the change being driven by non-cyclical factors.

Of these four industry groups, manufacturing was by far the largest in terms of employment (over 270,000 in 2003 versus about 47,000 for federal government and less than 5,000 for utilities and mining). It is also one of the more highly structurally influenced industries with about 83 percent of change attributable to such factors.

During this time period, manufacturing employment fell by approximately 78,000 and its share of statewide payrolls fell from about 16 percent to about 10 percent (see *Figures 16* and *17*). There was a cyclical aspect with employment peaking in 1998 and falling sharply after that. However, the timing did not correspond closely to the national business cycle which peaked in 2001. It should be noted that for this analysis, aerospace employment numbers have been smoothed to take out the impact of short-lived strikes. Otherwise, the strike numbers would significantly influence the results of the study.

**Figure 16**  
Manufacturing Employment and Trend  
Washington State, 1990 - 2003  
*Source: Employment Security Department*

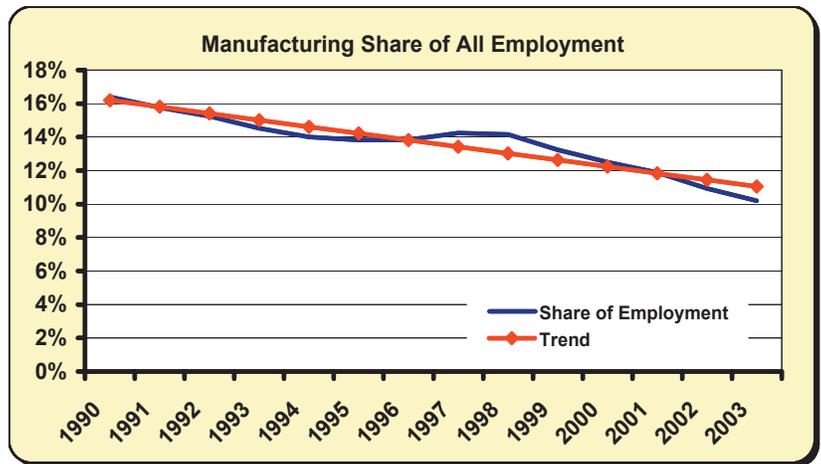


**Figure 17**

Manufacturing Share of All Employment

Washington State, 1990 - 2003

Source: Employment Security Department



By looking deeper into manufacturing we can gain insight into why the critical manufacturing sector continues to struggle from an employment perspective. *Figure 18* breaks down manufacturing into the 3-digit NAICS level, showing trend change and structural variation. Sub-sectors with trend employment change of 74 percent and below are characterized by structural decline.

Unfortunately, these structurally declining industries provide the majority (62 percent) of manufacturing employment, signaling the likelihood of continuing problems for manufacturing workers. Of these sub-sectors, apparel, printing, and textile have a cyclical component in addition to a structural one.

Transportation equipment manufacturing is obviously the heavyhitter with 2003 employment of 84,404. This sector is primarily driven by aerospace which has long been considered to be cyclical. However, increased foreign competition, shifting demand, and problems in the airline industry appear to be causing long-term structural dilemmas.

Food manufacturing is the second largest employer among manufacturing sub-sectors, and is also structurally declining. There were 7 percent fewer employees in the sector in 2003 than in 1990, and the employment trend fell by 4 percent. Trade and competition issues and comparative wages have weighed heavily on the sector, leaving its outlook somewhat cloudy.

Sub-sectors showing trend change in employment over 74 percent tend to be much more cyclically oriented and have better prospects for growth. Electrical equipment and appliance manufacturing in particular has grown in relation to other manufacturing areas. Machinery manufacturing had the highest degree of cyclical change with only 2 percent due to structural factors.

**Figure 18**

Manufacturing Sub-sectors  
Washington State, 1990 - 2003

Source: *Employment Security Department*

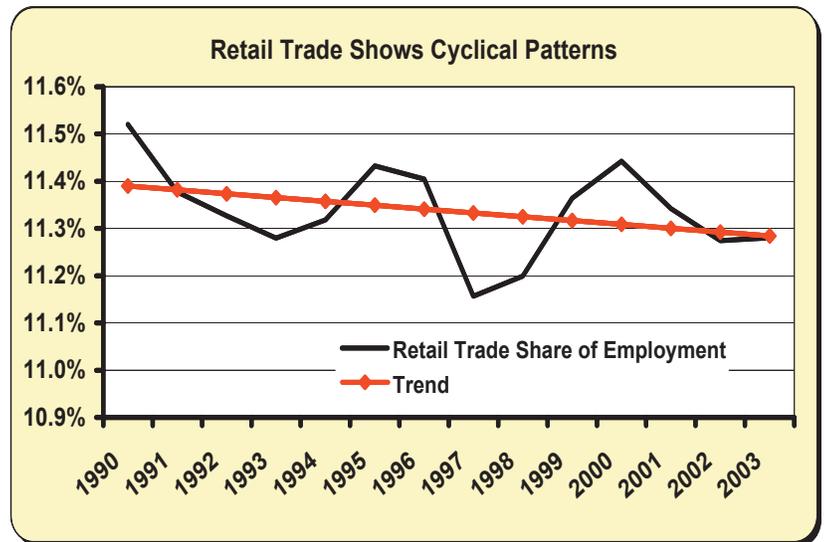
Manufacturing Sub-Sectors	Employment 2003	Trend Change in Employment Share	Structural Percent of Change
<b>Sectors exhibiting largely structural declines</b>			
Primary Metal	5,258	46%	70%
Apparel	2,291	49%	58%
Transportation Equipment	84,404	53%	73%
Textile Mills	546	57%	74%
Leather and Allied	384	58%	75%
Wood	17,570	60%	82%
Paper	12,884	62%	89%
Printing and Related Support Activities	8,429	67%	63%
Textile Product Mills	2,098	68%	56%
Food	34,350	74%	79%
<b>Sectors exhibiting more stable employment and cyclical decline</b>			
Furniture and Related	7,550	82%	62%
Computer and Electronic	23,235	84%	36%
Petroleum and Coal	2,685	86%	40%
Chemical	5,019	89%	39%
Nonmetallic Mineral	8,391	93%	48%
Fabricated Metal	15,951	93%	29%
Beverage and Tobacco	3,721	94%	32%
Machinery	11,786	100%	2%
Miscellaneous	10,648	103%	15%
Plastics and Rubber	9,130	107%	22%
Electrical Equipment and Appliance	4,038	150%	68%

### *Industries with Rising Employment, But Falling Share of Employment*

The industries from agriculture to retail trade in *Figure 15* make up a sort of middle group that experienced employment growth yet lost employment share in Washington. Out of this group, agriculture, state government, wholesale trade, and transportation can be identified as structurally-dominated industries. Accommodation, management of enterprises, and retail trade are industries strongly affected by cyclical ups and downs, and suffered loss of employment share.

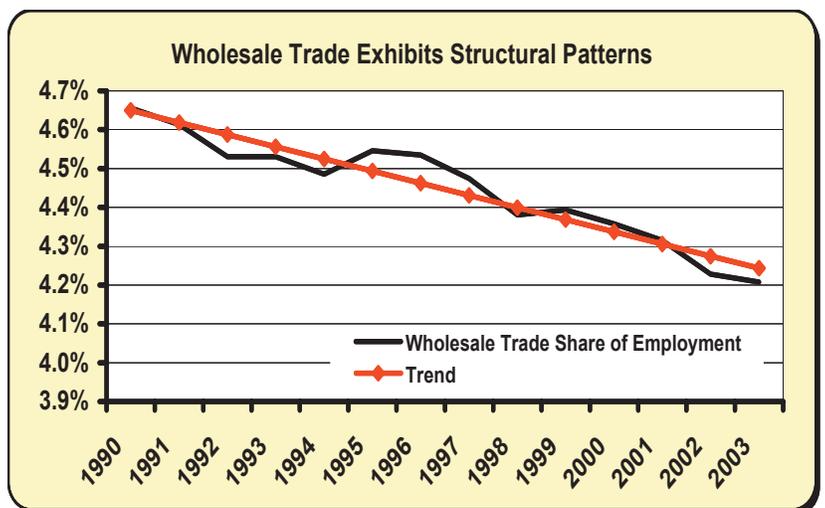
Take for example *Figure 19*, which depicts retail trade employment share between 1990 and 2003. The trend is a relatively flat downward slope but actual employment jumped around it with peaks in 1995 and 2000. Over the last several years it tracked very close to the long-term trend. Structural forces made up only 39 percent of employment changes for the sector.

**Figure 19**  
Retail Trade Share of Total Employment  
Washington State, 1990 - 2003  
Source: Employment Security Department



By contrast, a full 86 percent of employment changes in wholesale trade were attributable to structural aspects. This is apparent in *Figure 20* which shows employment following much closer to the trend than was seen in the retail trade industry. Wholesale trade's employment share fell from 4.7 to 4.2 during the 13-year period.

**Figure 20**  
Wholesale Trade Share of Total Employment  
Washington State, 1990 - 2003  
Source: Employment Security Department



Retail trade was the largest of the industries with rising employment, but falling employment share with just under 300,000 workers. It was followed by accommodation and food services with just over 200,000 employed, then wholesale trade with about 112,000. The accommodation industry mirrors retail in that it is a little more cyclical and when graphed it looks very similar. The transportation sector, with about 93,000 workers in 2003, was very similar to wholesale trade graphically and in structural orientation.

### *Industries with Rising Employment and Share of Employment*

While the real estate industry share of employment was found to be flat, the remaining industries in *Figure 15* experienced both rising employment as well as employment share. This list includes finance, construction, educational services, health care, local government, professional and technical services, arts and entertainment, administrative and waste services, other services, and information. With the exceptions of arts and entertainment and information, all of these industries had employment of over 100,000 in 2003. Health care was highest with 301,507 workers, followed by educational services with 236,023.

Of these industries, three were highly structural: professional and technical services, other services, and information. Other services has grown considerably as a percent of total employment since 1990. This industry, which catches services not classified elsewhere, is dominated by services to private households.

The information industry with 2003 employment of about 91,000 is similar to other services, but shown more cyclical affects in recent years. The information industry includes software publishing, Internet publishing, and telecommunications. Most of the employment change in this industry is estimated to be structural and, thus, the cyclical downturn of 2001 is unlikely to alter the long-term positive growth trend (see *Figure 21*).

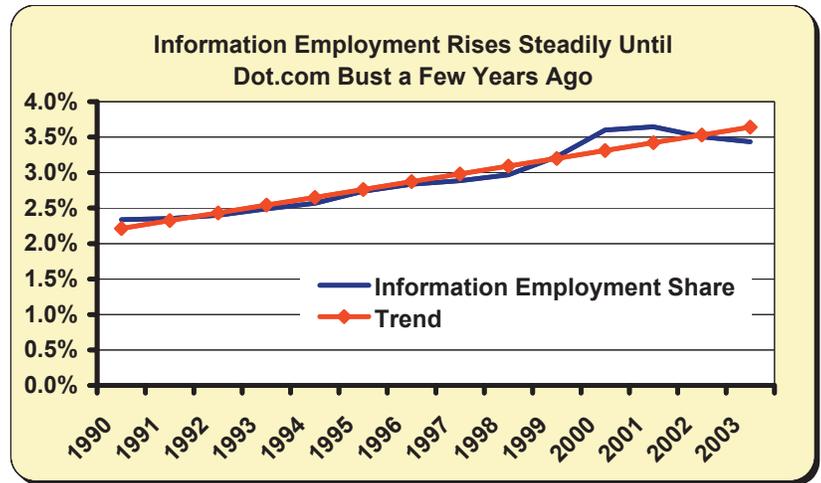
Software publishing is the largest sub-sector within this industry accounting for just over 40 percent of employment. This sector shows a trend growth of almost 400 percent over the nineties and 92 percent of its variation is explained by structural factors. This industry is estimated to have the highest degree of structural change of any industry examined here. This industry is dominated by, and subsequently shares fortunes with, one particular firm.

**Figure 21**

Information Share of Total Employment

Washington State, 1990 - 2003

Source: *Employment Security Department*



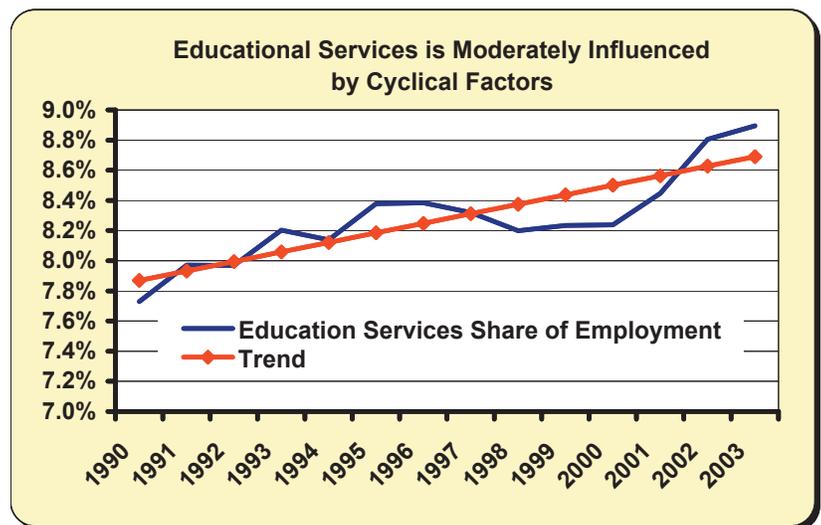
The educational service industry had about 236,000 employees in 2003 and has shown strong growth since 2000. Approximately two-thirds of industry employment was in elementary and secondary schools, a sub-sector that saw employment expand by 58 percent from 1990 to 2003. Fluctuations away from the employment share trend are primarily due to changes in total employment (see *Figure 22*). In other words, employment has been quite steady, but since total employment has not been as steady, it has altered the share of the industry's employment.

**Figure 22**

Education Share of Total Employment

Washington State, 1990 - 2003

Source: *Employment Security Department*

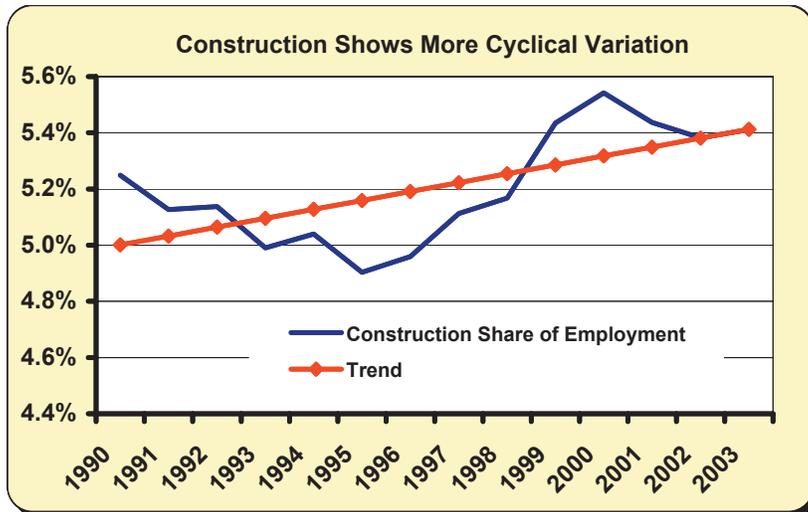


Construction appears in *Figure 23* to have fairly strong cyclical influences. The industry enjoyed very strong growth of 31 percent from 1995 to 2000, then fell by 4 percent since. It is likely that construction will continue to see its outlook match that of the wider economy.

**Figure 23**

Construction Share of Total Employment  
Washington State, 1990 - 2003

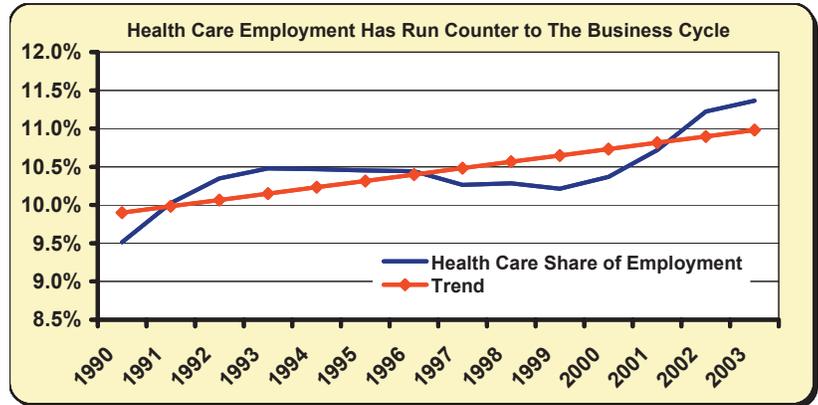
Source: Employment Security Department



Health care employment paints a fundamentally different picture (see *Figure 24*) as employment moves counter to the business cycle. During the recession of the early 1990s, health care rose from 9.5 percent of total employment to almost 10.5 percent. There was then a slow decline through the late 1990s and a strong rebound since 2000.

