

A Quarterly Review of Washington State Labor Market Information

Third Quarter 1997

February 1998 Issue

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The *LMI Review* is published by the Labor Market and Economic Analysis Branch of the Washington State Employment Security Department.

The purpose of the *LMI Review* is to provide timely information and analysis of the state labor market conditions in support of public and private activities that expand employment opportunities and reduce unemployment.

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Tight Labor Market Bodes Well for Wages

Commissioner
Carver Gayton

COMMENTARY

Each time we're at the grocery store check-out counter, we gain an appreciation for the dynamics at work in determining the Consumer Price Index.

When we contrast the increasing price of goods with our seemingly shrinking paychecks, the not-so-obvious difference between the *cost* of living and the *standard* of living begins to hit home.

We are all familiar with the effect of inflation on wages. The high inflation of the late 1970s resulted in our considerable concern for inflation. While today's inflationary situation is much better, the effects of rising prices can still be felt, albeit over a longer period. That is where wage earners need to remain alert. An inflation rate of 2 or 3 percent is low enough to be almost invisible in the short run; but over a 5-year span, one could find ones wages falling short by an uncomfortable amount.

This is akin to the old tale of how to cook a frog. You cannot put a live frog in a boiling pot of water because it would jump out immediately. However, if you place a frog in a pot of cool water and slowly turn up the heat, the frog will be cooked without realizing it. As with the frog, if your wages are falling behind by one or 2 percent per year, soon you're in economic hot water.

The overarching theme of this *LMI Review* is that the labor market standard set by the baby

boom generation is markedly shifting. That standard was one of abundant labor supply and the resultant static wages as illustrated in the article on *Wages and Inflation*. The *Feature Article* relates some empirical evidence of labor shortages borne of the hot labor markets of 1997 and on into 1998. That tight labor market situation is, first and foremost, delineated by the low unemployment rates not seen in 3 decades, as reported in the *Quarterly Analysis*.

There have been times in the last 30 years when Washington's labor markets have experienced labor shortages. But those periods were relatively short-lived. What we are encountering today is the beginning of a profound demographic shift resulting from the significantly lower birth-rates recorded from the 1970s onward. Fewer children have been born to baby boomers than there are baby boomers themselves. This is now playing out in the declining availability of new entrants to the work force.

This demographic shift will require an equally dramatic shift in the personnel policies of employers. No longer beset with an over-abundance of highly educated candidates, employers are now finding it necessary to have pro-active personnel policies. There are now instances of some employers recruiting college juniors because it is too late by the time they are seniors. And the wages offered to college grads, as reported in the final article, are attractive indeed. Shortages are not exclusive to college graduates though. Employers are experiencing unfilled job openings in all major occupational categories.

The potential impact from this new labor market paradigm is an interesting balance. While labor shortages may impair potential economic growth, the possible wage push, and the easing of movement of marginalized workers into the work force will provide a longer term benefit that may well surpass any economic slowing. ■

Washington and the Other Washington

Third Quarter 1997

*QUARTERLY
ANALYSIS*

Washington's economy surged ahead strongly in 1997. Nonagricultural employment growth in the third quarter was the largest in eight years and building sharply as the state moved into the fourth quarter. The overall rate of employment gain accelerated from a seasonally adjusted annual rate of 3.8 percent in the first quarter to nearly 5 percent in the fall—the highest since late-1989 at the cusp of the previous cyclical upturn. Momentum built atop a strengthening pattern in 1996 that had driven job growth above the national average for the first time in four years. By mid-1997, Washington ranked fourth highest in the nation in terms of the rate of net new job creation, accounting for almost a third of the total U.S. manufacturing job increase over the year.

The margin above the prior year shifted progressively higher as the year unfolded. To a great degree, Washington's current economic expansion can be viewed as a relatively new one starting in earnest with the turnaround in aircraft and parts employment beginning in the first quarter of 1996—an upcycle of 24 months. In contrast, the national economy has been in an expansion phase going on seven years—one of the longest in postwar history. Only recently have constraints such as tight labor markets come into play in Washington, specifically in the central Puget Sound and Vancouver areas, but substantial net in-migration continues to fuel labor force growth. The assumption is that the pace will slow in 1998-99.

The drivers of the state have been positioned for two years in both manufacturing and nonmanufacturing. Specifically, the growth in the basic goods-producing industries has now become overlaid upon ongoing expansion in business producer services and other service-

producing industries. Within 20 months, the five-year loss of manufacturing jobs from 1990 to 1995 was fully recouped and moving to an all-time record high. At the same time, the services component of the economy was tracking well above the national average, spurred primarily by dynamic growth in service industries that serve broad regional and national markets. The net result is an economy driving ahead on all burners.

Unemployment dropped this past year like a rock. The state's overall jobless rate fell nearly one-and-a-half percentage points immediately in the first quarter on a seasonally adjusted basis going from 6.4 percent to 5.2 percent. The rate then hovered around 5.0 percent through the third quarter—the lowest in seven years. Both the Seattle and Vancouver areas recorded unemployment in the 3.5 percent range reflecting what clearly amounts to booming economies with strong demand for workers. Spot labor shortages and intense bidding for workers with certain skills became commonplace in these metropolitan markets. The *domino effect* spread quickly as workers moved up the queue.

Washington's unemployment rate is now tracking even with the national average, which seems out of sync, given the strength of the economy. But only twice in the state's postwar history has the state's annual average jobless rate actually fallen below the national average—briefly in 1966 at the peak of the heady *Boeing Boom* and again in 1990-91 as the state proceeded to build while the national economy slipped into recession. Each of these periods were marked by tight labor markets precipitated by a booming aircraft and parts industry and each represented the culmination of more than one year of rapid-fire job buildup in both the primary and secondary sectors of the economy.

Third quarter to third quarter nonfarm wage and salary employment growth measured 111,600—the biggest 12-month gain since late-1989 early-1990. On a seasonally adjusted annual basis, the year is shaping up to be the strongest since 1988-89. Both years had a strong aircraft and parts presence but growth in both aircraft as

Continued page 5

Figure 1

Nonagricultural Wage and Salary Workers

Washington State, Seasonally Adjusted, In Thousands, Benchmarked: March 1995

Source: *Employment Security, Revenue Forecast Council, & Office of Financial Management*