Part of this behavior is explained by movements in total employment rather than health care employment. In fact, growth in health care employment since 2000 has averaged 2.5 percent, below the thirteen-year average of 3.1 percent. Half of the variation in the health care share is caused by cyclical variations, which are likely due to variations in total employment growth, not health care employment growth. Based on this analysis, a general recovery in total employment growth would be expected to cause the health care employment share to decline back towards its trend.

**Figure 24**  
Health Care Share of Total Employment  
Washington State, 1990 - 2003  
Source: Employment Security Department



### *Cyclical and Structural Conclusions*

Industries that are primarily structural have been gradually shifting in significance throughout the 1990s. These industries are, for the most part, immune to the recession and recovery. This analysis provides some evidence of a structural decline in manufacturing and a structural increase in the information sector. Professional and business services are also increasing in importance as natural resources and agriculture, government (excluding public education and health care), and wholesale trade have declined.

The cyclical downturn of 2001 certainly played a role in the problems of some struggling industries. Those industries with the ability to shift operations overseas have experienced the most permanent long-term job loss. Still, these trends were already evident in the 1990s. The industries at the heart of the recession, information, air travel, and aerospace manufacturing, all have futures dictated by events far beyond the recession. Many areas within information have very good prospects; air travel is showing some restructuring towards discount carriers, and the future of aerospace is being determined on the global playing field.

Other industries hit hard by the cyclical downturn are recovering nicely—retail trade, construction, and leisure activities. Financial activities, health care, and motor vehicle sales have shown a countercyclical upturn which will likely moderate with the recovery. In the case of auto sales and finance, the industries are very dependent on interest rates and the forces that influence them. Obviously, for the bulk of these cyclical industries, employment will remain dependent on the health of the economy.

### *Seasonal Change*

While structural employment is based on shifting long-run trends and cyclical employment on the ups and downs of the business cycle, seasonal employment is driven by factors that change consistently within the year. For example, apple picking in Washington is done primarily in September and October. Construction work tends to be limited by good weather and education employment is framed by the school year.

Many other workers suffer from the inability to find steady employment. Washington has a relatively high percentage of seasonal agriculture and construction workers. The state also has a relatively high unemployment rate, which may be partly due to the seasonality of its industries.

*Figure 25* shows the top 20 industries found to contain the highest degree of seasonality in employment from 1990 to 2003. Not surprisingly, the list is dominated by agriculture. Over 80 percent of agricultural employment was in industries considered to be “highly seasonal” and about 63 percent of all highly seasonal employment came from agriculture. Vegetable and melon farming showed the highest degree of seasonal employment while the fruit and tree nut farming industry was the largest employer among this group. Amusement, tourism, and education industries made up most of the bulk of the list outside of agriculture.

#### **Figure 25**

Highly Seasonal Industries

Washington State, 1990 - 2003

Source: *Employment Security Department*

Highly Seasonal Industries	Employment Due to Seasonal Variation	2003 Average Annual Employment
Vegetable and Melon Farming	65.0%	4,418
Fruit and Tree Nut Farming	44.7%	33,699
Other Crop Farming	44.0%	6,241
Amusement Parks and Arcades	43.0%	956
Oilseed and Grain Farming	33.6%	1,968
RV Parks and Recreational Camps	32.1%	1,252
Spectator Sports	30.4%	2,499
Scenic and Sightseeing Transportation, Land	27.8%	186
Forest Nursery and Gathering Forest Products	20.9%	211
Rooming and Boarding Houses	20.0%	327
School and Employee Bus Transportation	19.0%	1,531
Scenic and Sightseeing Transportation, Water	16.5%	438
Support Activities for Crop Production	14.7%	11,628
Highway, Street, and Bridge Construction	13.8%	6,181
Other Telecommunications	12.1%	276
Greenhouse and Nursery Production	11.8%	5,062
Junior Colleges	11.7%	21,153
Educational Support Services	11.3%	1,319
Promoters of Performing Arts and Sports	10.6%	1,801
Fruit and Vegetable Preserving and Specialty	10.0%	10,949

In fact, relatively few industries, in terms of overall employment, come from highly seasonal industries. Four percent of total employment came from such industries, whereas 12 percent came from industries showing a “high” degree of seasonal variation. At the other extreme, approximately 57 percent of employment has been in industries that have been determined to have no seasonal employment variation. A further 17 percent show low seasonal variation and 10 percent exhibit moderate variation.

The group of industries considered to have high seasonal employment variation is dominated by elementary and secondary schools. It provides about 47 percent of this group’s employment. Food processing, lawn and garden stores, private households, contractors, and electronic shopping and mail-order houses were also significant employers.

Certain industries are largely unaffected by seasonality. Health care had no sub-sectors that were highly seasonal or very highly seasonal. The same is true for professional and technical services; management; finance, insurance, and real estate; and public administration once education is removed.

In general, the majority of Washington jobs are not very seasonal. There are specific industries, though, with a very high degree of seasonality that impacts the overall employment picture. In particular, the high concentration of labor intensive agriculture is unique to Washington and makes this state subject to seasonal variation.

# Chapter 4 - Unemployment and its Dimensions

## Unemployment and Its Dimensions

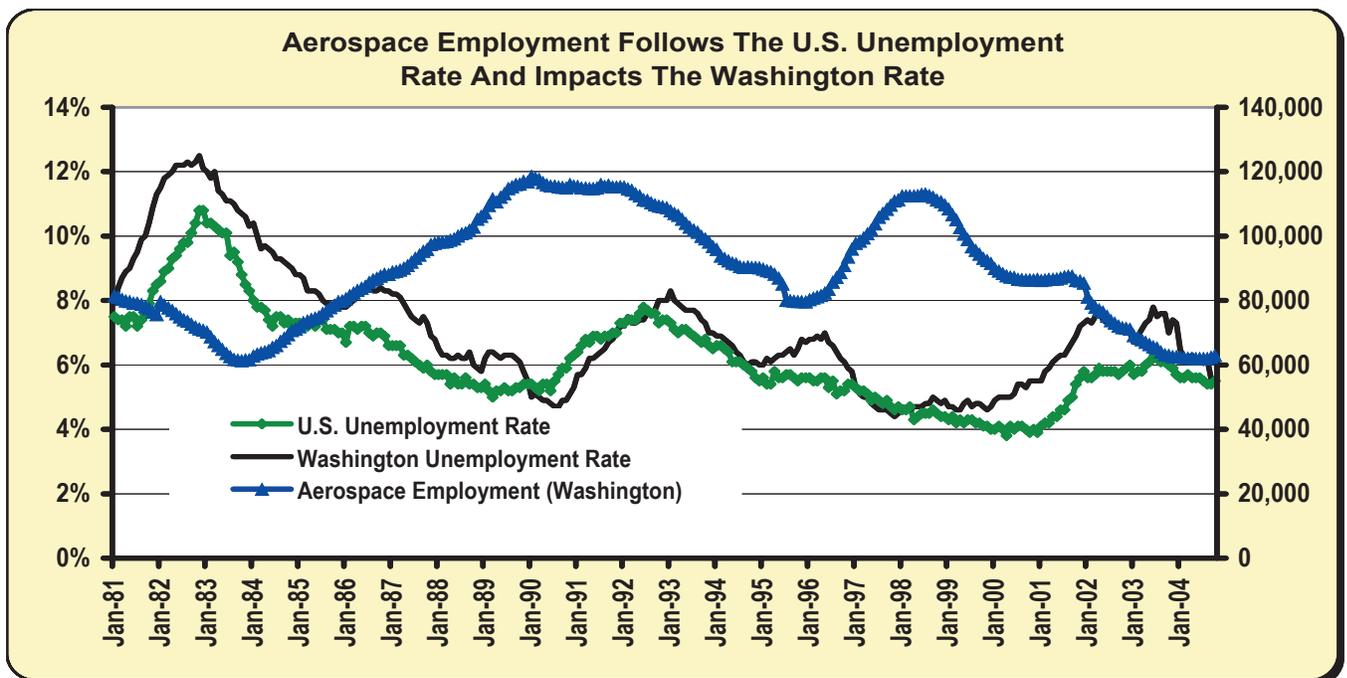
### The Unemployment Rate

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.

Over the recession, Washington's unemployment rate was, on average, 1.7 percentage points higher than the nation's. Recently, Washington's rate converged with the nation's—by October 2004, the state's rate was one-tenth of one percentage point higher. This is unusual as Washington's jobless rate has fairly consistently remained at an average of one percent higher than the national rate for the past twenty-five years (except for brief dips below the national rate in 1990 and 1991, and again in 1997 and early 1998).

The sustained difference between the state and national unemployment rates is due to many factors. The magnitude of the difference, however, tracks employment in one of the state's largest industries, aerospace, fairly well. First, aerospace employment tends to lag the national business cycle. When the national unemployment rate begins to rise, aerospace employment begins to fall. Falling aerospace employment tends to then intensify the effect of national recessions on Washington. The figure below indicates that low points in aerospace employment are associated with the unemployment rate in Washington exceeding the nation's. Peaks in aerospace employment are associated with the Washington unemployment rate dipping down below the national unemployment rate.

**Figure 26**  
Aerospace Employment and Seasonally Adjusted Unemployment Rates  
Washington State and U.S.,  
January 1981 - September 2003  
Source: U.S. Bureau of Labor Statistics and  
Employment Security Department



Other reasons for Washington's generally high unemployment rate include:

- ❖ The seasonal nature of labor-intensive agricultural work
- ❖ High unemployment rates in rural areas (including traditionally timber-dependent areas)
- ❖ Unemployment insurance benefits that allow longer job search and retraining durations

### Unemployment Insurance Beneficiaries

Unemployment insurance beneficiaries represent just a portion of all unemployed people; they include only those who are qualified and receiving unemployment insurance payments. These individuals are quite interesting to track because they can be counted exactly, and other information, such as occupation and industry characteristics of their last job, is known. This section will concentrate on the industries from which these beneficiaries became unemployed.

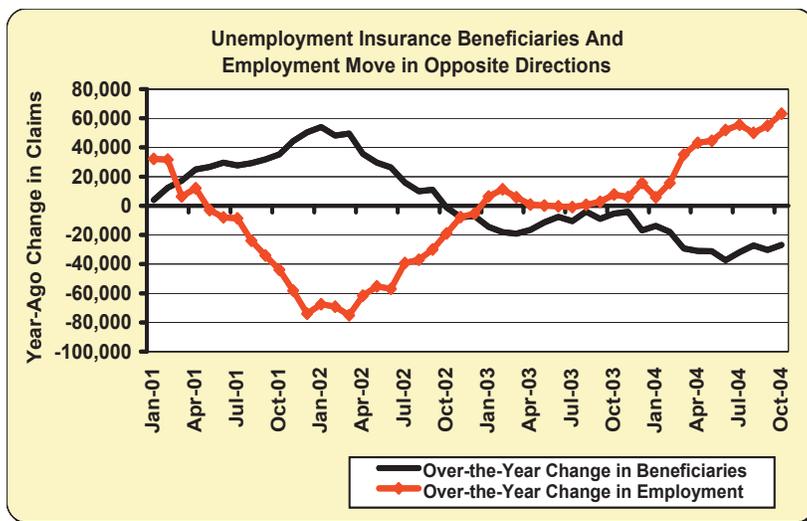
Unemployment insurance beneficiaries represent just the portion of those unemployment insurance claimants who are qualified and receiving unemployment insurance payments.

#### Figure 27

Over-the-Year Change in Unemployment Insurance Claims and Employment

Washington State, January 2001 - October 2004

Source: *Employment Security Department*



The number of unemployment insurance beneficiaries in the state rose steeply over year-ago levels in 2001. Starting in 2002, the number declined, then stayed constant through 2003. In 2004, the state economy finally broke free from the lingering affects of the recession with substantial gains in employment, and a healthy reduction in the number of unemployment insurance beneficiaries. *Figure 27* shows that the movement in the number of beneficiaries tracks employment numbers closely—as one

rises, the other falls. This is important because these are two independent sources of information both pointing to current, be they slight, improvements in the labor market.

*Figure 28* shows beneficiaries in relation to employment for selected major industry groups. The numbers represent the ratio of share of beneficiaries per industry to the share of total employment per industry. For example, transportation and warehousing makes up 4.3 percent of total employment. It also has a 4.2 percent share of total beneficiaries, therefore its ratio (4.2/4.3) is 0.97 (or rounded to 1.0). Construction has the highest percentage of total beneficiaries (19 percent) when compared to its share of total employment (6 percent), reflecting the seasonal nature of many construction projects.

**Figure 28**  
Unemployment Insurance Claims Relative to Covered Employment  
Washington State, 1999 - 2002  
*Source: Employment Security Department*

	Construction	Manufacturing	Retail Trade	Transportation and Warehousing	Information	Professional and Technical Services	Finance and Insurance	Health Care and Social Assistance
2000	3.1	1.6	0.8	1.0	0.6	0.7	0.8	0.5
2001	3.3	1.8	0.8	1.0	1.1	1.0	0.5	0.4
2002	3.3	1.8	0.8	1.0	0.8	0.9	0.6	0.5
2003	3.2	2.0	0.8	1.0	0.9	0.9	0.6	0.5

Manufacturing also has a high percentage of beneficiaries for all years, representing the structural decline in this sector. Retail trade, information, and professional and technical services have all been stable in their ratio of claims to share of employment. Information and professional and technical services experienced a recession-related spike in 2001, while finance and insurance and healthcare and social assistance had counter-cyclical drops.

### Unemployment Exhaustion Rates

The rate at which claimants exhaust their insurance claims can be used as a gauge for the difficulty of re-entry into the workforce by industry. Wholesale trade had the highest exhaustion rate in 2003 at 29 percent, followed by information at 20 percent, then a four-way tie between utilities, finance and insurance, real estate and rental and leasing, and professional and technical services at 17 percent each. Construction, agriculture, forestry and fishing, and retail trade, had relatively low rates of exhaustion, likely related to the seasonal nature of their employment patterns.

**Figure 29**

Unemployment Insurance Exhaustion Rate by Industry  
Washington State, 2003

Source: *Employment Security Department*

Industry	Exhaustion Rate
Wholesale Trade	29%
Information	20%
Utilities	17%
Finance and Insurance	17%
Real Estate and Rental and Leasing	17%
Professional and Technical Services	17%
Other Services, Except Public Administration	16%
Public Administration	16%
Administrative and Support, and Waste Mgmt. and Remediation Svcs.	16%
Manufacturing	15%
Health Care and Social Assistance	15%
Arts, Entertainment and Recreation	15%
Educational Services	14%
Accommodation and Food Services	13%
Transportation and Warehousing	13%
Management of Companies and Enterprises	12%
Construction	12%
Mining	10%
Agriculture, Forestry, Fishing and Hunting	9%
Retail Trade	8%

Exhaustion rates are highest in the Puget Sound area (including King, Snohomish, and Pierce counties), followed by other urban areas (Southwest Washington, including Clark County; the Olympic Consortium, including Thurston County; and Spokane County). Part of this is explained by the low exhaustion rates for the agricultural industry, which is concentrated in rural areas.

**Figure 30**

Unemployment Exhaustion Rates

Washington State Workforce Development Areas, 2003

Source: *Employment Security Department*

Workforce Development Area	Exhaustion Rate
Seattle-King County	7.3%
Snohomish County	7.0%
Pierce County	6.9%
Southwest Washington	6.8%
Olympic Consortium	6.3%
Spokane	6.0%
Northwest	6.0%
Pacific Mountain	6.0%
Eastern Washington Partnership	5.9%
Tri-County	5.6%
Benton-Franklin	5.4%
North Central	4.8%

## 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 most in need of services.

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

**Figure 31**

Top Ten Industries Affected by Mass Layoffs by Number of Claimants Washington State, Third Quarter, 2004

Source: Employment Security Department

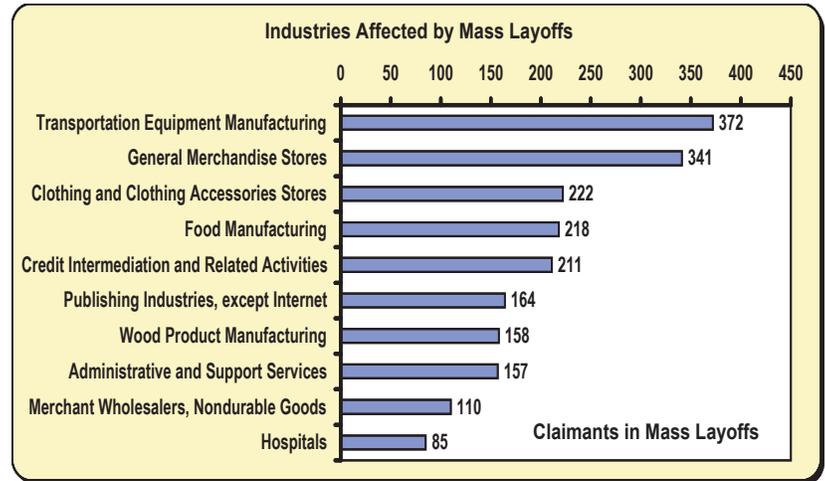
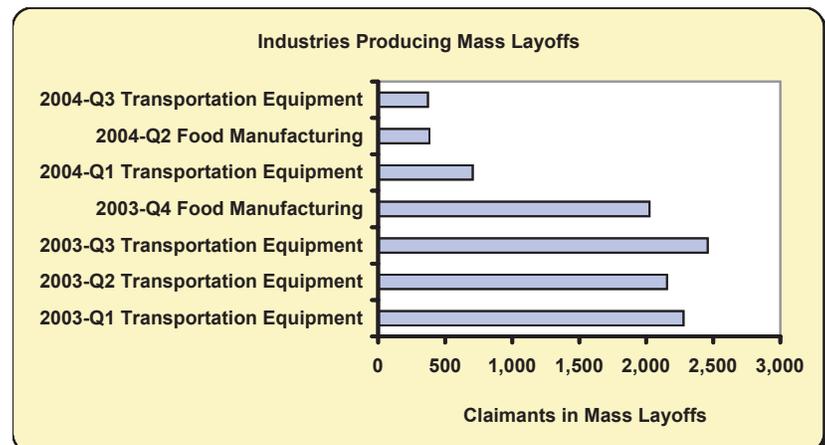


Figure 31 shows mass layoffs by industry for the third quarter of 2004, the most current data available. The numbers of claimants were far lower than the third quarter 2003 numbers. The transportation equipment industry still had the most workers affected by mass layoffs (372 affected claimants). While it has remained at the top of the list, it is a significantly lower number than the 2003 number of 2,457 affected claimants. General merchandise stores took the second position, followed by clothing and clothing accessories stores. Looking over the last seven quarters (see Figure 32), the dominance of layoffs in transportation equipment is clear. Food manufacturing had a relatively large number of claimants in the fourth quarter of 2003 and the second quarter of 2004, mostly due to seasonal factors.

**Figure 32**

Top Industry Producing Mass Layoffs Per Quarter Washington State, 2003 - 2004 (Quarterly)

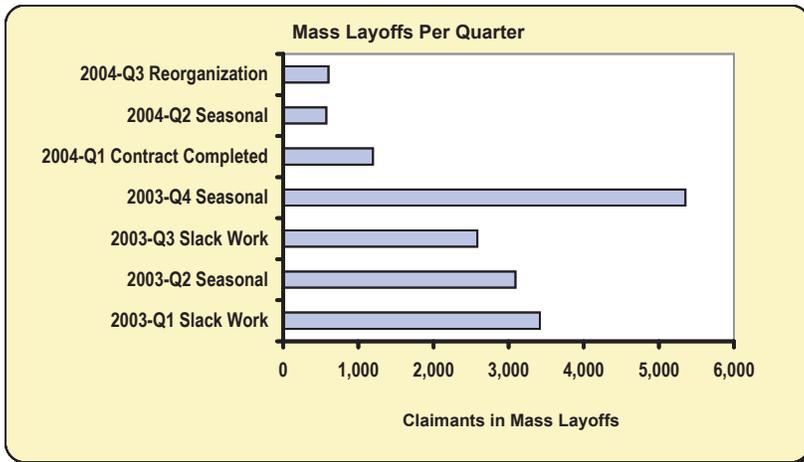
Source: Employment Security Department



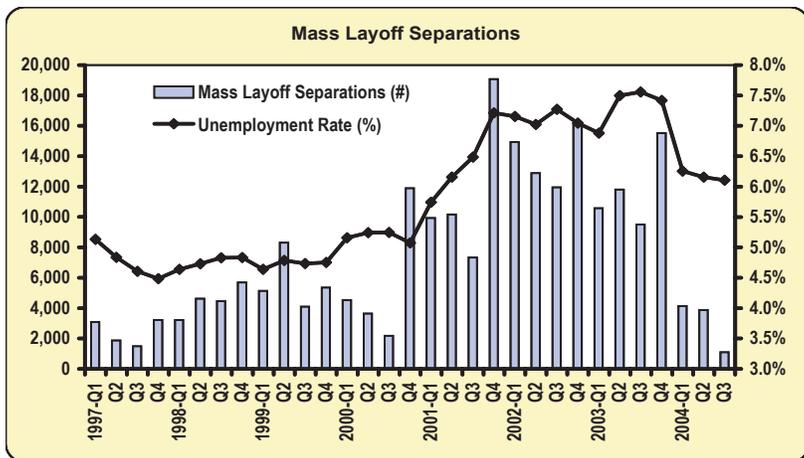
## Chapter 4 - Unemployment and its Dimensions

The Washington labor market is showing signs of getting back to non-recessionary patterns. This is illustrated in *Figure 33*, which shows the dominant reason firms cited for mass layoffs. “Seasonal” was most commonly the cause of mass layoffs in three of the last seven quarters. Food processing employment typically experiences seasonal drops in the second and fourth quarters, making up a large portion of those layoffs.

**Figure 33**  
 Dominant Reason for Mass Layoffs Per Quarter  
 Washington State, 2003 - 2004 (Quarterly)  
 Source: Employment Security Department



**Figure 34**  
 Mass Layoff Separations Compared to  
 Quarterly Unemployment Rate  
 Washington State, 1997 - 2004 (Quarterly)  
 Source: Employment Security Department



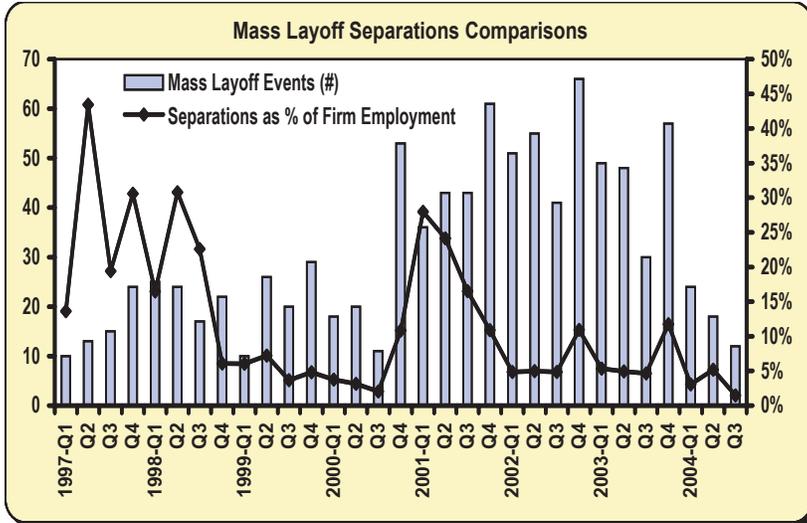
*Figure 34* shows the number of people separated in mass layoff events compared to the unemployment rate. From 1997 through the end of 1999, the two followed similar patterns. In 1999 and the first three quarters of 2000, the number of people involved in mass layoffs had increased, but firms were laying off a smaller percentage of their workforce, between 3 and 7 percent (see *Figure 35*). But as the bottom of the business cycle arrived in 2001, the number of people involved in mass layoff events had increased and firms were also laying off large percentages of their employees. This pattern quickly diminished, shifting then to a series of quarters that saw very high numbers of separations with relatively low shares of total employment, dropping again to a level of around 5 percent in 2002 and 2003. In 2004, the number of workers affected by mass layoffs dropped substantially, getting back to levels not seen since 2000. Additionally, the separations that did occur involved relatively small percentages of firm employment. These numbers are hard to interpret, but in early 2001, the bursting of the dot.com bubble may have initially led to bankruptcies leading small firms to lay off all their employees. As the recession spread and the pain was felt more widely, many larger, financially sound and more established firms were forced to lay off small portions of their workforce.

*Figure 35* shows the number of mass layoff events alongside separations as a percentage of firm employment. In 1997, we saw the number of workers affected by mass layoffs dropping sharply (along with the unemployment rate), while the number of mass layoff events increased each quarter. Additionally, separations as a percent of firm employment remained relatively high, ranging between 14 and 43 percent. It may seem counter intuitive, but it is alluding to a pattern of small firms laying off a large portion of their workers, while larger firms were still reaping the benefits of a strong overall economy. From the first quarter of 1998 through the third quarter of 2000, the number of mass layoff events remained relatively stable, averaging 22 layoffs per quarter with the first quarter of 1999 being the outlier with only 10 events. Beginning in the fourth quarter of 1998, the layoffs as a percentage of employment dropped significantly to a mere six percent. This rate drop signaled the start of leaner times for Washington's larger firms. With the number of mass layoff events remaining steady and the percentage of firm employment affected staying low, large firms had begun the move towards more efficiency in their labor force.

By late 2000, the number of mass layoff events spiked, moving from 11 in the third quarter to 53 in the fourth. At the same time, the number of workers affected by the layoffs increased substantially, as did the percentage of firm employment affected. These mass layoff events seem to lead into the recession with the unemployment rate soon rising as well. By 2004, the mass layoff events had retreated to pre-recession levels. Meanwhile, the unemployment rate steadied itself around 6 percent. As of October 2004, Washington's unemployment rate was even lower at 5.6 percent, reaching a point that hasn't occurred since before the recession. And while it is traditionally higher than the national rate, Washington is currently within one-tenth of one percentage point of the nation.

**Figure 35**

Mass Layoff Separations Compared to Separations as Share of Pre-Layoff Firm Employment  
 Washington State, 1997 - 2004 (Quarterly)  
 Source: *Employment Security Department*

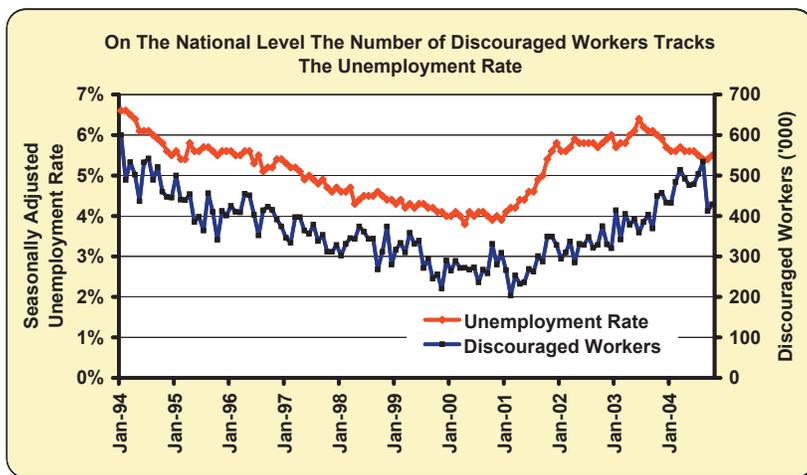


## Discouraged Workers

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 no official national estimates are available before 1994 and Washington estimates are only available back to 1998.

**Figure 36**

Discouraged Workers and Seasonally Adjusted Unemployment Rate  
 United States, January 1994 - October 2003  
 Source: *Bureau of Labor Statistics*



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 notion of dislocation is strongly aligned with the economic concept of structural unemployment. The discouraged worker is not in the labor force and is not part of the unemployment rate calculation.

### *Discouraged Workers at the National Level*

The number of discouraged workers at the national level has historically tracked the unemployment rate quite well. Starting with the recession, the trend was broken when the two diverged more than normal for the better part of two years, then converged in the first half of 2004. In June of 2003, the national unemployment rate peaked and began its descent, dropping nine-tenths of one percentage point by October of 2004. The number of discouraged workers had increased starting in January of 2001 and skidded past the 2003 peak of the unemployment rate, continuing its climb through August of 2004. As of October 2004, there were on average 475,500 discouraged workers per month and the unemployment rate has been very steady at 5.6 percent. An adjusted unemployment rate can be calculated by adding in these discouraged workers. This rate would have been about 0.3 of a percentage point higher than the unadjusted unemployment rate, and the difference tends to increase as the unadjusted unemployment rate rises.

### *What Then on the State Level?*

In general, the unemployment rate in the state has been higher than in the nation over the last couple of decades (except for spells in 1990-1991 and 1997-1998). Because the percentage of discouraged workers tends to grow with the unemployment rate, the percentage of discouraged workers would be expected to be higher in the state than in the nation.

A state level source of information on discouraged workers comes from the Washington State Population Survey (conducted by the state).<sup>1</sup> One question on this survey asks unemployed respondents why they did not seek work during the last four weeks. This question is consistent with the question asked of unemployed workers in the Current Population Survey (conducted by the federal government). Three of the possible answers from the State Population Survey 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 37* displays those findings.

#### **Figure 37**

Estimated Number of Workers Who Have Given up Looking for Work  
Washington State, 1998, 2000, 2002, and 2004

Source: *Washington State Population Survey*,  
*Office of Financial Management*

#### **Reason for Giving Up Looking for Work**

	<b>No Work In Field</b>	<b>Can't Find Work</b>	<b>Lack of Skills</b>	<b>Total</b>
1998	52%	25%	24%	6,583
2000	60%	12%	29%	5,556
2002	42%	49%	10%	11,694
2004	35%	56%	9%	24,128

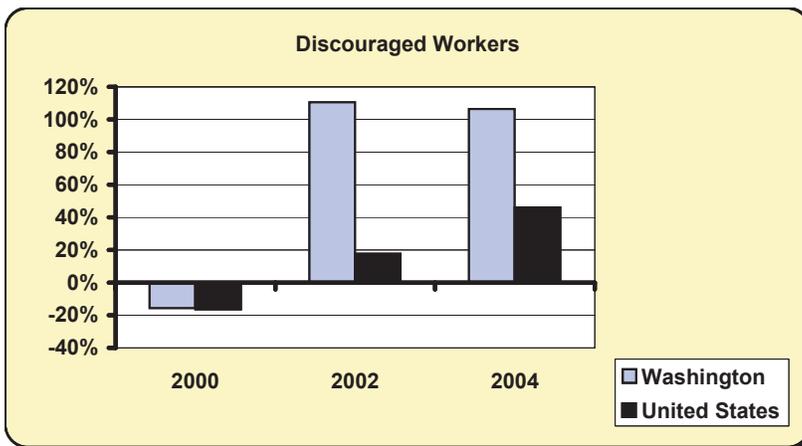
<sup>1</sup> The Office of Financial Management administers the State Population Survey, see: <http://www.ofm.wa.gov/sps/index.htm#download>.

While Washington's number of discouraged workers more than doubled between 2000-2002 and 2002-2004, 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 we have seen since 2001. *Figure 38* illustrates the difference between the state and the nation.

**Figure 38**

Percent Change in Discouraged Workers  
Washington State, 2000, 2002, and 2004

Source: *Washington State Population Survey, Office of Financial Management and the Bureau of Labor Statistics*



## Long-Term Unemployment

### *A Growing Number of Beneficiaries*

*Figure 39* follows the changing size of the regular unemployment insurance (UI) beneficiary population, starting in the period just before the recession of 2001, and continuing through the third quarter of 2004. The recently unemployed individual files a claim for benefits and, if all eligibility requirements are met, receives a weekly benefit amount 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 the base period. This discussion is concerned primarily with the potential duration of compensation.