| | 3rd Qtr 1996 | 2nd Qtr 1997 | 3rd Qtr 1997 | Numeric Change | |
|---|-----------------|-----------------|-----------------|------------------------------------|------------------------------------|
| | | | | 2nd Qtr 1997 to 3rd Qtr 1997 | 3rd Qtr 1996 to 3rd Qtr 1997 |
| TOTAL NONAGRICULTURAL EMPLOYMENT | 2,538.7 | 2,509.1 | 2,427.2 | 29.6 | 111.6 |
| MANUFACTURING | 375.3 | 367.3 | 345.8 | 8.0 | 29.4 |
| Durable Goods | 266.2 | 257.7 | 237.5 | 8.5 | 28.7 |
| Lumber & Wood Products | 36.1 | 35.4 | 35.4 | 0.7 | 0.7 |
| Logging | 7.9 | 7.5 | 7.8 | 0.4 | 0.0 |
| Sawmills & Plywood | 24.5 | 24.2 | 24.0 | 0.3 | 0.5 |
| Furniture & Fixtures | 4.1 | 4.1 | 4.0 | 0.0 | 0.1 |
| Stone, Clay & Glass | 9.6 | 9.4 | 9.2 | 0.2 | 0.5 |
| Primary Metals | 11.7 | 11.5 | 11.6 | 0.1 | 0.1 |
| Aluminum | 7.6 | 7.6 | 7.6 | 0.0 | 0.0 |
| Fabricated Metals | 14.3 | 14.1 | 13.3 | 0.2 | 1.0 |
| Industrial Machinery & Equipment | 27.3 | 26.6 | 24.9 | 0.7 | 2.3 |
| Computer & Office Equipment | 8.5 | 8.3 | 7.8 | 0.2 | 0.7 |
| Electronic & Other Electrical Equipment | 16.9 | 16.6 | 15.2 | 0.4 | 1.7 |
| Transportation Equipment | 123.2 | 117.2 | 101.9 | 6.0 | 21.3 |
| Aircraft & Parts | 107.9 | 102.4 | 87.9 | 5.6 | 20.0 |
| Instruments & Related | 14.3 | 14.3 | 13.8 | 0.1 | 0.5 |
| Miscellaneous Manufacturing | 8.7 | 8.6 | 8.3 | 0.2 | 0.5 |
| Nondurable Goods | 109.1 | 109.6 | 108.4 | -0.5 | 0.7 |
| Food & Kindred Products | 41.4 | 42.2 | 41.3 | -0.8 | 0.1 |
| Preserved Fruits & Vegetables | 14.0 | 13.4 | 13.3 | 0.6 | 0.7 |
| Textiles, Apparel & Leather | 10.0 | 10.0 | 9.3 | -0.1 | 0.7 |
| Paper & Allied Products | 16.1 | 16.2 | 16.7 | -0.1 | -0.7 |
| Printing & Publishing | 24.6 | 24.4 | 24.3 | 0.2 | 0.3 |
| Chemicals & Allied Products | 5.5 | 5.6 | 5.7 | -0.1 | -0.2 |
| Petroleum, Coal, Plastics | 11.5 | 11.2 | 11.0 | 0.3 | 0.5 |
| MINING & QUARRYING | 3.5 | 3.5 | 3.4 | 0.0 | 0.1 |
| CONSTRUCTION | 137.2 | 136.1 | 129.0 | 1.1 | 8.2 |
| General Building Contractors | 39.0 | 38.3 | 35.8 | 0.8 | 3.2 |
| Heavy Construction, ex. Buildings | 19.2 | 19.0 | 18.8 | 0.2 | 0.4 |
| Special Trade Contractors | 79.0 | 78.8 | 74.3 | 0.2 | 4.7 |
| TRANSPORTATION, COMMUNICATION & UTILITIES | 133.9 | 134.0 | 123.5 | -0.1 | 10.4 |
| Transportation | 89.1 | 89.1 | 86.0 | 0.1 | 3.1 |
| Trucking & Warehousing | 31.2 | 31.1 | 30.5 | 0.1 | 0.7 |
| Water Transportation | 10.2 | 10.1 | 9.8 | 0.1 | 0.4 |
| Transportation by Air | 23.0 | 23.9 | 22.8 | -0.9 | 0.2 |
| Communications | 28.9 | 28.7 | 27.7 | 0.1 | 1.2 |
| Electric, Gas & Sanitary Services | 15.9 | 16.1 | 9.8 | -0.2 | 6.1 |
| WHOLESALE & RETAIL TRADE | 613.7 | 606.9 | 594.6 | 6.8 | 19.0 |
| Wholesale Trade | 151.9 | 149.6 | 146.1 | 2.3 | 5.8 |
| Retail Trade | 461.7 | 457.3 | 448.5 | 4.4 | 13.2 |
| General Merchandise | 46.1 | 45.9 | 46.2 | 0.2 | -0.1 |
| Food Stores | 73.6 | 72.8 | 71.1 | 0.8 | 2.5 |
| Eating & Drinking | 169.9 | 167.5 | 164.4 | 2.4 | 5.5 |
| FINANCE, INSURANCE & REAL ESTATE | 127.3 | 127.3 | 124.4 | 0.0 | 2.8 |
| Finance | 55.1 | 54.8 | 53.8 | 0.3 | 1.4 |
| Insurance & Real Estate | 72.2 | 72.5 | 70.7 | -0.3 | 1.5 |
| SERVICES | 687.6 | 676.7 | 654.3 | 10.9 | 33.2 |
| Hotels & Lodging | 28.7 | 28.2 | 27.7 | 0.5 | 1.0 |
| Personal Services | 22.6 | 22.5 | 22.3 | 0.1 | 0.3 |
| Business Services | 148.7 | 143.5 | 128.7 | 5.2 | 20.0 |
| Health Services | 177.7 | 177.6 | 173.5 | 0.1 | 4.2 |
| Educational Services | 34.0 | 33.0 | 31.4 | 1.0 | 2.7 |
| Social Services | 57.8 | 57.0 | 54.9 | 0.8 | 2.8 |
| Engineering & Management Services | 57.9 | 56.9 | 61.9 | 1.0 | -3.9 |
| GOVERNMENT | 460.4 | 457.4 | 452.1 | 2.9 | 8.3 |
| Federal | 67.5 | 67.6 | 68.4 | -0.1 | -0.8 |
| State | 131.8 | 131.4 | 129.4 | 0.4 | 2.4 |
| State Education | 70.3 | 69.6 | 68.3 | 0.6 | 2.0 |
| Local | 261.0 | 258.4 | 254.3 | 2.7 | 6.7 |
| Local Education | 140.4 | 136.2 | 135.8 | 4.2 | 4.6 |
| Workers in Labor-Management Disputes | 15.0 | 0.1 | 0.0 | 15.0 | -15.0 |

Excludes proprietors, self-employed, members of the armed forces, and private household employees. Includes all full- and part-time wage and salary workers receiving pay during the period that includes the 12th of the month.

Labor Market And Economic Indicators

Figure 2
Total Nonagricultural Employment Change
Washington State & Nation, Seasonally Adjusted
 Source: *Employment Security Department*

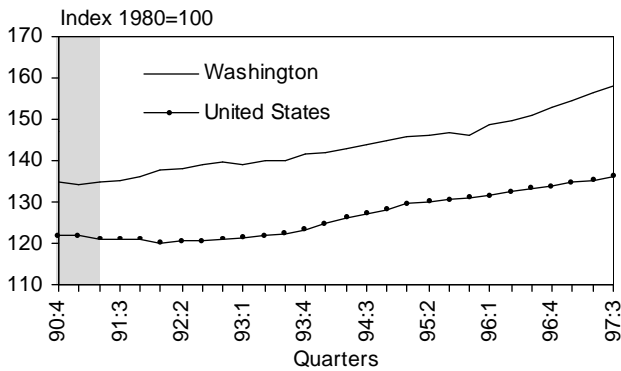


Figure 5
New Housing Units Authorized
Washington State, Seasonally Adjusted
 Source: *U.S. Department of Commerce*

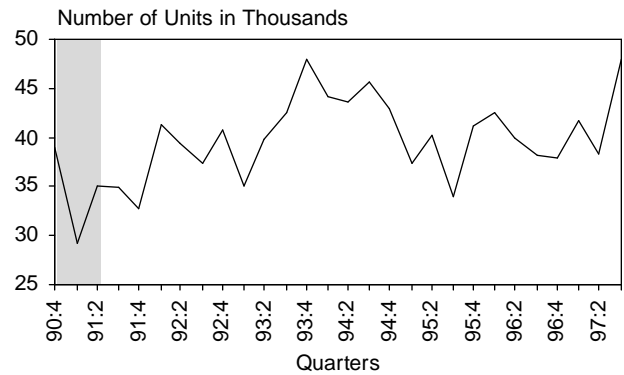


Figure 3
Manufacturing & Nonmanufacturing Employment Change
Washington State, Seasonally Adjusted
 Source: *Employment Security Department*

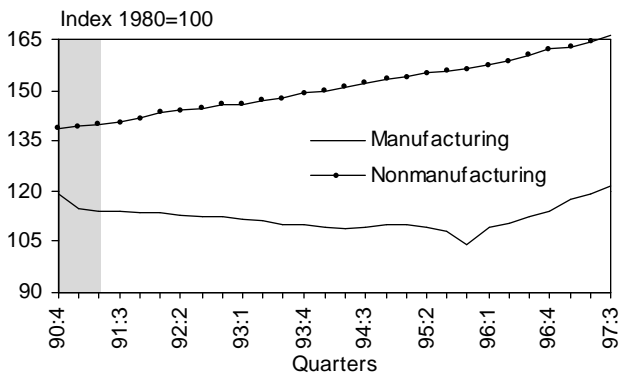


Figure 6
Consumer Price Index
All Urban Customers
 Source: *Bureau of Labor Statistics*