The potential duration of entitlement in the regular program ranges between 13 and 30 weeks in non-recessionary times. In recessionary times, when the Extended Benefit (EB) trigger has been activated, weeks 27 through 30 count against the EB potential duration. During non-recessionary times, most discussions of long-term use center on those beneficiaries drawing 15 or more weeks of benefits. Individuals exhausting available benefits are a subset of the long-term use analysis. *Figure 39* lays out the changing size of the long-term use population.

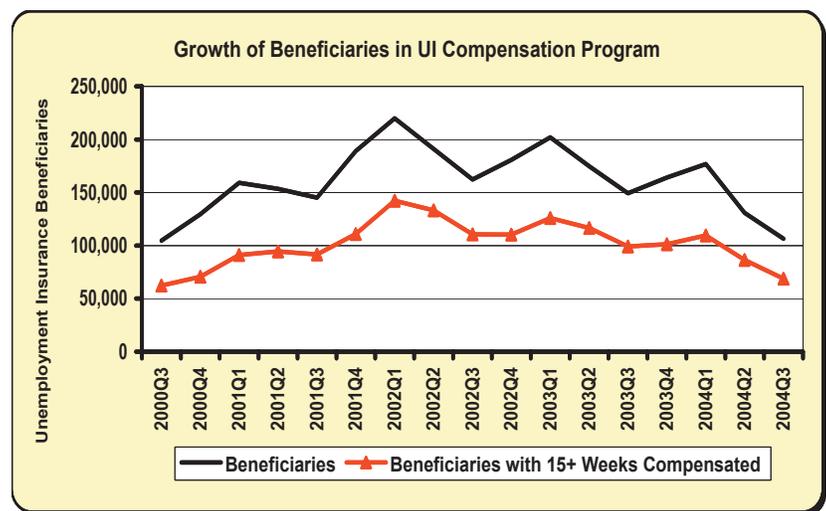
The number of beneficiaries in the regular unemployment insurance program climbed steadily through the first quarter of 2002. The count of beneficiaries peaked at nearly 220,000. At the same time, the number of beneficiaries with weeks in excess of 15 reached a peak of 142,200. At the mid-year point, over 46 percent of the regular UI caseload had drawn 15 weeks or more of compensation. As of the third quarter of 2004, both the numbers of total beneficiaries and beneficiaries that have claimed for 15 or more weeks are back to pre-recessionary levels.

**Figure 39**

Growth of Beneficiaries in Regular Unemployment Insurance Compensation Program

Washington State, 1999 Quarter 3 - 2004 Quarter 3

Source: *Employment Security Department*



Program analysts first noticed a change in pattern when the number of beneficiaries reached its annual peak in the first quarter of 2001 and did not drop off as is typical in the second quarter. Eventually, March 2001 was pegged as the beginning of a recession that was to last until November 2001. Increasing duration was starting to dominate reemployment discussions at this time. The average percent of potential regular UI benefits used was creeping up from the mid-sixties to over seventy percent.

The number of regular UI beneficiaries has been declining since the peak in the first quarter of 2002, moving the state past the period of jobless recovery. The positive reports on the gross domestic product and increasing numbers of employees since the third quarter of 2003 have convinced many that a full recovery is underway.

### *Benefit Exhaustion*

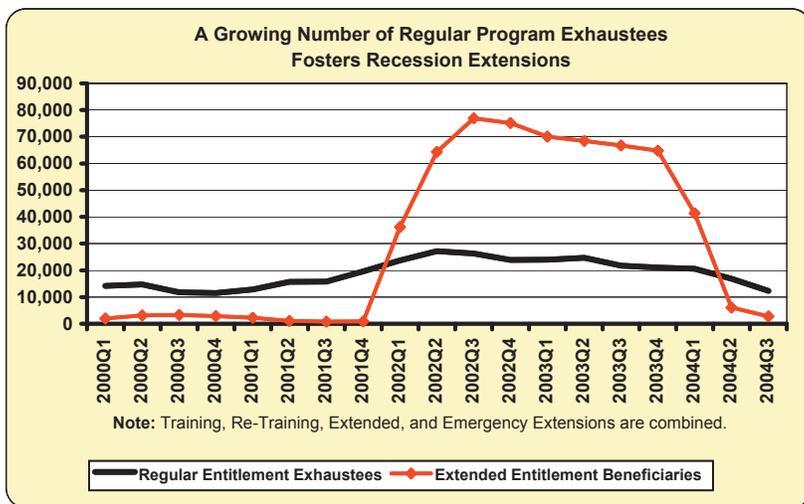
Many people assume that all beneficiaries receive the 26-week entitlement, but as the old song goes, "It ain't necessarily so." The average potential duration in Washington is about 25 weeks. Flexibility in the amount

claimed mixed with the total available benefit can result in beneficiaries making their UI funds last the full time frame, or use up their entitlement before the 26-week cutoff.

*Figure 40* plots the number of exhaustees from the period before the recession to the third quarter of 2004. There is a mistaken notion that the extension programs are activated when the number of exhaustions reaches a specified level. In the period through the fourth quarter of 2001, the number of extended beneficiaries was the result of entitlement to dislocated worker benefits. The federal-state Extended Benefits (EB) Program is triggered as a consequence of either the Insured Unemployment Rate (IUR) or the Total Unemployment Rate (TUR) passing through a calculated threshold.

The Total Unemployment Rate (TUR) relies heavily on the Current Population Survey. In the last months of 2001, the TUR moved on through the 6.5 percent mark. In December 2001, Washington had one of the highest unemployment rates in the country at 7.0 percent. EB was paid for the first time in over nine years in January 2002.

**Figure 40**  
Unemployment Insurance Compensation Exhaustees and  
Extended Entitlement Beneficiaries  
Washington State, 2000 Quarter 1 - 2004 Quarter 3  
*Source: Employment Security Department*



At the turn of the century, the regular UI program was issuing between 14,000 and 15,000 final payments on claims per quarter. This number accounted for about 11 percent of all regular UI checks issued. The count was relatively constant up through the first quarter of 2001. How quickly it took off—by the first quarter of 2002, there were over 23,000 final pays. The state's Total Unemployment Rate had continued growing and triggered the EB Program "on" in January. The federal Temporary Emergency Unemployment Compensation (TEUC) Program started in March. The exhaustees started moving into the extended programs. The first

quarter of extensions added over 36,000 beneficiaries to the population of insured unemployed. This figure was the answer to the question, “How many beneficiaries were drawing benefits beyond the regular entitlement?” It amounted to 15 percent of the total beneficiary population. As of the second quarter of 2004, the unemployment rate had fallen enough to cause the EB and TEUC Programs to go dormant accounting for the massive reduction in extended benefit collectors.

### Industries and Occupations of the Long-Term Unemployed

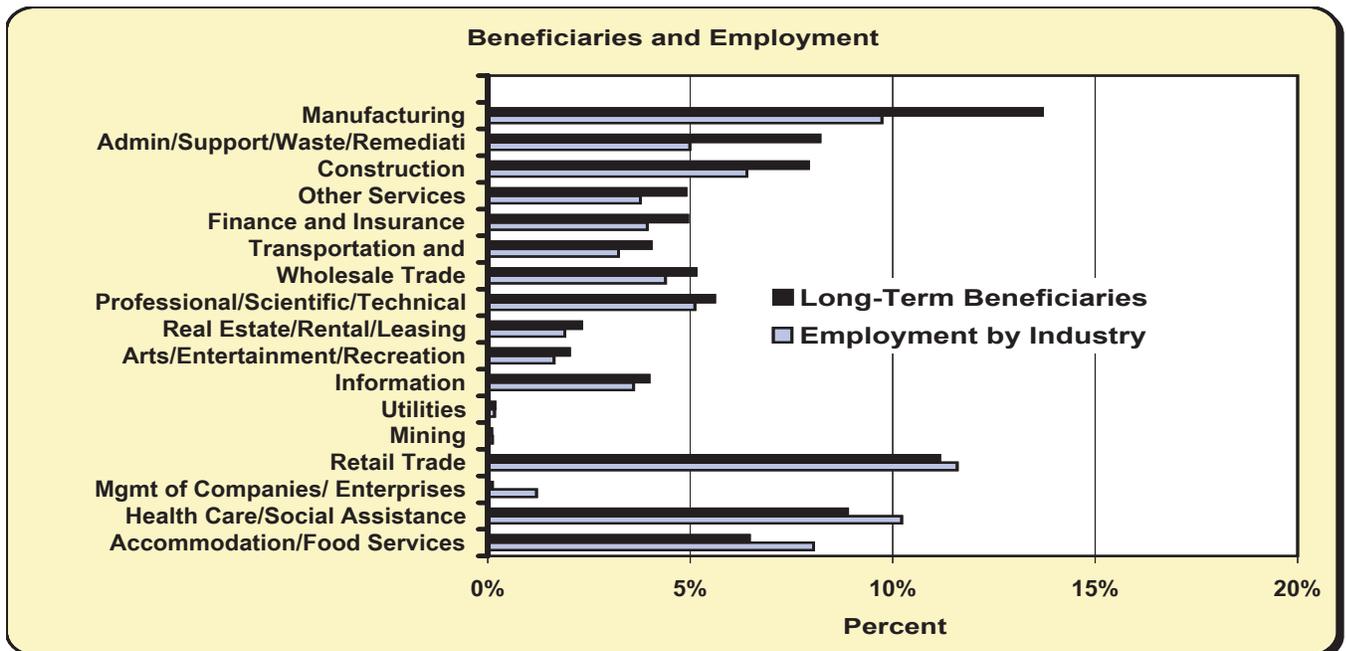
#### *Long-Term Unemployed Found in Majority of Industries*

In the third quarter of 2004, the long-term beneficiaries are found in 11 of the 18 sectors (there are actually 20, but agriculture and public administration weren’t available at the time of publishing) of Washington’s economy (see *Figure 41*). The three largest sectors of the state’s economy are health care and social assistance, retail trade, and manufacturing. Nearly 14 percent of the long-term unemployed formerly held positions in manufacturing alone. The share of employment for this sector is just shy of 10 percent. Retail trade contributes one of the largest shares to the population of the long-term unemployed. Its share of the employee population, however, exceeds its share of the long-term population. Health care and social assistance shares a similar trend with retail trade, making up a little over 10 percent of the workforce and making up only about nine percent of the long-term unemployed.

**Figure 41**

Long-Term Unemployment Beneficiaries and Employment by Industry  
Washington State, 2004 Quarter 3

Source: Employment Security Department

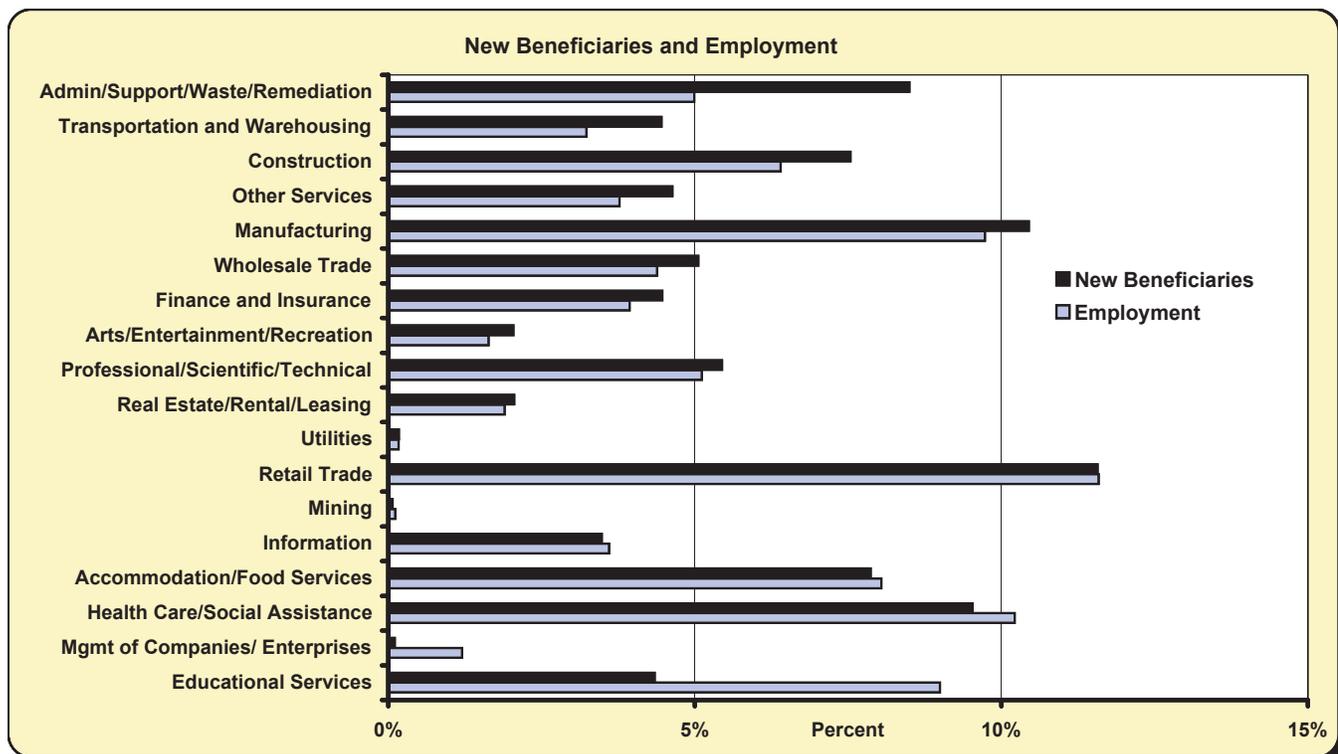


Two industries that generate large proportions of the long term unemployed deserve further analysis. The administrative and support and waste management and remediation services sector is the industry grouping where most of the temporary employment firms are located. Assignments in this sector range from long-term, temporary work such as computer analysts to day labor positions.

### *New Beneficiaries More Evenly Spread*

Figure 42 compares beneficiaries identified shortly after filing a new claim for regular unemployment insurance. The immediate impression is that the composition of this group of beneficiaries more nearly matches the distribution of employees across industries. Again, the administrative and support and waste management and remediation services, construction, and manufacturing sectors generate more beneficiaries than might be expected given their share of the economy. Transportation and warehousing has a much larger margin in new beneficiaries to employment share than in long-term beneficiaries, and may be affected by seasonal factors that result in high levels of beneficiaries that are able to go back to work in less than 15 weeks.