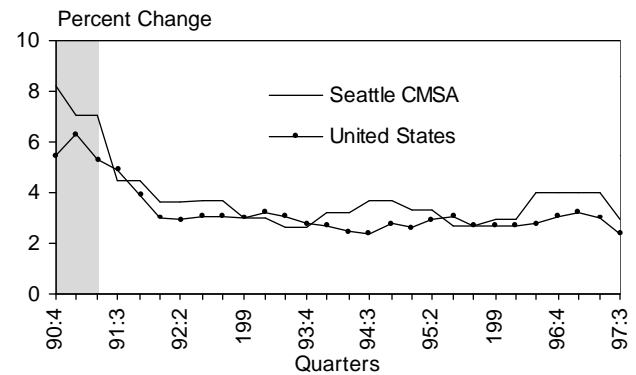


Figure 4
Unemployment Rates
Washington State & Nation, Seasonally Adjusted
 Source: *Employment Security Dept., U.S. Dept. of Labor*

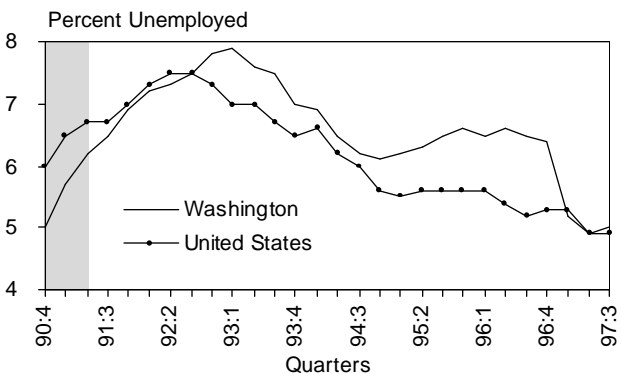
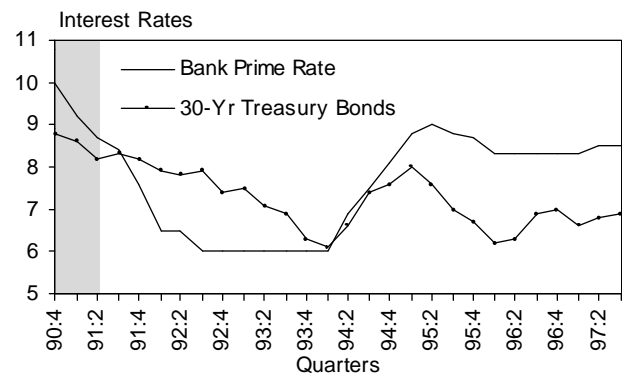


Figure 7
Selected Interest Rates
Percent Annual Rate
 Source: *Federal Reserve Board*



NOTE: Shaded areas represent national economic recessions as designated by the National Bureau of Economic Research

Quarterly Analysis *continued*

well as machinery and electronics employment has been greater in 1997. Almost 30 percent of the total net job increase for this year has been generated by manufacturing as opposed to less than 20 percent in 1989. Another key difference is the tremendously larger presence of business services on the scene—double that of 1989—with a lesser contribution coming from a restructured retail trade sector.

Certainly, the swing factor has been the aircraft and parts industry. Turnabout of the commercial airline industry in 1995 following four years of monumental losses has provided the spark that “fueled the fire.” The ordering pace for Boeing jetliners mushroomed to a record 717 aircraft in 1996 from 338 a year before and topped 560 worth \$43 billion in 1997. Assembly line and supply bottlenecks delayed deliveries in the third quarter but Boeing is pushing hard to lift production rates to 43 aircraft a month by next spring, which will amount to a doubling of production over a 12-month period. Diversification of the economy over the past 30 years cut the dominance of aircraft and parts in half but it still accounts for 4 percent of total employment and better than a quarter of all manufacturing in the state.

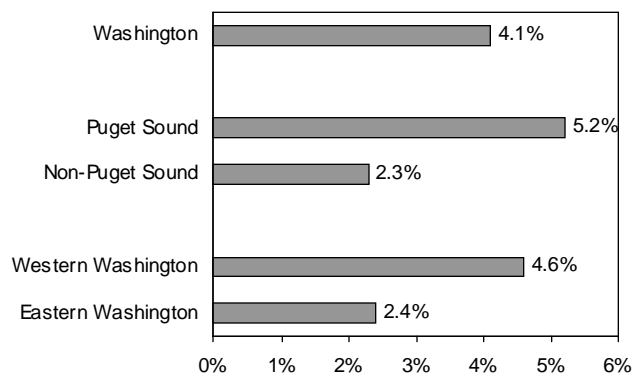
Hiring for the year is now looking to exceed 16,000—about the same as last year. However, this is only the tip of manufacturing growth. Machinery and electronics, the other stellar goods-producing sector, added another 3,200 workers in 1997 after 3,500 in 1996 and 2,700 in 1995. Expansion of existing firms, including the giant Intel plant at Du Pont, and new entrants, such as WaferTek near Vancouver, are driving the sector locally. Investment in office and computing equipment nationally is swelling at unprecedented rates, up over a third in real terms in 1997. Washington is definitely sitting on the cutting edge. Despite some manufacturing cut-backs, Intel still expects to add 1,000 R&D workers a year over the next several years building to an expected employment base of 6,000.

Fueled particularly by exuberant housing demand in the Seattle area, construction employment in Washington rose in 1997 to an all-time high. Within the services economy, both trade and services led the state in terms of net new job creation with roughly a 50,000 increase representing half the state total gain of 104,000 over the year in the third quarter. Rounding out the top ten job generators this year are health care, temporary help services, computer data processing and software, food stores and general merchandising, and public and private education. Average annual salaries run the gamut from about \$18,000 a year at grocery stores and temp help agencies to \$101,000 at “computer central.” The major driver of aircraft and parts is around \$55,000 with a 3.7 employment multiplier.

As always, Washington’s economy is a collection of its parts and growth in the Puget Sound area is certainly leading the charge (*see Figure 8*). Statewide employment growth cumulative through the third quarter averaged 4.1 percent, up better than a full percentage point from a year ago and twice the average of the previous five years. But nearly 80 percent of the job growth is taking place in the central Puget Sound region—King, Snohomish, Island, Kitsap, Pierce, and Thurston counties—which structurally accounts for about two-thirds of the state’s economy. Employment gains are averaging 5.2 percent compared to 2.3 percent in the balance of the

Continued page 6

Figure 8
Regional Employment Change (% Change from Year Ago)
Washington State, 9-Month Average, 1996-1997
Source: *Employment Security Department*



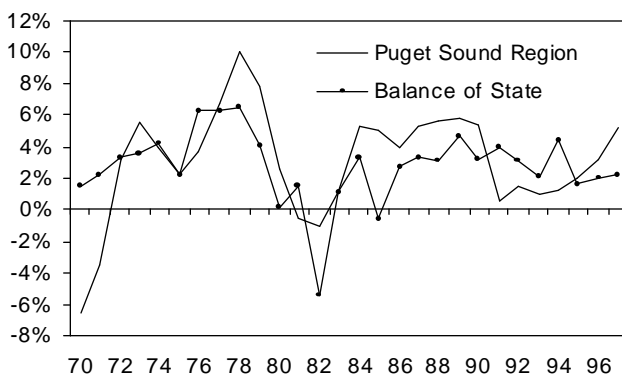
Quarterly Analysis *continued*

state with the east-west split at 2.4 percent versus 4.6 percent, respectively.

This *Two Washingtons* phenomenon, however, is not unique (see *Figure 9*). The Puget Sound area has repeatedly led the state both on the upside and the downside of the business cycle. The “Boeing Bust” of the early-1970s dragged the state’s economy down in tandem, while the upcycle in the late-1970s and again in the late-1980s propelled the state forward at rates twice the national average. Except for the 1981-82 recession, which hit Washington’s timber areas particularly hard, the rest of the state has a much smoother growth rate averaging 2.8 percent a year since 1970. The Puget Sound area, averaging out all the peaks and troughs, stands at 3.3 percent. In both cases, the present period is tracking only a bit more extreme than average.