**Figure 42**  
Percent of New Unemployment Beneficiaries and Employment by Industry  
Washington State, 2004 Quarter 3  
Source: Employment Security Department

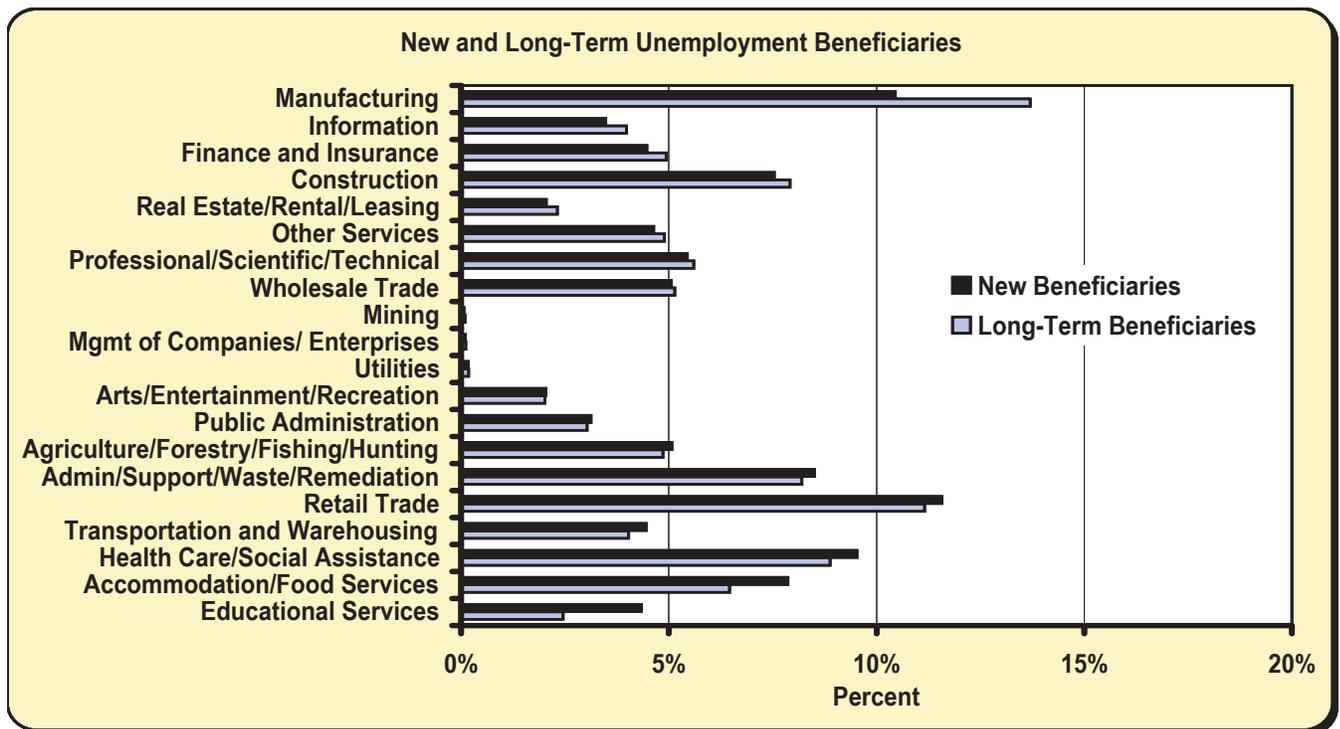


The fact that the manufacturing and the administrative and support and waste management and remediation services sectors continue to contribute a disproportionately large share of the UI beneficiaries suggests the permanent nature of the job loss in these industries. This phenomenon, suggestive of structural dislocation, contrasts with retail trade where the lower than expected separations for new beneficiaries is matched with lower than expected numbers of long-term beneficiaries.

### *Comparing Long Term to New Beneficiaries*

*Figure 43* compares the long-term beneficiaries to the new beneficiaries. No surprise at this point. Manufacturing firms are the greatest source of the UI beneficiaries. The comparison finds manufacturing, construction, health care and social assistance, administrative and support and waste management and remediation services, and the retail trade sectors contributing strongly to both the long term and new beneficiaries groups.

**Figure 43**  
 Percent Distribution of New and Long-Term Unemployment Beneficiaries by Industry  
 Washington State, 2004, Quarter 3  
 Source: Employment Security Department



### *Jobseekers Offer Their Knowledge, Skills, and Abilities to the Labor Market*

Occupational categories do a fair job of summarizing the specialized bundles of knowledge, skills, and abilities that the unemployed have to offer to the labor market. The new beneficiaries have the advantage of a

## Chapter 4 - Unemployment and its Dimensions

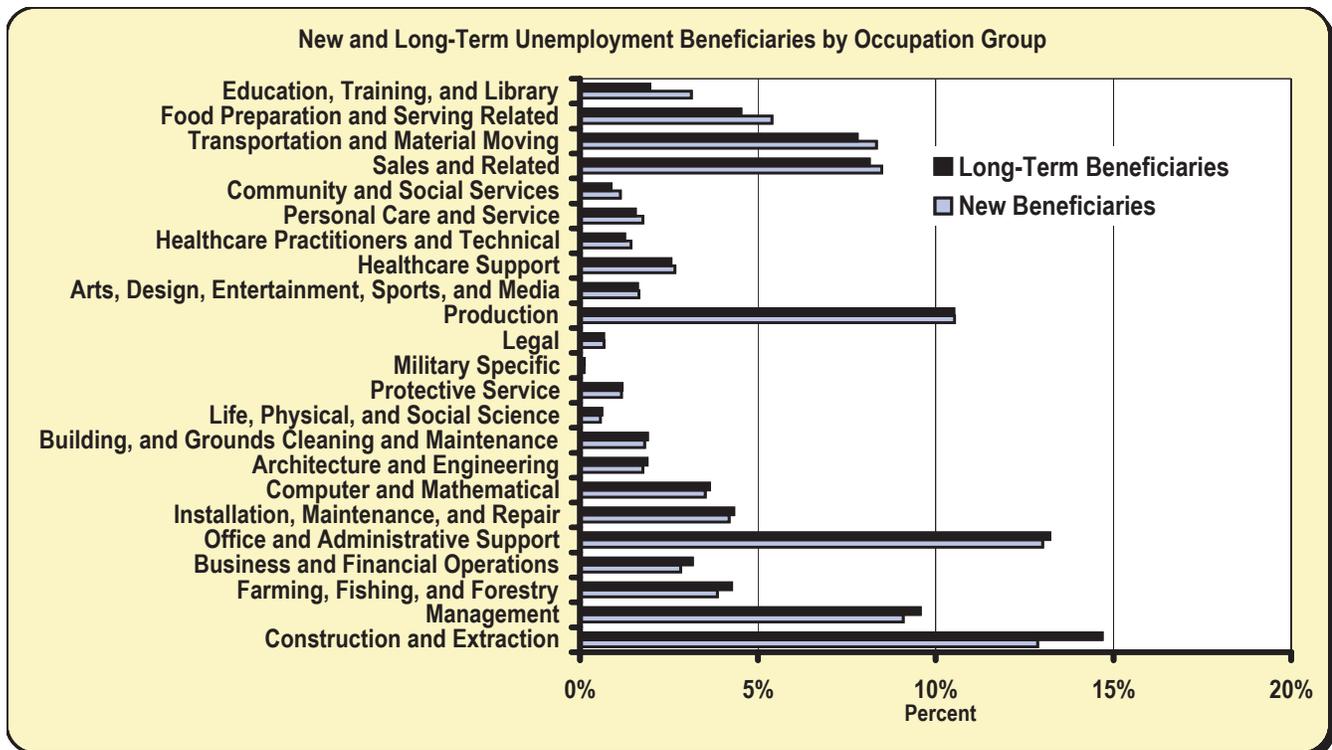
recent work history. Often as not, they are well positioned to take advantage of a job referral. Some of the newly separated may need some help putting together a resume or getting pointed in the right direction for their job search. Connectedness and confidence, however, help most new beneficiaries put together a quick return to work.

The long-term unemployed have a more difficult road ahead as they seek to return to work. The long-term group in this analysis is faced with explaining what they have been doing for the last 15 or more weeks. For some, the separation has been long enough that their skills are not up to the new demands of the labor market. They may no longer have access to the tools required or have transportation to the job site. Feeling desperate, discouraged, and rejected, the long-term unemployed find it hard to imagine a return to work in a challenging labor market.

Figure 44 compares the last occupation of the long-term beneficiaries to the last occupation of the new beneficiaries. Keep in mind that the last occupation may not be the occupation that is being sought. Either an eroded skill base or a new vision of a work life may have the unemployed jobseeker looking for something new.

Individuals in production, construction, management, office and administrative support, transportation, and sales compose the largest share of the long-term unemployed. In most of these groups, the long-term unemployed have a more visible presence than do the new beneficiaries.

**Figure 44**  
Percent Distribution of New and Long-Term  
Unemployment Beneficiaries by Occupation Group  
Washington State, 2004, Quarter 3  
Source: Employment Security Department



# Chapter 5 - Labor Force and Demographics

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## Demographics of the Labor Force

The Local Employment Dynamics (LED) database is the result of a partnership between the Census Bureau, the Washington Employment Security Department, and other employment departments across the country. The Census Bureau matches quarterly employment data for individuals from the states (employer, wages earned) with confidential demographic data (age, gender, place of residence), and returns summary data to the states. LED data currently allow states to track covered employment trends by age and gender.

Using the LED database, it's possible to define three different kinds of job counts:

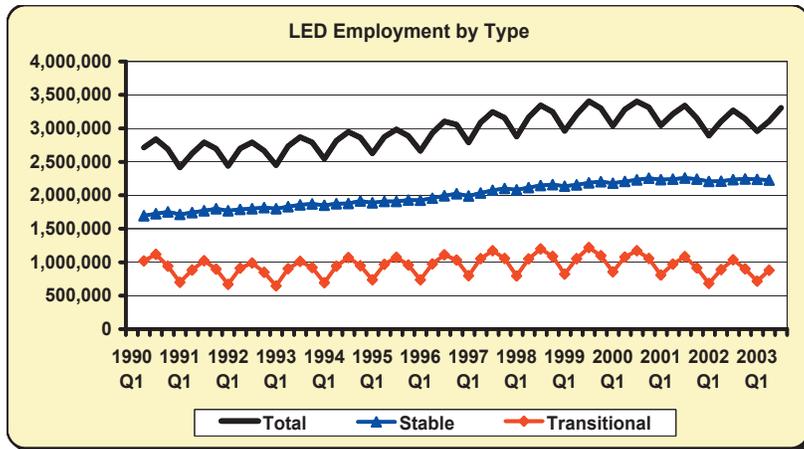
- ❖ **Total employment** is the sum of all jobs, where a job is the relationship between an individual and an employer. Total employment will be greater than the usual point-in-time employment counts, because of turnover. For example, an individual who works with one employer in April and switches to a new job in May will be counted as having one job in each month in the usual statistics, but will be counted as having two jobs in the LED.
- ❖ **Stable employment** includes all jobs wherein an individual had earnings with the same employer in the current, previous, and subsequent quarters. We can be confident that a person in a stable job worked continuously through the quarter with that employer.
- ❖ **Transitional employment** is the difference between the two. It includes workers leaving jobs, workers getting new jobs, and workers who had a short (one quarter or less) tenure with an employer.

As *Figure 45* shows, most jobs are stable. Transitional jobs are highly seasonal, increasing during the summer and declining in the winter. Employment of both types increased during the 1990s. With the onset of the recession, stable employment flattened out and indeed dropped slightly, while transitional employment declined by almost 10 percent. Some working hypotheses: 1) employers, looking to keep costs down, worked to lower their employee turnover; 2) a slack labor market allowed employers to be choosier when hiring; 3) workers, on the other hand, weren't so apt to jump ship, with fewer employment opportunities to lure them.

**Figure 45**

Quarterly Employment by Type  
Washington State, 1990 - 2003

Source: LED Database, Employment Security Department



When employment is disaggregated by gender, some interesting facts pop out. First, stable employment is much more seasonal for men than for women. Second, the recession affected men more than women. As *Figure 46* indicates, while the growth of female stable employment certainly leveled out beginning in 2001, male stable employment dropped significantly.

**Figure 46**

Stable Employment by Gender  
Washington State, 1990 - 2003

Source: LED Database, Employment Security Department

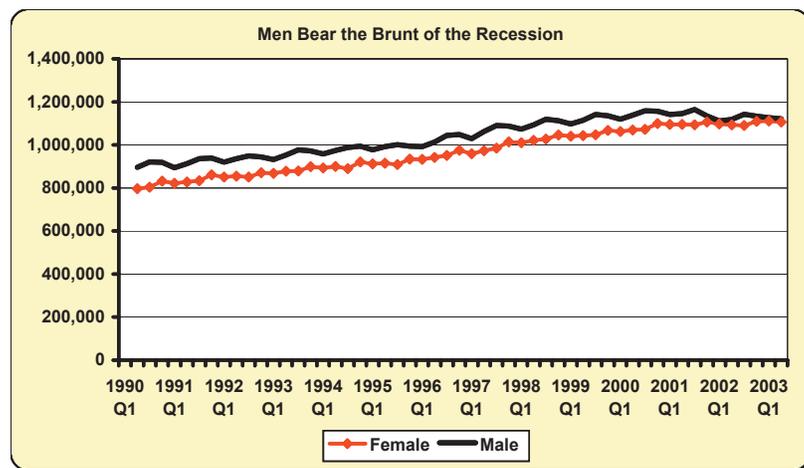


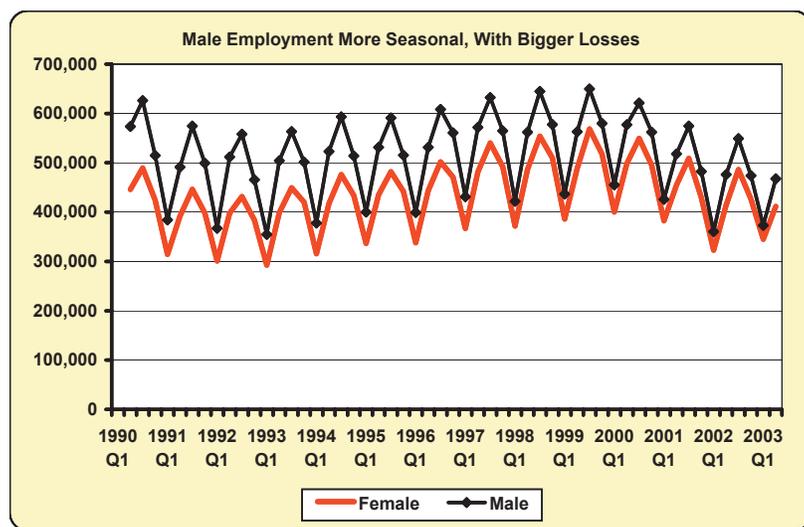
Figure 47, showing transitional employment, shows again that male employment is much more seasonal.

**Figure 47**

Transitional Employment by Gender

Washington State, 1990 - 2003

Source: LED Database, Employment Security Department



Men and women holding transitional jobs were almost equally affected by the recession, in percentage terms (see Figure 48).

**Figure 48**

Employment Change by Gender During the Recession

Washington State, 2001 - 2003

Source: LED Database, Employment Security Department

Employment Type	Gender	2001 Q2	2003 Q2	Change	Pct. Change
Stable	Men	1,145,656	1,121,491	-24,165	-2.1%
	Women	1,095,619	1,106,252	10,633	1.0%
	Both Genders	2,241,275	2,227,743	-13,532	-0.6%
Transitional	Men	517,964	467,870	-50,094	-9.7%
	Women	454,813	411,666	-43,147	-9.5%
	Both Genders	972,777	879,536	-93,241	-9.6%
Total	Men	1,663,620	1,589,361	-74,259	-4.5%
	Women	1,550,432	1,517,918	-32,514	-2.1%
	Both Genders	3,214,052	3,107,279	-106,773	-3.3%

The disparate fortunes of men and women in terms of stable employment in the recession raises a number of questions. Were male jobs declining because male-dominated industries were declining? Or were other factors at play? A look at industry detail provides a clear answer. When industries were ranked by change in stable employment through the recession, eight of the top ten job losers were male-dominated, while nine of the top ten job gainers were female-dominated. Aerospace, the industry with the largest loss, was 74 percent male in 2001. Computer systems design services, with the second largest loss, was 64 percent male. Meanwhile, the top three gainers—big box retailers, education services, and banks—

weighed in at 59 percent, 74 percent, and 76 percent, respectively. All told, industries with a majority of male workers lost 62,000 stable jobs, while those with a majority of female workers added 49,000 jobs.

The male/female composition of industries changed slightly over the two-year period. Overall, the concentration of women increased in industries that lost jobs, and decreased in industries that gained jobs.

**Figure 49**

Change in Stable Employment by Gender During the Recession  
Washington State, 2001 - 2003

Source: LED Database, Employment Security Department

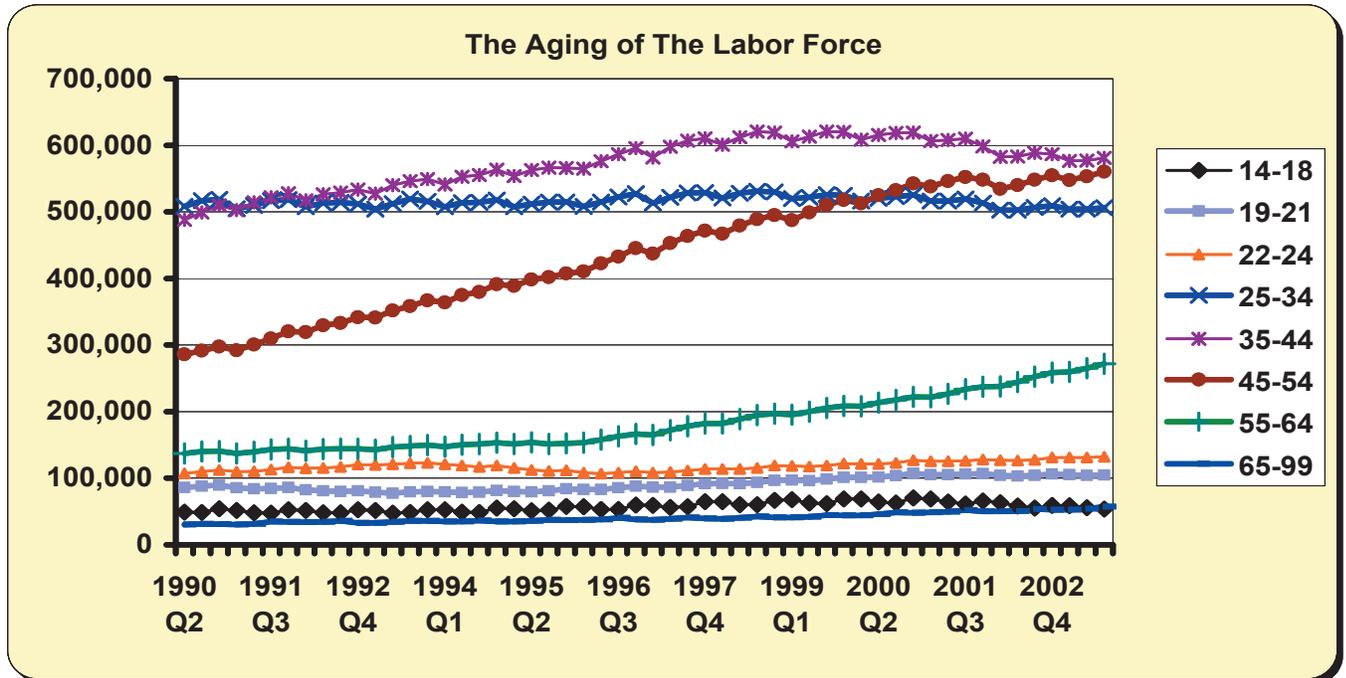
NAICS/Industry	Percent Female	Stable Employment		
		2001 Q2	2003 Q2	Change
4529 Other General Merchandise Stores	58.7%	16,441	26,068	9,627
6111 Elementary and Secondary Schools	73.7%	141,353	150,088	8,735
5221 Depository Credit Intermediation	76.1%	28,981	37,158	8,177
6221 General Medical and Surgical Hospitals	78.6%	72,831	76,739	3,908
6233 Community Care Facilities for the Elderly	79.3%	14,843	17,917	3,074
3364 Aerospace Product and Parts	26.2%	77,324	60,018	-17,306
5415 Computer Systems Design Services	36.1%	23,796	18,253	-5,543
5613 Employment Services	46.4%	30,873	25,517	-5,356
5171 Wired Telecommunications Carriers	41.8%	11,714	8,540	-3,174
3344 Semiconductor and Other Components	42.7%	9,355	6,214	-3,141
Male-Majority Industries	30.2%	1,116,843	1,054,814	-62,029
Female-Majority Industries	67.5%	1,123,486	1,172,644	49,158

The loss of transitional jobs was more closely balanced between men and women, in terms of percent, as shown in *Figure 48*. Male-dominated industries lost 55,000 jobs during the recession (-10 percent), while female-dominated industries lost 38,000 jobs (-9 percent).

### *Employment by Age*

*Figure 50* shows stable employment by age since 1990 (the trends are similar for total employment). Employment follows the same path as population, exaggerated somewhat by the increasing participation of women in the paid workforce over the time period.

**Figure 50**  
 Stable Employment by Age  
 Washington State, 1990 - 2003  
 Source: LED Database, Employment Security Department



- ❖ The number of 45-54 year olds increased substantially, by 92 percent, from 1990 to 2003.
- ❖ The number of 55-64 year olds, while smaller, also grew by 92 percent.
- ❖ The number of jobs filled by 65+ year olds was up 78 percent.
- ❖ The 35-44 age range peaked around 1999 and then declined, with a net increase of 17 percent.
- ❖ The 25-34 age range had a small rise and drop, ending with a slight decline of 2 percent.
- ❖ Other age groups had modest growth rates: 20 percent for 19-21 and 22-24, and 12 percent for 14-18.

After adjusting for population growth, different age groups had much different experiences in the 2001-2003 recession. While the working age population grew by 2.7 percent, total employment fell by 3.3 percent—a 6 point spread. The older the age group, the better they fared in comparison with the spread. For example, total employment for the 65+ age group grew faster than their population, and the 55-64 group matched population growth. In contrast, job losses weighed heaviest on younger workers. The same differential impacts occurred for stable employment and transitional employment, with the exception of the 65+ age group for transitional jobs.

**Figure 51**

Change in Employment by Employment Type and Age  
Washington State, 2001 - 2003

Source: LED Database, Employment Security Department

	2001 Q2	Total Employment 2003Q2	Change	Percent	Change in Population
14-18	160,249	132,087	-28,162	-17.6%	1.0%
19-21	233,273	214,106	-19,167	-8.2%	2.5%
22-24	226,253	222,673	-3,580	-1.6%	6.0%
25-34	755,754	711,494	-44,260	-5.9%	-0.5%
35-44	802,449	744,914	-57,535	-7.2%	-2.3%
45-54	675,982	675,639	-343	-0.1%	3.7%
55-64	282,445	324,648	42,203	14.9%	14.4%
65+	77,646	81,718	4,072	5.2%	2.5%
<b>Total</b>	<b>3,214,051</b>	<b>3,107,279</b>	<b>-106,772</b>	<b>-3.3%</b>	<b>2.7%</b>

### Stable Employment

14-18	64,549	54,797	-9,752	-15.1%	1.0%
19-21	106,275	103,732	-2,543	-2.4%	2.5%
22-24	126,235	129,867	3,632	2.9%	6.0%
25-34	516,865	499,669	-17,196	-3.3%	-0.5%
35-44	607,473	572,686	-34,787	-5.7%	-2.3%
45-54	544,578	549,780	5,202	1.0%	3.7%
55-64	225,842	263,341	37,499	16.6%	14.4%
65+	49,459	53,869	4,410	8.9%	2.5%
<b>Total</b>	<b>2,241,276</b>	<b>2,227,741</b>	<b>-13,535</b>	<b>-0.6%</b>	<b>2.7%</b>

### Transitional Employment

14-18	95,700	77,290	-18,410	-19.2%	1.0%
19-21	126,998	110,374	-16,624	-13.1%	2.5%
22-24	100,018	92,806	-7,212	-7.2%	6.0%
25-34	238,889	211,825	-27,064	-11.3%	-0.5%
35-44	194,976	172,228	-22,748	-11.7%	-2.3%
45-54	131,404	125,859	-5,545	-4.2%	3.7%
55-64	56,603	61,307	4,704	8.3%	14.4%
65+	28,187	27,849	-338	-1.2%	2.5%
<b>Total</b>	<b>972,775</b>	<b>879,538</b>	<b>-93,237</b>	<b>-9.6%</b>	<b>2.7%</b>

### *In Summary*

The LED database allows a deeper look into the labor market. While many workers felt the effects of the past recession, the impacts were heaviest among males and younger workers.

## Occupational Outlook

### *Major Occupational Groups*

The focus of most chapters of this report is on industries. Employers (businesses) are frequently categorized according to industries such as manufacturing, retail trade, or health services. These industries comprise groupings of employers by their activities—what they produce, what they do, or what they provide for their customers. Employees, however, work in occupations, or specific jobs, defined by tasks, and frequently spread across several industries. An accountant, for example, might work in any industry. This chapter discusses occupations. What is the population in occupations now; which occupations are projected to grow or to shrink in employment; and what occupations pay?

Occupational data in Washington, as elsewhere, is tabulated by the Standard Occupational Classification (SOC) System. It uses a six-digit system to identify different occupations, which can be aggregated up to the two-digit level to look at occupational groupings.

*Figure 52* separates out all Washington workers by the number employed in a given occupational group (at the two-digit SOC code level) and its share of all workers in 2002 and 2012. The largest occupational group is “office and administrative.” This is made up of specific jobs such as clerks, telephone operators, and customer service representatives. About 15 percent of Washington State’s workforce does this type of work. One out of ten workers is in a sales-related occupation, the second largest group, followed by those in transportation and material moving occupations. Examples of those in the last group include cargo handlers, rail workers, and taxi drivers.

**Figure 52**  
Major Occupational Groups  
Washington State, 2002 - 2012  
*Source: Employment Security Department*

Major Occupational Group	Estimated Employment		Share of Total	
	2002	2012	2002	2012
Office and Administrative Support	451,746	531,210	14.9%	14.9%
Sales and Related	303,893	352,543	10.0%	9.9%
Transportation and Material Moving	221,510	251,795	7.3%	7.1%
Food Preparation and Serving Related	218,194	254,673	7.2%	7.1%
Construction and Extraction	183,313	209,860	6.0%	5.9%
Education, Training, and Library	182,000	221,383	6.0%	6.2%
Production	173,267	191,269	5.7%	5.4%
Healthcare Practitioners and Technical	134,094	161,235	4.4%	4.5%
Building and Grounds Cleaning and Maintenance	129,945	163,998	4.3%	4.6%
Business and Financial Operations	128,626	148,568	4.2%	4.2%
Personal Care and Service	125,202	155,899	4.1%	4.4%
Management	120,268	141,099	4.0%	4.0%
Installation, Maintenance, and Repair	115,570	131,189	3.8%	3.7%
Computer and Mathematical	97,950	121,678	3.2%	3.4%

**Figure 52** (Continued)

Major Occupational Groups  
Washington State, 2002 - 2012

Source: Employment Security Department

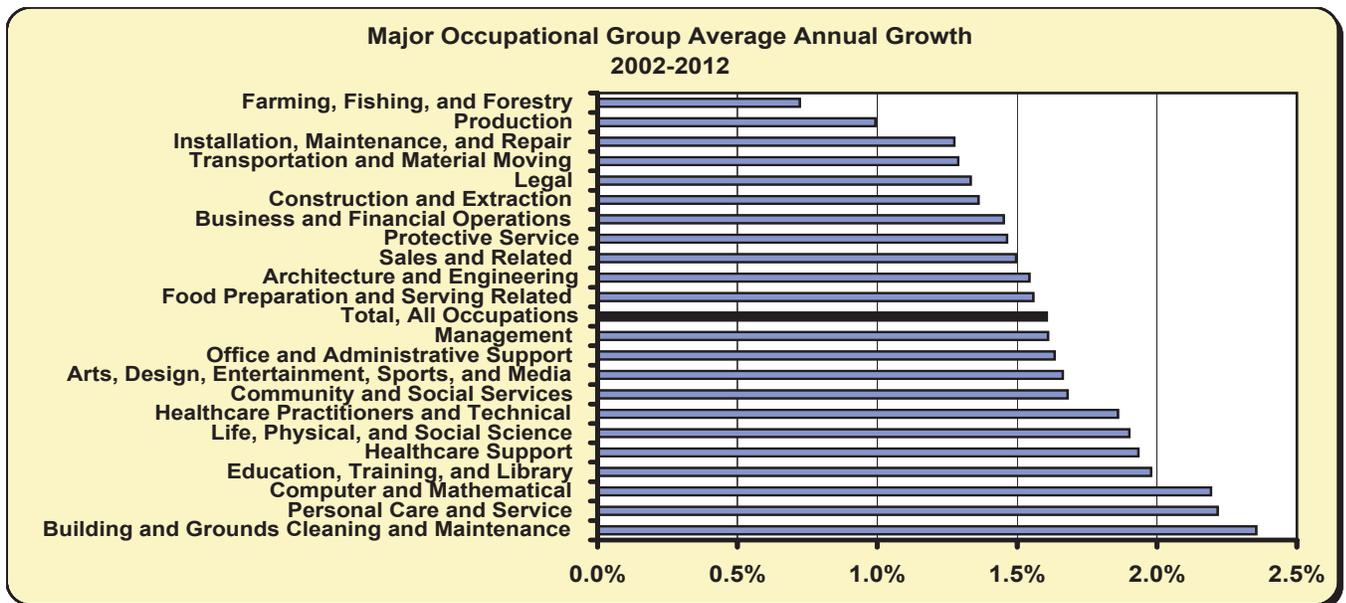
Major Occupational Group	Estimated Employment		Share of Total	
	2002	2012	2002	2012
Architecture and Engineering	80,901	94,290	2.7%	2.6%
Healthcare Support	74,002	89,617	2.4%	2.5%
Farming, Fishing, and Forestry	69,638	74,834	2.3%	2.1%
Arts, Design, Entertainment, Sports, and Media	58,287	68,738	1.9%	1.9%
Community and Social Services	53,982	63,769	1.8%	1.8%
Protective Service	53,635	62,023	1.8%	1.7%
Life, Physical, and Social Science	37,507	45,280	1.2%	1.3%
Legal	25,978	29,657	0.9%	0.8%

In many cases such as in sales and administrative occupations, the proportion of all workers should remain about the same through the year 2012. But of course there is churning in the labor market, and some occupational groups are bound to shrink and others to grow.

Transportation and material moving occupations are forecasted to decline from 7.3 to 7.1 percent of the workforce. Production type occupations (involved in production of goods) stand to decline from 5.7 to 5.4 percent from 2002 to 2012. In addition, farming, fishing, and forestry occupations are predicted to suffer a drop from 2.3 to 2.1 percent. At the same time, education, training, and library occupations; building and grounds cleaning and maintenance occupations; as well as personal care and service occupations, and computer and mathematical occupations should see a substantial rise in their shares of employment.

*Figure 53* on the next page summarizes how these occupational groupings are forecasted to fare between 2002 and 2012. The entire labor force is projected to grow at an average rate of 1.6 percent per year. Any group underneath the total (dark bar), is expected to have above average growth. The above average group is dominated by service occupations. The occupational groups projected to have below average growth are of the goods-producing type with legal, sales, and engineering occupations included.

**Figure 53**  
 How Will the Make-Up of Occupational Groups Change?  
 Washington State, 2002 - 2012  
 Source: Employment Security Department



*Detail Level Occupations*

One can also look at how individual occupations are projected to fare. In the top half of *Figure 54*, the occupations forecasted to expand the quickest in the mid-term (2002-2007) are listed. The two fastest growing major occupational groups, building and grounds cleaning, and computer and math are reflected in the detail occupation list; computer software engineers and landscaping and groundskeeping workers are expected to be the fastest growing occupations during this mid-term period.

The occupations thought to be taking off toward the end of this decade and the beginning of the next are, for the most part, the same as for the earlier period. Computer software engineers lead the list again, but technical writers and electronic assemblers jump to the second and third places respectively on the list.

**Figure 54**  
 Fastest Growing Detail Level Occupations  
 Washington State, 2002 - 2007; 2007 - 2012  
 Source: Employment Security Department

Occupational Title	Estimated Employment 2002	Average Annual Growth Rate
Computer Software Engineers, Applications	15,891	3.0%
Loan Officers	4,282	2.9%
Landscaping and Groundskeeping Workers	21,308	2.8%
Architects, Except Landscape and Naval	3,610	2.7%
Technical Writers	3,034	2.7%

*Continued on page 54*

**Figure 54** (Continued)

Fastest Growing Detail Level Occupations  
Washington State, 2002 - 2007; 2007 - 2012

Source: Employment Security Department

Occupational Title 2002-2007	Estimated Employment 2002	Average Annual Growth Rate
Market Research Analysts	4,795	2.7%
Loan Interviewers and Clerks	4,017	2.6%
Computer Software Engineers, Systems Software	12,967	2.6%
Architectural and Civil Drafters	2,342	2.5%
<b>2007-2012</b>		
Computer Software Engineers, Applications	15,891	2.9%
Technical Writers	3,034	2.8%
Electrical and Electronic Equipment Assemblers	6,262	2.8%
Computer Software Engineers, Systems Software	12,967	2.8%
Electronics Engineers, Except Computer	3,763	2.7%
Architects, Except Landscape and Naval	3,610	2.6%
Market Research Analysts	4,795	2.5%
Computer Programmers	12,705	2.5%
Industrial Engineers	3,371	2.4%
Computer and Information Systems Managers	5,658	2.3%

Just as some occupations will rapidly expand, many occupations will lose workers over time. Occupations suffering the fastest declines in the mid-term are expected to be for the most part production occupations, in particular those tied to the aerospace industry. Included among the fastest declining occupations by 2007 are aerospace engineers, aircraft assemblers, aircraft mechanics, transportation inspectors, and travel agents. In the latter projections period, 2007 to 2012, occupations declining are expected to be more concentrated in the long-term, structural declining industries such as timber, farming, and food processing. Occupations projected to experience slowest growth or fastest declines are listed in *Figure 55* below.