Will the pattern continue? Certainly, the Seattle area is expected to lead the state in terms of job growth over the next several years. Growth in the Vancouver area will pick up speed as the new WaferTek plant in Camas comes on line and other high tech manufacturers expand. A significant number of new establishments in the Tri-Cities are taking advantage of an available highly-skilled work force and an aggressive economic development community bent on growing their economy out of the present slump. On the other hand, Asian markets for apples and other farm products have collapsed under the weight of

Figure 9
Employment Growth by Regions (Annual Percent Change)
Puget Sound and Balance of State, 1970-1997
Source: *Employment Security Department*

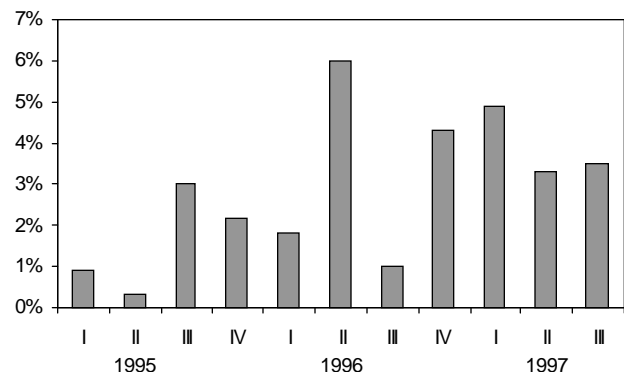


economic turmoil and currency realignments, and the timber-based economies are simply holding their own.

The nation’s annualized economic growth measured 3.1 percent in the third quarter of 1997 and advanced estimates for the fourth quarter shows growth at 4.3 percent, vigorous by any measure. Employment growth through the third quarter has averaged 2.3 percent and inflation 2.2 percent (see *Figure 10*). Unemployment is standing at the lowest in 24 years with labor shortages plaguing many parts of the country. Turmoil in Asian markets, saber rattling in the Middle East, and vacillating stock prices have cast a crosscurrent on the nation. But the economy continues to build within the Federal Reserve’s announced targeted rates with no hint of overheating. Only once in 1997 did the Federal Reserve move to adjust interest rates by boosting the fed funds rate by a quarter percentage point in March and no change is expected in the immediate months ahead.

Growth in 1997 has been more even than in the prior two years. Total consumption in real terms mounted sharply in the first quarter, fell back in the second, and then regained the first quarter’s speed in the third quarter giving an expected annual average for the year of 3.3 percent—the strongest since 1994—with durable goods purchasing up 6 percent. Business fixed investment is maintaining the strong performance which has been in place over the past several years—up better than 9 percent in real terms—with sales of

Figure 10
Real Gross Domestic Product Change, United States
1995-1997 (% Change at Seasonally Adjusted Annual Rates)
Source: *U.S. Dept. of Commerce, Bureau of Economic Analysis*



office and computing equipment at double-digits for the sixth consecutive year. Housing starts are queuing off of last year's high. Mortgage rates dropped in the third quarter to the lowest in a year-and-a-half.

Against this backdrop, the rate of inflation has moved within a very narrow band. The producer price index for finished goods actually fell in a record seven of the last nine months. Both the implicit GDP price deflator for personal consumption and the national consumer price index are showing slightly less than 2.5 percent gains—down fractionally from last year despite a lengthening business cycle. Labor costs climbed at a 3.2 percent annualized rate in the third quarter, unchanged from the second quarter. But wages and salaries inched higher by four tenths of a percent to 3.6 percent led by industries experiencing particularly acute labor shortages including data processing and computer services and retailers. The offset has come from very modest benefit increases that are coming in at around 1.9 percent.

The national outlook for 1998 assumes some lessening in the overall pace (see *Figure 11*). The U.S. economy is expected to track in the 2.5 percent range in real terms with 2.0 percent inflation. Wage and salary employment growth is looked to climb about 2.0 percent on average—down from 2.3 percent this year. Real consumption expenditures are basically unchanged heading up at a healthy 3.3 percent clip. Some modest letup in housing and auto sales and relatively flat interest rates are also projected. On balance, the U.S. economy in 1998 is looked to be not much different from 1997 with no perceived shocks or imbalances with expectations that the Asian crisis be relatively constrained. By this time next year, the nation's economy will have competed 92 months of expansion—matching the 1980s upturn and measuring almost twice the average of the nine postwar business cycles.

The statewide forecast similarly portrays a modestly slower economy in 1998 but basically a continuation of present trends (see *Figure 12*). Real personal income is projected to climb 4.3 percent versus 6.1 percent this year with Seattle

Figure 11

U.S. Economic Forecast, 1997-1999
(Annual Percent Change)

Source: DRI-McGraw Hill, October 1997

| | 1997 | 1998 | 1999 |
|---------------------------------|-------|-------|-------|
| Real Gross Domestic Product | 3.7% | 2.3% | 2.3% |
| Real Total Consumption | 3.3% | 3.1% | 2.5% |
| Nonresidential Final Investment | 9.1% | 5.0% | 5.0% |
| Office and Computing Equipment | 36.1% | 25.6% | 25.6% |
| GDP Price Index | 2.1% | 2.0% | 2.1% |
| Employment Cost Index | 3.0% | 3.3% | 3.2% |
| Unemployment Rate | 5.0% | 4.9% | 5.1% |
| Payroll Employment Change | 2.2% | 1.9% | 1.5% |

Figure 12

Washington Economic Forecast, 1997-1999
(Annual Percent Change)

Source: Office of the Forecast Council, September 1997

| | 1997 | 1998 | 1999 |
|------------------------------|-------|------|-------|
| Personal Income Growth | 7.4% | 6.5% | 5.8% |
| Real Personal Income | 5.2% | 4.2% | 3.1% |
| Seattle Consumer Price Index | 3.4% | 2.8% | 3.2% |
| Wage & Salary Employment | 4.0% | 3.6% | 2.6% |
| Manufacturing | 7.7% | 2.7% | 0.6% |
| Aerospace | 21.5% | 5.5% | -1.1% |
| Nonmanufacturing | 3.3% | 3.7% | 2.9% |
| Services | 4.3% | 4.8% | 3.9% |

area inflation at around 3.0 percent. Wage and salary employment growth is looked to continue tracking higher than average at around 3.0 percent with continued but more moderate gains in all the basic export sectors. Aerospace is expected to inch up only a few hundred workers on average basically leveling off and then trending down in the second half; this after boosting employment by nearly 40 percent in two years. Machinery and electronics is forecasted to add 2,000. Food processing and lumber and wood products are assumed to be relatively flat.

Construction is looking to mount by 5,000 as the sector grapples with a combination of both housing and infrastructure. Further additions of 20,000 are expected in wholesale and retail trade and 30,000 in services scattered widely by industries but led by additional growth in business services. Any further restructuring will likely be confined primarily to environmental cleanup activities at Hanford and individual players in trade and services but nothing of the

Continued page 8

Quarterly Analysis *continued*

magnitude of the past several years. Boeing will be juggling four tasks simultaneously: training more than 30,000 new employees, doubling production rates in a very short period of time, fundamentally changing the way it builds aircraft, and assimilating its new McDonnell Douglas and Rockwell International acquisitions.

Pressure on wages falls out naturally in a tight labor market situation and both Seattle and Vancouver are experiencing what amounts to acute labor shortages. At the present time, the shortfall is largely confined to selected high-skilled occupations in selected industries although the impact is spreading. Given the forecast of further higher than average employment growth in 1998, the prospect for more widespread wage pressure in the future is very real.

On the other hand, businesses will be hard-pressed to pass along higher costs to the consumer. Lower profits are the likely outcome.

The split between high growth in the central Puget Sound region and lesser growth in the balance of the state will continue in 1998. A marked easing in the rate of job buildup in aircraft and parts will narrow the difference as the months progress. Certainly, additional value added in manufacturing is a long-term key to economic development in rural areas. Advances in service-based activities—particularly business or producer services—coupled with evolving communications technology offer locational opportunities to any number of areas in the state providing adequate infrastructure is in place. The ongoing challenge for Washington in 1998 will be to address the distribution of job opportunities across the state in an effort to meet the needs of a diverse and rapidly growing economy.

■ *Dennis Fusco*
Chief Economist

Labor Shortage: Perception or Reality?