**Figure 55**

Declining or Slow-Growing Detail Level Occupations

Washington State, 2002 - 2007; 2007 - 2012

Source: Employment Security Department

Occupation Title 2002-2007	Estimated Employment 2002	Average Annual Growth Rate
Pourers and Casters, Metal	224	-4.6%
Metal-Refining Furnace Operators and Tenders	371	-3.7%
Aerospace Engineering and Operations Technicians	1,397	-2.8%
Aerospace Engineers	11,716	-2.5%
Rolling Mach. Setters, Oprs., and Tenders, Metal and Plastic	1,304	-2.5%
Aircraft Structure, Surfaces, Rigging, and Systems Assemblers	2,664	-2.3%
Model Makers, Metal and Plastic	147	-1.7%
Transportation Inspectors	2,103	-1.6%
Commercial and Industrial Designers	4,187	-1.6%
Avionics Technicians	1,445	-1.3%

Continued on page 55

**Figure 55** (Continued)  
 Declining or Slow-Growing Detail Level Occupations  
 Washington State, 2002 - 2007; 2007 - 2012  
 Source: Employment Security Department

Occupation Title 2007-2012	Estimated Employment 2002	Average Annual Growth Rate
Metal-Refining Furnace Operators and Tenders	371	-0.5%
Fallers	436	-0.3%
Food and Tobacco Roasting, Baking, and Drying Mach. Oprs.	894	-0.3%
Other Farming, Fishing, and Forestry Workers	49,774	-0.2%
Farming, Fishing, and Forestry Workers, All Other (OES Only)	49,774	-0.2%
Logging Equipment Operators	3,103	-0.1%
Nuclear Power Reactor Operators	92	0.0%
Food Batchmakers	2,082	0.0%
Supervisors, Farming, Fishing, and Forestry Workers	3,067	0.0%
First-Line Supvs. of Farming, Fishing, and Forestry Workers	3,065	0.0%

### *How Well Are Folks Paid?*

While office and administrative occupations and sales-related occupations are the two most numerous occupational groups, they are not among the highest paid. The median annual wage for the two groups in 2003 was \$29,778 and \$22,588 respectively (see *Figure 56*). This puts them in the lower half of major occupational groups in terms of median wage. Wages shown are from the 2003 Occupational Employment Statistics Survey (OES).

**Figure 56**  
 2003 Median Wages by Major Occupational Group  
 Washington State, 2003  
 Source: Employment Security Department

Occupational Group	Median Annual Wage
<b>All Occupations</b>	<b>\$33,786</b>
Management	\$84,354
Computer and Mathematical	\$68,348
Architecture and Engineering	\$68,140
Life, Physical, and Social Science	\$57,530
Healthcare Practitioners and Technical	\$56,468
Business and Financial Operations	\$54,505
Legal	\$52,012
Arts, Design, Entertainment, Sports, and Media	\$44,016
Construction and Extraction	\$42,477
Education, Training, and Library	\$41,880
Protective Service	\$38,318
Community and Social Services	\$37,368
Installation, Maintenance, and Repair	\$36,752
Office and Administrative Support	\$29,778
Production	\$27,647
Transportation and Material Moving	\$26,061
Healthcare Support	\$22,796
Building and Grounds Cleaning and Maintenance	\$22,634
Sales and Related	\$22,588
Personal Care and Service	\$19,028
Farming, Fishing, and Forestry	\$17,523
Food Preparation and Serving Related	\$17,386

## Chapter 6 - Occupational Outlook

The highest paid occupational group is management at \$84,354, followed by computer and mathematical (\$68,348), then architecture and engineering (\$68,140). The bottom of the list is populated by occupations with high turnover and part time or seasonal work. Food preparation and serving had the lowest median wage at \$17,386 annually. Farming, fishing, and forestry occupations (\$17,523) then personal care and services (\$19,028) closely followed it.

In addition to whether or not a job is part time or seasonal, it is readily apparent that education and training requirements play a role in wage levels of a given occupation or occupational group. For example, most management positions require a significant combination of education and experience and most computer, mathematical, and engineering jobs draw from among well-educated candidates.

Interestingly though, this relationship between education and training and pay is not a completely consistent relationship. *Figure 57* lists both median wage by education/training level as well as the highest median wage earning occupation for each education/training level.

The highest education level, “first professional degree” did not have the highest median wage, a distinction that fell to the “work experience plus a bachelor’s or higher degree” category. Additionally, the highest median wage for all education levels was earned by “airline pilots, copilots, and flight engineers,” requiring only a bachelor’s degree.

The median wage for all occupations was \$31,908. Only “moderate on-the-job training” and “short-term on-the-job training” occupations earned less than this overall median wage.

### Figure 57

Highest Wages by Educational Requirement  
Washington State, 2003

Source: *Employment Security Department*

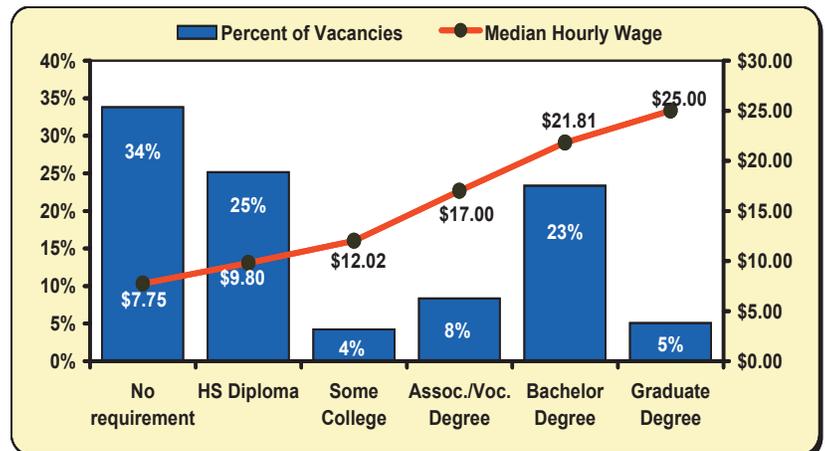
#### 2003 Occupational Education and Wages

Education/Training Level	Median Wage	Highest Wage Earning Occupation	Annual Median Wage
First professional degree	\$81,521	Dentists	\$119,126
Doctorate/doctor's degree	\$54,015	Computer and Information Scientists, Research	\$109,769
Master's degree	\$46,908	Mathematicians	\$87,796
Work experience plus a bachelor's or higher degree	\$88,601	Engineering Managers	\$103,284
Bachelor's degree	\$53,357	Airline Pilots, Copilots, and Flight Engineers	\$133,239
Associate degree	\$55,410	Dental Hygienists	\$74,776
Post secondary vocational training	\$36,752	Computer Specialists, All Other	\$65,336
Work experience (in a related occupation)	\$44,487	Transportation, Storage, and Distribution Managers	\$74,235
Long-term on-the-job training (more than 12 months)	\$39,991	Air Traffic Controllers	\$109,366
Moderate on-the-job training (1-12 months)	\$31,544	Sales Reps., Wholesale and Manuf., Tech. and Scientific Prods.	\$67,822
Short-term on-the-job training (up to one month)	\$22,588	Transportation Workers, All Other	\$54,688
<b>All Levels</b>	<b>\$33,786</b>	<b>Airline Pilots, Copilots, and Flight Engineers</b>	<b>\$133,239</b>

There is another source for comparing education/training levels against wages—the Job Vacancy Survey (JVS) Report. The JVS Report is a snapshot in time that surveys firms for job openings and various characteristics regarding the opening. Included is wage and education/training data. According to May 2004 JVS data, wage offered for open positions corresponds directly with education/training requirement. In *Figure 58*, note that for each level, the wage rises correspondingly.

The two different sources are not necessarily conflicting. OES data indicates that wage generally rises with higher education/training levels for existing positions, but not always. The JVS data shows that when hiring for open positions, the education/training level required has a much more consistent and direct influence on pay rates.

**Figure 58**  
 Wage and Education Requirements for Job Vacancies  
 Washington State, May 2004  
 Source: Employment Security Department



Note: Chart excludes vacancies with unspecified educational requirements.

### Recent History

When it comes to occupational data, there is not a lot that gives a picture of current changes. One data source that does supply this is unemployment insurance (UI) claims. UI data tracks both industry and occupational numbers and it is very current. For example, *Figure 59* has data through September 2004. Claims for the purposes of this report represent the number of persons that made at least one claim for unemployment insurance during the given month.

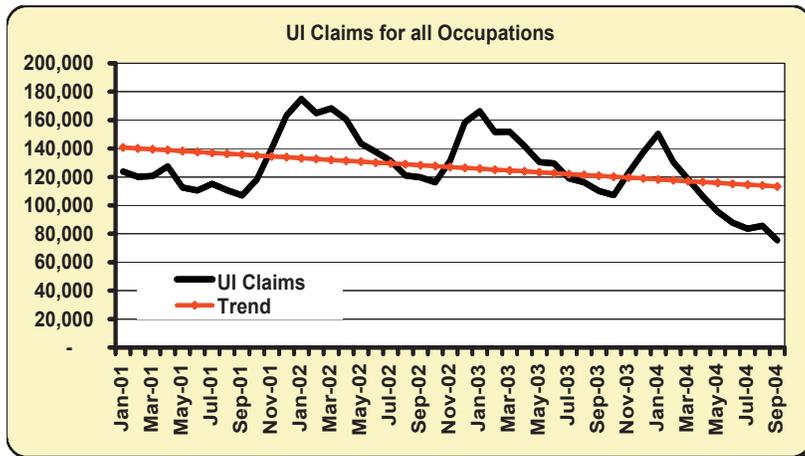
UI claims are driven by two elements: one is the seasonal aspect clearly seen in the solid line, the other is the trend (dotted line) driven by structural and cyclical forces. The three “peaks” in *Figure 59* occur in January of 2002, 2003, and 2004. This is typically the month when seasonal unemployment is highest. However, looking beyond these seasonal influences there is a clear trend visible. The official end of the recession was November 2001, a couple of months before Washington

## Chapter 6 - Occupational Outlook

State UI claims hit the highest level of this recent time period. Since then there has been a gradual decline with a quickening of the pace toward the end of 2004.

**Figure 59**

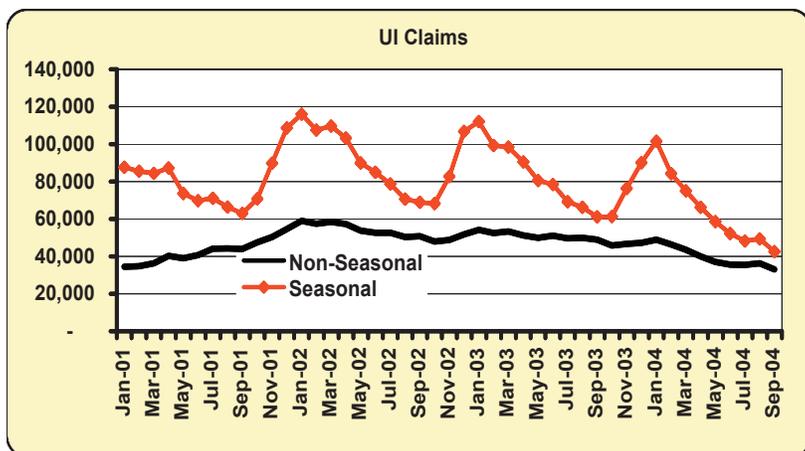
Statewide Unemployment Insurance Claims  
Washington State, January 2001 to September 2004  
Source: Employment Security Department



In *Figure 60*, the claims are separated out by occupations considered to be seasonal and those relatively unaffected by seasonal factors. Food preparation, sales, maintenance, farming/fishing/forestry, construction and extraction, installation and repair, production and transportation occupations all showed seasonal tendencies, and are represented by the dotted line. The solid line tallies all non-seasonal occupations and appears to react more to cyclical factors. Also note that claims are generally much higher for seasonal industries than for non-seasonal.

**Figure 60**

UI Claims for Seasonal and Non-Seasonal Occupations  
Washington State, January 2001 to September 2004  
Source: Employment Security Department



### Further Job Vacancy Report Findings

- ▶ In May 2004 there were an estimated 59,033 job vacancies statewide, 72 percent of these were full time and 75 percent were permanent positions.
- ▶ About one third of vacancies (34 percent) had no educational requirements, one quarter (25 percent) required a high school diploma, four percent required some college and eight percent required a two-year college degree.
- ▶ Just under one quarter of vacancies required a four-year college degree (23 percent), and five percent of vacancies required a graduate degree.
- ▶ Job vacancies were highest in the healthcare practitioners and technical occupations group.
- ▶ Farming, fishing, and forestry; office and administrative support; and food preparation and serving also were among occupational groups with the most vacancies. To a large extent the high number of vacancies among farming occupations was due to the survey being conducted in May. The composition of the October survey reflects very different seasonal patterns.
- ▶ The single occupation with the most vacant positions was graders and sorters of agricultural products, with an estimated 5,278 vacancies statewide.
- ▶ Registered nurses ranked second among occupations, with 3,318 vacancies throughout Washington.
- ▶ Among industry groups, healthcare led the way with 17 percent of all vacancies.
- ▶ Other industry groups with numerous vacancies were agriculture, forestry, fishing, hunting; accommodation and food services; and retail trade.

Overall, UI claims rose by 16 percent during the recession (March to November of 2001). Since that period, statewide claims have fallen by almost 40 percent. Non-seasonal occupations reflected this economic impact more directly with claims rising by 39 percent during the recession and declining by 32 percent since.

Some occupational groups were even more strongly affected. For example, there was a 100 percent jump in UI claims for computer and math occupations, followed by a drop-off of 54 percent in the period since. There were 60 percent more UI beneficiaries among former workers in architecture and engineering jobs during the recession, and 48 percent less following it. Likewise, administrative support occupations experienced a rise of 39 percent prior and a fall of 40 percent post-recession.

The occupational group with the most claims was construction and extraction with 19,008 average monthly claims throughout the year. This is not surprising given the extended periods of availability of work for many construction workers. Production jobs were second (17,491), followed by administrative support (15,175), and transportation (12,513) occupations. Legal occupations at the other extreme averaged only 484 claims per month.

Statewide, vacant positions paid a median hourly wage of \$10.50. Seventy-five percent of vacancies offered hourly wages under \$17.00, while the top 15 percent offered wages over \$21.00 per hour.

## Income and Wages

### *Hourly wages*

Washington is one of four 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.

It should be no surprise that with the onset of the recession, growth in hourly wages has stagnated.

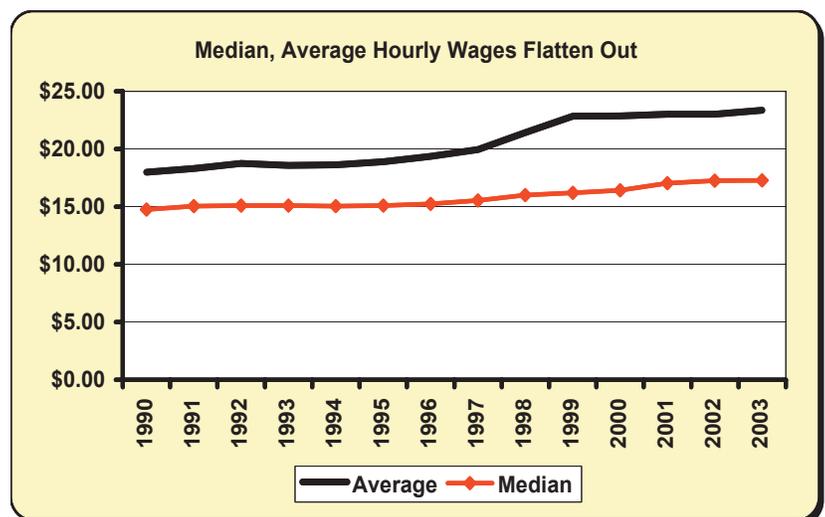
- ❖ Average hourly wages are calculated by dividing total payroll by total hours worked. The average reached \$23.36 per hour in 2003, a one percent increase over 2002 after adjusting for inflation. The 2002 average was only a penny above the 2001 average. The average was affected not only by slack labor market conditions, but by the decline in the stock market, which reduced wages taken as stock options.
- ❖ The median hourly wage is the wage at which half of all jobs pay more, and half pay less.<sup>2</sup> The median hourly wage in 2003 was \$17.28 per hour, only two cents above the inflation-adjusted 2002 figure.