FEATURE ARTICLE

"The Work Goes Wanting," *The News Tribune*, 6-18-97

"Businesses Feeling Labor Pains," *Wenatchee World*, 6-15-97

"Labor Shortage Spurs High Tech Wage Hikes," *The Business Journal*, 6-21-97

"Employment Agent Battles a Labor Shortage," *Seattle Post-Intelligencer*, 8-7-97

"Retailers Find Hiring Hard in Hot Economy," *Puget Sound Business Journal*, 8-8-97

"Temp Agencies Struggle to Keep Up With Demand," *PSB Journal*, 8-15-97

"Labor Rate Remains Tight in County, State," *The Columbian*, 8-20-97

"Eastside Job Listings Grow," *Eastside Journal*, 8-23-97

"Hiring Gets Tougher for Local Employers," *Seattle Times*, 8-26-97

The headlines would seem to say it all. Recent stories about the hiring difficulties faced by Washington employers like Boeing, Microsoft, and others offer strong empirical evidence that a labor shortage is confronting those major employers and other industries. And while the focus of these reports is the central Puget Sound region, the same can be said about other parts of Washington as well.

In one of its recent surveys, Manpower Inc., the nation's largest temporary help supply firm, revealed that Seattle would be second only to Atlanta in the share of employers planning to expand their permanent work forces in the fourth quarter of 1997 with 42 percent of private employers acknowledging hiring plans. Elsewhere around Washington, Olympia will challenge Seattle with 40 percent of its employers expected to hire permanent workers. A healthy 33 percent of Tacoma's employers are expected to hire permanent workers while in eastern Washington,

Spokane and the Tri-Cities employers posted 23 percent and 17 percent shares, respectively.

There is additional evidence of labor market tightness nationally. The U.S. jobless rate is at historic lows. There is evidence of recent real wage growth. The Conference Board's index of help wanted ads is at an all-time high. And work week hours and overtime hours are both up. Moreover, Washington's unemployment rate has dipped to a seven-year low, down almost two percentage points from a year ago with most of the central Puget Sound region tracking well below the national average.

The Labor Market Supply-Demand Survey

As a result, the Labor Market and Economic Analysis (LMEA) Branch of Employment Security sought to explore whether employers in other industries and geographic locations were having similar difficulty filling current job openings. Toward that end, LMEA designed and distributed a non-scientific survey to Major Employers, College Placement Centers, and Employment Security Job Service Centers. A written survey was tailored to each group. The LMEA survey took the additional step of assessing the strategies employers have used to address the labor shortage as well as which have or have not been effective.

Major Employers

The employers surveyed were selected from a list of the 100 largest firms in Washington based on the size of their work force. While recognizing that small- and medium-sized firms are important, it was surmised that if large employers found it difficult to find applicants, the same would be true for small- and medium-sized firms in those same industries.

Employers were asked: "Are you currently finding it difficult to fill certain jobs?" All of the surveyed firms answered "yes." Perhaps more notably, none of the respondents indicated that they had been able to successfully address the issue.

The surveyed firms were then asked to identify the occupational categories in which they

Continued page 10

Feature Article *continued*

were experiencing hiring difficulties. *Figure 13* reveals the survey results in terms of the percentage of firms that had difficulty filling current openings in the broad occupational categories. *Figure 14* shows specific occupations identified by the respondent firms.

Professional and Technical. By far, respondents had the most difficulty filling professional and technical openings, about four in ten checked this category. While specific job titles covered the spectrum, the most common were information technology positions in all of its many applications (e.g., software, hardware, systems, etc.).

One might presume that Microsoft and the other Washington-based, high tech companies were driving this need. And they are, but not exclusively. While high tech firms represent a tremendous source of demand for information technology professionals, not one of the firms in the LMEA survey specialized in information technology as its core business. But most firms specifically cited their inability to compete with companies like Microsoft in recruitment and retention of information technology professionals.

Information technology is not the only professional or technical area in which firms have found it difficult to fill openings. Engineers and scientists were also cited, as were senior and entry level accountants.

Though individuals with professional and technical backgrounds are in highest demand, the labor shortage situation does not end there. Because of the tremendous growth in the state's economy in general, employers are finding it difficult to fill job openings in virtually every occupational category.

Figure 13
Difficulty Filling Openings
by Occupational Category
Source: LMEA Supply-Demand Survey

| | |
|---------------------------------|-----|
| Managerial | 26% |
| Professional/Technical | 41% |
| Clerical/Administrative Support | 23% |
| Sales/Marketing | 15% |
| Services-Related | 15% |
| Productions/Operations | 18% |

Managerial and Administrative. There was significant demand for managers and administrators—roughly one-fourth of the surveyed firms checking this category. The need, however, appeared to be most acute in services and retail trade sectors. The hospitality (hotel) industry, for example, highlighted the need for managers and assistant managers.

Clerical and Administrative Support. Nearly one-quarter of the surveyed firms identified an unmet need for clerical and administrative support personnel. Again, this appeared to be most acute in the services and retail trade sectors, and covered everything from administrative assistants to customer service representatives to clerks to receptionists.

Production and Operations. Eighteen percent of the companies surveyed had unfilled job openings in the production and operations field. Specifically mentioned were electronic assemblers, electricians, plumbers, machinists, cooks, housekeepers, typesetters, clerks, and front line supervisors.

Sales and Marketing. A modest 15 percent of the employers surveyed cited unfilled job openings in sales and marketing. While these openings were concentrated among retailers

Figure 14
Specific Occupations in Demand
Source: LMEA Supply-Demand Survey

| Managerial | Professional/Tech | Cleric/Admin Supp |
|-------------------------|-----------------------|------------------------|
| Assistant Managers | Accountants | Accounting Assistants |
| Assistant General Mgrs | Automotive Techs | Administrative Assist |
| Entry-Level Managers | Chemical Engineers | Clerks |
| Executive Managers | Computer Scientists | Executive Assistants |
| | Data Base Analysts | Receptionists |
| | Data Processors | |
| Sales/Marketing | Electr Publish Specs | |
| | Electronic Techs | Production/Oper |
| Advertising Specialists | Electrical Engineers | Clerks |
| Marketing Specialists | Financial Analysts | Cooks |
| Salespersons | Integr Circuit Design | Electricians |
| Sales Directors | Programmer Analysts | Electr Assemblers |
| Sales Managers | Occupational Nurses | Machinists |
| | Project Managers | Moldmakers |
| | Mfg Consultants | Plumbers |
| Services-Related | Mfg Engineers | Prod Supervisors |
| Customer Svc Reps | Med Resch Scientists | Typesetters |
| Housekeepers | Software Engineers | |
| Food/Beverage Wkrs | Systems Analysts | |
| | Underwriters | |

and service-providers, several manufacturers whose products are sold directly to customers also noted such a need.

Services-Related. An equally modest 15 percent of the employers surveyed acknowledged an unmet need for services-related occupations. The principal need was for customer service representatives, though advertising and marketing (a group that is also reflected in sales and marketing) were also mentioned.

Colleges Placement Centers

As reported in a *Seattle Times* story from May 1997, the Center for Career Services at the University of Washington reported that activity was at an all-time high and that it was definitely a seller's (or job seekers) market. LMEA decided to expand on that news story by surveying all of the larger private and public colleges and universities in Washington known to operate job placement centers. The respondents were:

- Eastern Washington University (Cheney)
- Pacific Lutheran University (Tacoma)
- Seattle University (Seattle)
- The Evergreen State College (Olympia)
- University of Puget Sound (Tacoma)
- University of Washington (Seattle)
- Washington State University (Pullman)
- Western Washington University (Bellingham)

On-Campus Recruitment Activity. The LMEA survey asked college job placement centers for the number of employers who conducted on-campus interviews during the 1995-96 and 1996-97 academic years. With the exception of one campus that posted a slight decline, all others reported increases ranging from 8 percent to more than 50 percent. In combination, the eight campuses experienced a 21 percent climb in on-campus recruiters (see Figure 15). A further comment by one institution was that the number of employers hosted by their campus would have been higher had they had the physical and scheduling capacity.

On-Campus Recruiters by Industry. The industry composition of the on-campus interview-

Figure 15
On-Campus Recruiters
Source: LMEA Supply-Demand Survey

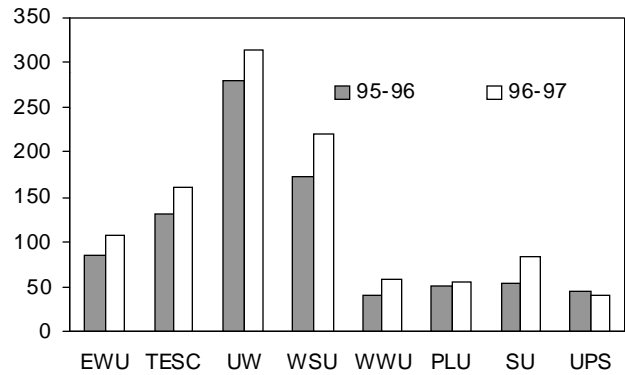
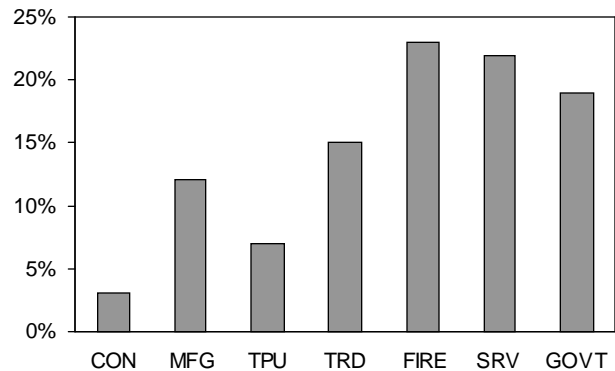


Figure 16
On-Campus Recruiters by Industry
Source: LMEA Supply-Demand Survey



ers (employers) during the 1996-97 academic year was heavily weighted toward services-producing sectors (see Figure 16).

On-Campus Recruiters by Occupational Demand. Not surprising given the survey's focus on four-year academic institutions, most on-campus interviewers were interested in professional, technical, managerial, and administrative candidates. On the professional and technical side, engineers and information technology specialists of all types were in highest demand, with accountants and teachers rounding out the list. On the management and administrative side, management trainees were in highest demand with various types of human resources specialists and other program/project managers and planners rounding out the list. Sales and marketing and services-related occupations followed in terms of employer demand at 17 percent and 15

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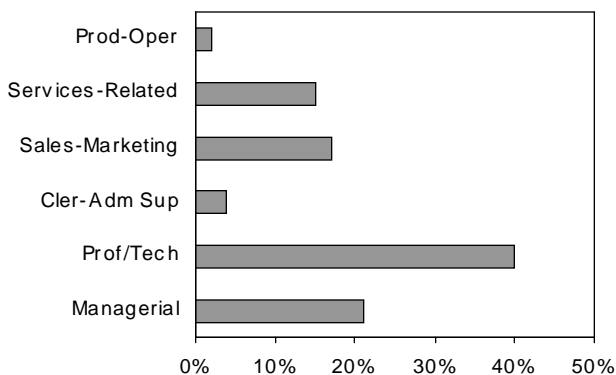
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percent, respectively. Customer service representatives and salespersons were most in demand for these areas. Clerical and administrative support occupations and production and operations occupations were least represented at 4 percent and 2 percent, respectively (see Figure 17).

On-Campus Recruiters by Hiring Area. On the whole, the hiring areas of on-campus recruiters were fairly evenly distributed (see Figure 18). Hiring areas, of course, vary from employer to employer. At one end of the spectrum are locally-based employers who recruit on campus to tap into the pool of graduates at the college or university in the immediate area. At the other end of the spectrum are national employers who recruit on campuses across the nation. In between are employers who seek to draw prospective employees from campuses within the state or from campuses within the region (e.g., Pacific Northwest).

Student Participation. As the number of companies involved in on-campus recruiting increased, so did the number of students. The number of students participating in on-campus interviews climbed at all but one of the eight colleges and universities surveyed. For the combined total of eight campuses, student participation rose from approximately 8,700 during the 1995-96 academic year to 10,000 during the 1996-97 academic year or 15 percent (see Figure 19).

Figure 17
Occupations Sought by On-Campus Recruiters
Source: LMEA Supply-Demand Survey



More than half of the campuses reported that their students were very successful in efforts to obtain employment through on-campus interviews, and also indicated that students had multiple offers from which to choose. This was particularly evident in the information technology, engineering, and finance and accounting fields. In fact, some employers are going so far as to offer jobs to undergraduates with the expectation that those individuals will work for the time being as interns and then transition into permanent, full-time status immediately upon earning their degree. This is an indication of the lengths some employers will go to deal with current labor and skill shortages.

Figure 18
On-Campus Recruiters by Hiring Scope
Source: LMEA Supply-Demand Survey

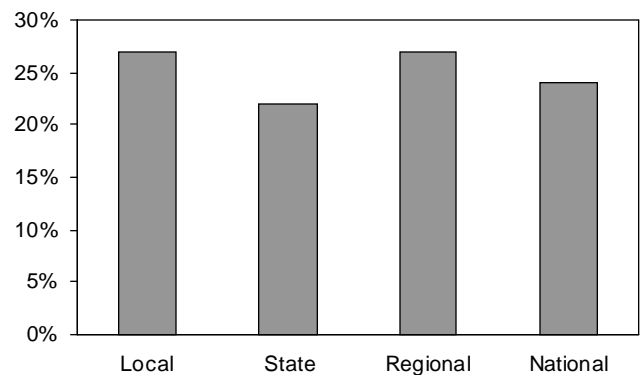
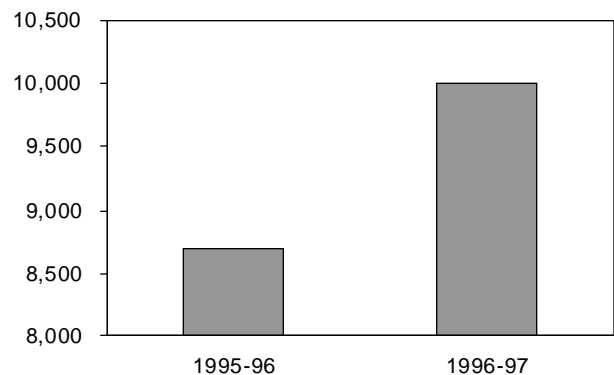


Figure 19
Student Participation in On-Campus Interviews
1995-1996 and 1996-1997
Source: LMEA Supply-Demand Survey



Job Service Centers

Employer Assistance. As a whole, the JSCs saw the number of employers seeking recruitment, screening, or placement assistance climb from roughly 6,700 in fiscal year 1995-96 to 7,900 in fiscal year 1996-97 for a net gain of 18 percent (see Figure 20).

Job Orders. One of the principal services of JSCs is that of fielding job orders from local employers and seeking to match qualified job seekers. The total number of job openings reflected in the job orders received by the 16 JSCs in this survey rose from approximately 43,000 in FY 1995-96 to 51,000 in FY 1996-97, a net increase of 19 percent (see Figure 21).

Job Placement Applicants. The flip side of job orders is job applicants. These are individuals

who register with the JSC for job placement assistance. For the 16 JSCs represented in this survey, the number of individuals seeking job placement services grew from roughly 167,000 in FY 1995-96 to 180,000 in FY 1996-97 for an increase of 8 percent (see Figure 21).

Aside from the usual trade and service jobs, several JSCs noted consistently high demand for professional and technical occupations as well as machine trades—occupations that tend to be dominated by high technology and aerospace employers, respectively.

What is Causing the Labor Shortage?

A number of demographic and economic trends have converged to the extent that they are now contributing as a whole to the current labor shortage. Those trends include the following:

- Baby Boom/Baby Bust Shift
- Strong Job Growth in Washington
- Slowing Labor Force Growth in Washington
- Lower Rate of Migration into Washington
- Rising Cost of Living in Washington
- Disparate Compensation in Washington

Baby Boom/Baby Bust Shift. As a national issue, the *Baby Bust Generation* is proving to be a less than adequate source of replacement workers for the rapidly exiting *Pre-War Generation* (see Figure 22 on the next page). The situation has been compounded by the sheer number of companies and jobs created by the *Baby Boom Generation*. Over the past five years alone, the strong national economy has generated 11 million net new nonfarm jobs and, in the process, increasingly exacerbated the labor supply situation.