**Figure 61**

Average Hourly Wage, and Median Hourly Wage,  
Adjusted for Inflation

Washington State, 1990 - 2003

Source: *Employment Security Department*



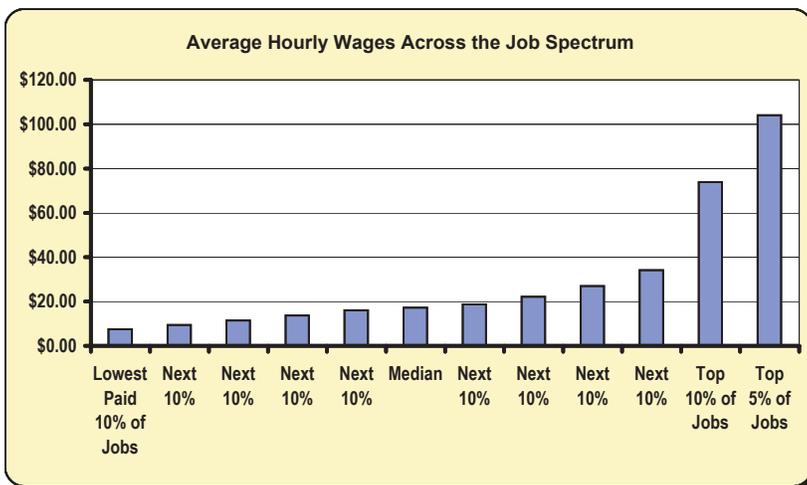
<sup>2</sup> Jobs in this case are calculated on an FTE basis, with 2,080 hours per year equal to one full-time job.

## Wage Distribution

In 2003, the lowest-paid 10 percent of jobs averaged \$7.53 per hour (see *Figure 62*)—six cents (0.7 percent) better than in 2002 after adjustment for inflation. The best-paid 10 percent of jobs averaged \$73.82 per hour, \$2.43 per hour higher than in the previous year, a 3.4 percent gain. The increase was even more pronounced for the top 5 percent and top 1 percent (see *Figure 63*). Wages in between, on average, gained no more than a nickel an hour.

This disparity in wages continues a trend going back to at least 1990 (the first year data are available) and interrupted only in 2001 and 2002, when the collapse of the stock market all but eliminated payments in stock options.<sup>3</sup> 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; by 2003, that ratio had grown to be 9.8, and the gap had widened by 29 percent. The gap between the median wage and the upper 10 percent had also widened, while the distance between the median and the lower 10 percent had closed slightly, due to the increase in the minimum wage (see *Figure 64*).

**Figure 62**  
Average Hourly Wage, by Decile (10 percent) of FTE Jobs  
Washington State, 2003  
Source: Employment Security Department

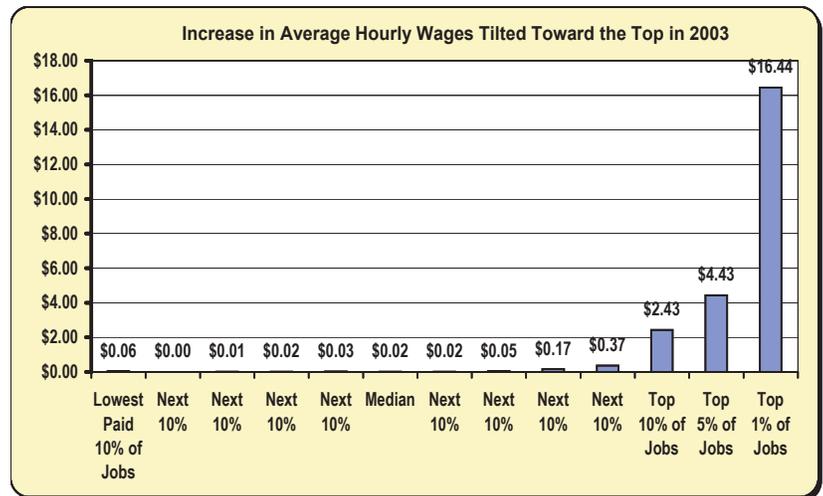


<sup>3</sup> Stock options will no longer be counted as wages in the state's unemployment insurance tax system beginning in 2004.

**Figure 63**

Increase in Average Hourly Wage, by Decile (10 percent) of FTE Jobs Washington State, 2003

Source: Employment Security Department



**Figure 64**

Measuring the Wage Gap

Washington State, 1990 - 2003

Source: Employment Security Department

Average Wage For...	1990	2003
Lowest-paid 10 percent of jobs	\$6.26	\$7.53
Median Job	\$14.76	\$17.28
Highest-paid 10 percent of jobs	\$47.55	\$73.82
Highest 10/Lowest 10 Ratio	7.6	9.8
Highest 10/Median Ratio	3.2	4.3
Median/Lowest 10 Ratio	2.4	2.3

*Wages by Area*

Hourly wages vary widely across the state. In 2003, King County topped the state at \$20.16. Only three other counties bested the state median: Benton, Snohomish, and Thurston. Excluding King, the rest of the state had a median hourly wage of \$15.47. Columbia County had the lowest median, at \$10.85. Fifteen of the lowest sixteen counties are located east of the Cascades.

Since 1990, the state median hourly wage has increased by 17 percent after adjustment for inflation. Many counties had larger increases—both San Juan and Asotin counties had gains over 30 percent. Columbia County also did better than average. Cowlitz County’s median rose by less than 1 percent, while Ferry (-5 percent) and Klickitat (-7 percent) both suffered declining wages.

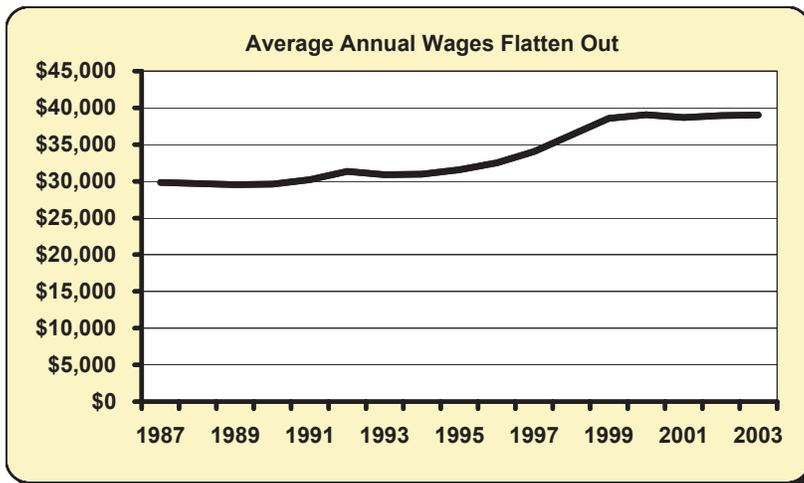
### *Average Annual Wages*

In 2003, for jobs covered by unemployment insurance, employers in the state had an average monthly employment of 2,653,776, and a total payroll of \$103,552,340,049. Dividing the two, the average annual wage comes out to be \$39,021. This was slightly higher than the 2002 inflation-adjusted figure, but lower than in 2000. Annual wages have been flat since 1999, as shown in *Figure 65*.

**Figure 65**

Average Annual Wage, Adjusted for Inflation  
Washington State, 1987 - 2003

Source: *Employment Security Department*



### *Personal Income*

Personal income data is 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.

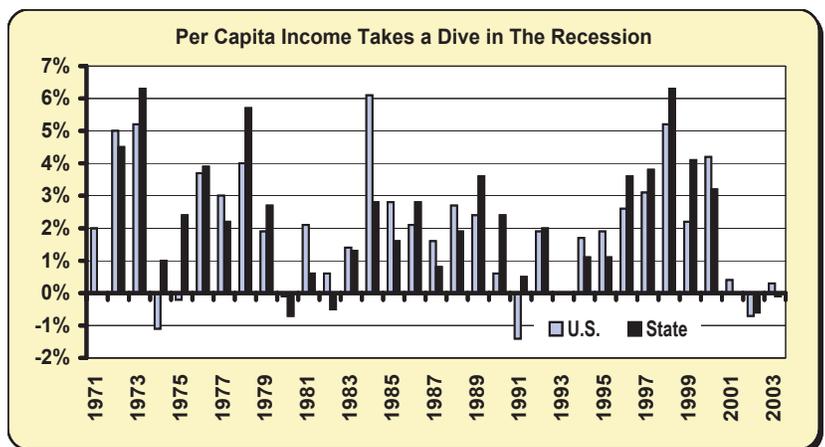
All personal income data has been adjusted for inflation using the U.S. implicit price deflator for personal consumption.

*State*

Not surprisingly, the recession took its toll on personal income in Washington. After expanding by an inflation-adjusted 4.4 percent in 2000, total personal income grew by 1.4 percent in 2001, 0.7 percent in 2002, and 1.0 percent in 2003. Preliminary estimates for the first two quarters of 2004 showed slow going in the first quarter and a modest pickup in the second (1.6 percent growth rate).

The state's total personal income was just shy of \$204 billion in 2003. Per capita income came to \$33,264. This ranked 12th in the nation, and was 6 percent above the U.S. average. After adjustment for inflation, the per capita figure had fallen for the second year in a row (after being essentially unchanged in 2001), but still had grown by 25 percent since 1993. Again, because of income disparities, an increase in per capita income does not translate into across-the-board increases of the same magnitude for all households. For example, median household income in the state rose by an inflation-adjusted 16 percent between the 1990 and 2000 censuses, while per capita income rose by 28 percent, almost twice as much.

**Figure 66**  
Annual Change in Inflation-Adjusted Per Capita Income  
United States and Washington State, 1971 - 2003  
*Source: U.S. Bureau of Economic Analysis*



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. The slow growth in Washington's total personal income, and the decline in per capita income, over the past three years can be traced to slow growth in earnings, a substantial decline in investment income, and an increase in transfer payments that wasn't enough to offset the investment loss. The dismal jobs picture led to slow growth in total earned income in 2001 and 2002, and declines in both years on a per capita basis. Earnings bounced back in 2003, but were still slightly lower on average than in 2000. Investment income fell by 1.2 percent in 2001, 3.3 percent in 2002, and 3.8 percent in 2003, with even steeper declines on a per capita basis.

Transfer payments grew by 10 percent in 2001, but increased by only 5 percent in 2002 and 3 percent in 2003. Note that income support, a.k.a welfare, has grown very little over the decade—only \$2 on a per capita basis, despite higher levels of poverty.

**Figure 67**

Selected Transfer Payments, Adjusted for Inflation In Billions of Dollars  
Washington State, 1993 - 2003

Source: U.S. Bureau of Economic Analysis

Type of Payment	1993	2000	2003	% Increase 2000-2003	% Increase 1993-2003
<b>Total</b>	<b>\$18.61</b>	<b>\$23.50</b>	<b>\$27.83</b>	<b>18%</b>	<b>49%</b>
Retirement & Disability	\$8.13	\$9.88	\$11.05	12%	36%
Medical	\$5.68	\$8.07	\$9.68	20%	71%
Income Support	\$1.87	\$1.92	\$2.18	14%	17%
Unemployment Insurance	\$1.39	\$1.00	\$2.28	128%	65%
Veterans' Benefits	\$0.56	\$0.79	\$0.98	24%	75%

### *Regions and Counties, 2002*

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

**Going to extremes:** Among Washington's thirty-nine counties, King County topped the list with a per capita income of \$44,135. That was 0.9 percent lower than in 2001, the main reason for the state's decline in 2002. King County ranked 38th among U.S. counties, but was a far cry from number one New York County (\$84,591), and second place Teton County (think Jackson Hole, Wyoming, at \$71,457). San Juan County was the only other county in the state to place above the state average, at \$39,812. At the other extreme was Ferry County at \$19,258—still far above Slope County, North Dakota, population 746, per capita income \$5,540.

If King County is taken out of the equation, per capita income for the rest of the state was \$27,953. Nine counties topped that figure, all of them metro areas with the exception of San Juan and Jefferson counties.

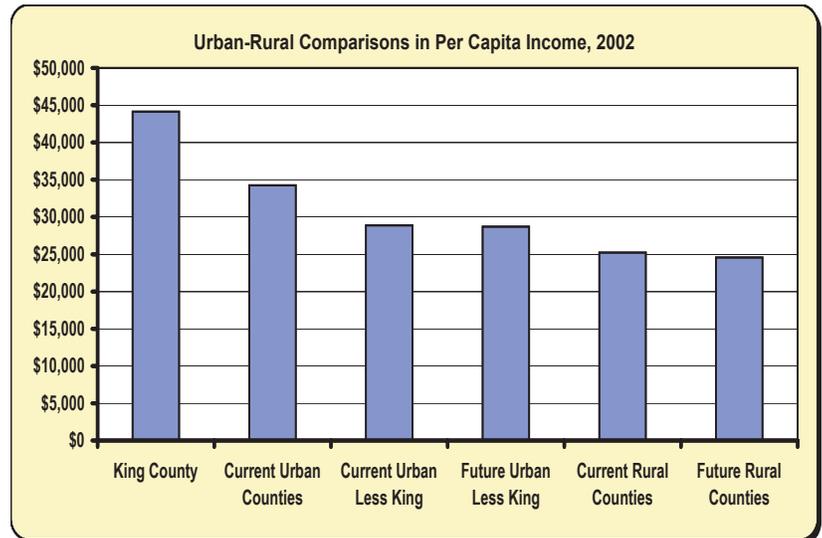
**Urban vs. rural:** Rural counties collectively had a per capita income of \$25,238. Four counties that are currently designated as rural will officially become urban in 2005—Skagit, Cowlitz, Chelan, and Douglas. If these are excluded, then the rural average was slightly lower. Urban counties came in at \$34,259. If King County is excluded, the urban average falls to \$28,872. If the new urban counties are included, that average slips very slightly. The gap between King County and other urban counties, at over \$15,000, is much larger than that between other urban and rural counties, still substantial at just over \$4,000.

**Figure 68**

Per Capita Income For Selected Sub-State Areas

Washington State, 2002

Source: U.S. Bureau of Economic Analysis



**Follow the money:** The investment income per person in San Juan County (\$19,234) was just shy of the total income per person in Ferry County.

**Who's hot and why:** The four counties that had the highest growth in per capita income over the 1992-2002 period were clustered in the northwest corner of the state. They were, in order, Jefferson, King, Kitsap, and Island counties. King County had higher than average growth in earned income—no surprise. All four had higher than average growth in investment income—King County due to stock options, the other three due to an influx of retirees. Jefferson, Kitsap, and Island counties also had higher than average gains in transfer payments. Finally, Kitsap County was buoyed by growing numbers of commuters. In 1992, eight percent of the county's earned income came from residents who worked outside of the county; by 2002, this portion had climbed to 20 percent.

**On the move:** As noted with Kitsap County, one of the nice features about personal income data is differentiation between earnings by place of work and by place of residence. This makes it possible to track changes in cross-county commuting patterns over time. Some counties are very dependent upon jobs outside the county for income. For example, 55 percent of the 2002 earnings of Skamania County residents came from employment outside of the county. For other counties, the net inflow and outflow of earnings balances out (e.g., Yakima), while still others suffer a substantial net outflow as workers drive to homes outside of their county of work (e.g., King and Chelan counties). For many counties, this pattern is fairly stable over time, but for some, it has shifted substantially over the past decade, due to factors such as the development of new subdivisions which draw commuters, or the deterioration of the local economy which forces residents to look elsewhere for work. Lewis County, for example, had a commuter balance in the mid-1990s, but now imports 5 percent of its earned income. Klickitat County has swung 14 percentage points in the last decade, from a slight income exporter to a 13 percent income importer, due to poor economic conditions. For Columbia and Ferry counties, there were similar large shifts.

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## 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 *Commissioner's News Release*, *Washington Labor Market*, *County Profiles*, *Agricultural Workforce in Washington State*, and *Occupational Outlook*. These publications are also available on the Workforce Explorer ([www.workforceexplorer.com](http://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.