Strong Job Growth in Washington. Against the backdrop of a national demographic shift were a number of regional factors that have fostered an even more acute labor shortage in Washington. First and foremost is the pace of job growth in Washington—well ahead of the nation in both 1996 and 1997 (see Figure 23 on the next page).

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Figure 20
Employers Seeking JSC Assistance
FY 1995-1996 and FY 1996-1997
Source: LMEA Supply-Demand Survey

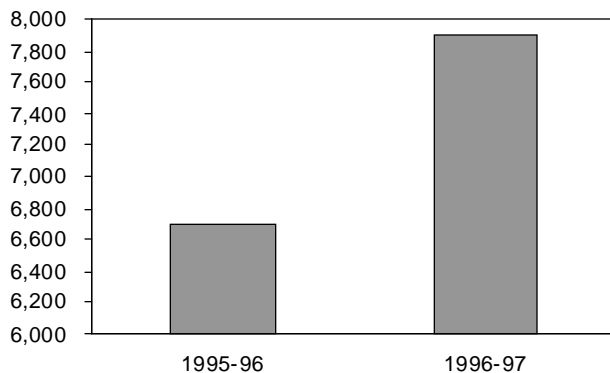
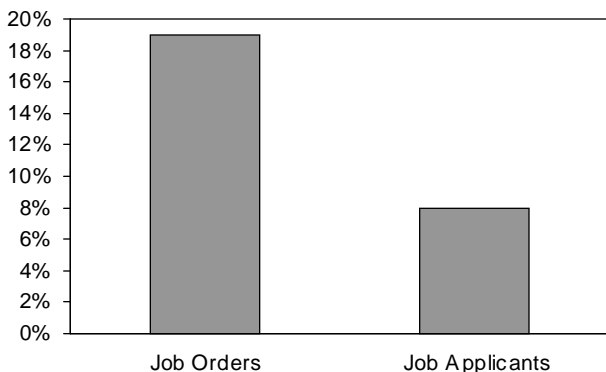


Figure 21
JSC Job Orders vs. Job Applicants
Percent Change from FY 1995-1996 to FY 1996-1997
Source: LMEA Supply-Demand Survey



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Figure 22

Population by Age Groups
Selected Years

Source: Office of Financial Management

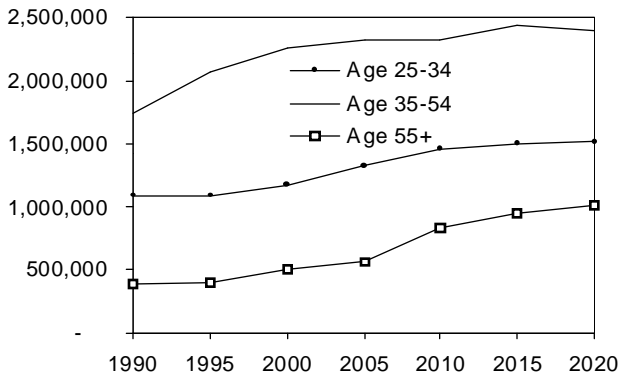
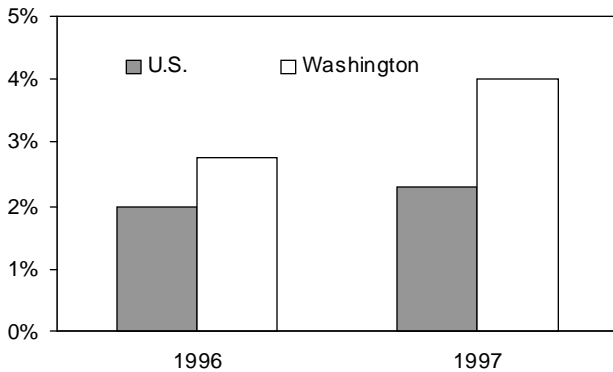


Figure 23

Nonfarm Employment Change
Washington and U.S., 1996 and 1997

Source: ESD/LMEA and DOL/BLS



Slowing Labor Force Growth. From 1991-96, Washington's resident civilian labor force expanded at a 2.6 percent annual rate compared to 1.0 percent for the U.S. (see Figure 24). However, the pace of labor force growth in Washington is believed to have peaked in 1995 and is subsequently forecast to moderate progressively over the next 25 years; from 2015-2020, annual growth is projected to be a scant 0.5 percent (see Figure 25). Indeed, the state's labor force grew 2.5 percent in 1996, considerably lower than the 3.7 percent in 1995.

The state's labor shortage will become even more critical as the economy's ability to create jobs becomes increasingly constrained by the slow labor force growth. This would produce

Figure 24

Civilian Labor Force Change
Washington and U.S., 1991-1996

Source: ESD/LMEA and DOL/BLS

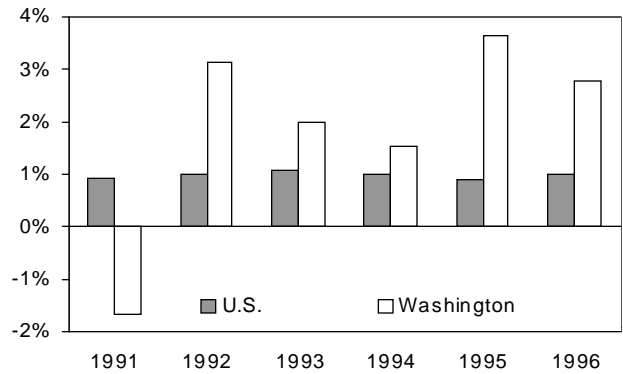
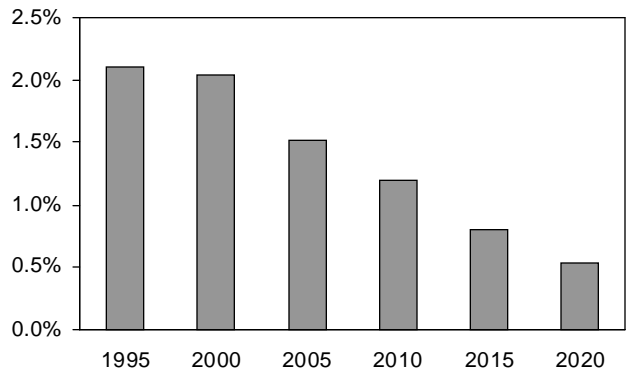


Figure 25

Civilian Labor Force Projections
Washington, Selected Years

Source: ESD/LMEA and OFM

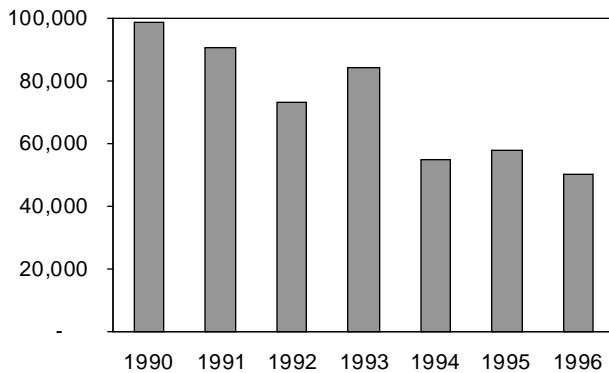


wage pressures or, where possible, substitution of capital for labor. The former would precipitate lower productivity while the latter, if effective, could boost it.

Less Migration into Washington. As growth in the existing labor force slows, attention will invariably be focused on net migration. Net migration, a traditional source of labor force growth, peaked in 1990 at 98,500 and eased virtually every year since then to 50,600 by 1996 (see Figure 26 on the next page).

There were reasons for that decline. As a regional issue, the push-pull factor between Washington and neighboring states or regions has diminished. California's economy rebounded from a severe and protracted downturn and is on

Figure 26
Net Migration
Washington, 1990-1996
 Source: Office of Financial Management



the upswing again. Californians are less compelled to leave the state for economic reasons, thus removing a principal “push” factor. And while the jobless rate is at a record low, as of November, 30 states bested Washington’s rate. Thus, other state’s labor markets are as tight or tighter and unlikely to be a source of labor.

Rising Cost of Living in Washington. As noted above, rising costs offset what was once a major economic incentive to migrate to Washington. In the 1990s, that edge has eroded as inflation measured by the Consumer Price Index (CPI) shows the Seattle CPI at a consistently higher annual rate compared to the U.S. CPI. Granted, the Seattle CPI is not indicative of consumer price changes across the entire state; however, the majority of new jobs have and are being created in the Seattle-Tacoma CMSA so it is a valid indicator of the high cost environment facing many newly-arrived job seekers. Indeed, one survey respondent, a high tech equipment manufacturer, specifically cited the high cost of living in the Seattle-Everett area as having a significant impact on its ability to attract qualified applicants.

Disparate Compensation. The aforementioned factors have led to an increasing disparity between what employers are willing to pay and what qualified applicants are willing to accept. The labor shortage is compelling employers who have financial resources to offer more generous compensation packages to attract or retain the

workers they want. This tends to handcuff smaller employers with less deep pockets.

Evidence of this surfaced in the LMEA labor market survey. Asked if job candidates turned down their offers because of other offers elsewhere, half of the employers surveyed responded “yes.” In those cases, most cited higher pay offered by another company, particularly in the high tech field. There was also a disparity between the central Puget Sound region and the rest of the state, with employers in the smaller areas citing their inability to compete with Puget Sound wages. It is estimated that the pay differential between metro areas and non-metro areas is from 20 to 25 percent.

Implications for Washington’s Economy

The principal issues facing Washington in the wake of labor market tightness driven by a labor shortage are:

- Rising Labor Costs and Inflation
- Out-of-State Relocation or Expansion
- Suppressed Economic Growth
- Lost or Lower Productivity
- Stock Devaluation

Rising Labor Costs and Inflation. Whether in the form of salaries, wages, benefits, training, recruitment, or relocation, labor shortages put upward pressure on labor costs. Furthermore, if they are able, employers often pass these costs on to consumers through higher prices on goods and services. There is already residual evidence that these types of pressures are increasing. So far, though, these regional data have not moved Federal Reserve Chairman Alan Greenspan to raise interest rates. The Fed policy changes have been fended off by higher productivity that has offset pay gains and by the strong U.S. Dollar.

Out-of-State Relocation or Expansion. If labor or skill shortage becomes acute to the point that it directly impacts a company’s day-to-day operations, one of its options is to relocate or expand in an area where the labor market situation is more favorable. To be sure, any decision to relocate or expand elsewhere would have to be

Continued page 16

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measured against the labor market situations in other states or regions. To the extent that many of the current labor and skill shortages are viewed as national issues, most Washington firms would be hard pressed to relocate or expand elsewhere based on these factors and these factors alone.

As testament to the lengths some employers will go to find skilled labor, *The Olympian* reported that one firm relocated from Spokane to Shelton to find skilled machinists unavailable in the Spokane area due to domination of hiring in that field by the local Boeing facility.

Suppressed Economic Growth. Higher labor costs and inflation can mute economic growth in several ways. First, rising labor costs alone cut into employer profit margins, particularly if they are in a price competitive market and cannot pass the costs on to consumers. This, in turn, undercuts an employer's ability to reinvest in the business and, by extension, create new jobs. Second, if employers are forced to pass higher labor costs on to consumers, the market response may be weakened demand for the good or service, which would constrain growth and new job creation.

Lost or Lower Productivity. For those employers forced to settle for less qualified workers, the result is likely to be lower productivity. The fewer necessary skills the worker brings to the workplace, the greater the cost, particularly for training. This raises the cost per unit of output while simultaneously slowing output, which translates into lower productivity.

Stock Devaluation. In the case of public-owned companies, if their labor situations trigger the aforementioned chain of events and they are unable to meet the expectations of financial market analysts (particularly with respect to their price-earnings ratio), it is possible that their stock would be downgraded. Moreover, in a state like Washington where a sizable degree of personal wealth is tied up in stocks (particularly in the information technology sector), a significant devaluation could potentially affect state personal income and have a chilling effect on consumer spending. That, in turn, would have a ripple effect on state revenues.

What Employers Can Do

Available Strategies. The LMEA survey identified nine strategies employers might use to attract qualified candidates for position openings that were difficult to fill. The respondents were allowed to check off as many categories as were applicable. It also gave employers the opportunity to identify strategies not already among the nine listed in an "other" category. The nine strategies were:

- Increase Pay
- Increase Benefits
- Signing Bonuses
- Finders' Fees
- Flexible Work Hours and Arrangements
- Recruit Regionally/Nationally
- Hire Less-Skilled Workers
- Position Unfilled; Use Existing Workers
- Position Unfilled; Lost Production/Output

Strategies not included in the survey but identified by survey respondents and in human resource literature include:

- Internet job postings, especially technology-based jobs
- Advertising on television, radio, newspapers, movie trailers
- Downsized or restructured worker recruitment
- On-campus recruitment
- Underutilized worker (immigrants, elderly, handicapped) recruitment
- Training and development
- Contracting out
- Temporary workers
- Job Fairs
- Job Service Centers

Strategies Employed. The survey revealed that three strategies—pay increases, regional/national recruiting, and use of existing workers—were used by approximately 40 percent of the survey respondents to address their particular labor shortages (see *Figure 27 on the next page*). Hiring and referral bonuses, lower-skilled workers, unfilled positions, benefit increases, and finders' fees were employed as strategies by 15-20 percent of the survey respondents. "Other"

Figure 27

Strategies Used by Employers

Source: *LMEA Supply-Demand Survey*

| | |
|---|-----|
| Increase Pay | 39% |
| Increase Benefits | 16% |
| Signing Bonuses | 21% |
| Finders' Fee | 16% |
| Flex Time | 8% |
| Regional/National Recruitment | 42% |
| Hiring Lower-Skilled Workers | 21% |
| Position Unfilled; Use Existing Workers | 42% |
| Position Unfilled; Lost Production/Output | 18% |
| Other | 18% |

strategies fell into this range as well with employers citing strategies such as increased training, employee referrals, and non-permanent workers (independent contractors, interns, trainees, and apprentices). The least utilized strategy was flexible schedules or work arrangements with only eight percent of the respondents exploring this option.

Effective Strategies. Of course, employing a strategy and seeing that strategy succeed can be two entirely different things. After being asked to identify the strategies they used to address labor shortages, the survey respondents were asked to identify those which effectively corrected the situation (see *Figure 28*).

Increased pay, one of the most widely used strategies, was regarded as effective by nearly 90 percent of the employers who used it. This would appear to underscore the adage that “money talks.” The effectiveness of the two other widely used strategies, though, was debatable. The use of regional and national recruitment was deemed effective by just over half of the employers who used it, while utilizing existing workers was found to be effective by less than a third of the employers who used it.

The effectiveness of the strategies used by 15-20 percent of the employers surveyed was mixed. To be sure, bonuses, finders' fees, and increased benefits proved to be successful strategies with approximately 80 percent of the employers successfully using them. The hiring of lower-skilled workers, however, was a toss-up with half of the employers finding the strategy effective and half finding it ineffective. Not surprisingly, a mere 14 percent found that letting the position go unfilled altogether was effective.

Figure 28

Effectiveness of Employer Strategies

Source: *LMEA Supply-Demand Survey*

| | |
|---|------|
| Increase Pay | 87% |
| Increase Benefits | 83% |
| Signing Bonuses | 88% |
| Finders' Fee | 83% |
| Flex Time | 100% |
| Regional/National Recruitment | 56% |
| Hiring Lower-Skilled Workers | 50% |
| Position Unfilled; Use Existing Workers | 31% |
| Position Unfilled; Lost Production/Output | 14% |
| Other | 86% |

Interestingly enough, flexible work schedules and arrangements, though used by the fewest number of employers surveyed (8 percent), emerged as an effective strategy for each of those employers, resulting in a 100 percent success rate. Of all the strategies explored, this one perhaps best illustrates a stubborn gap between the interests of employers and employees.

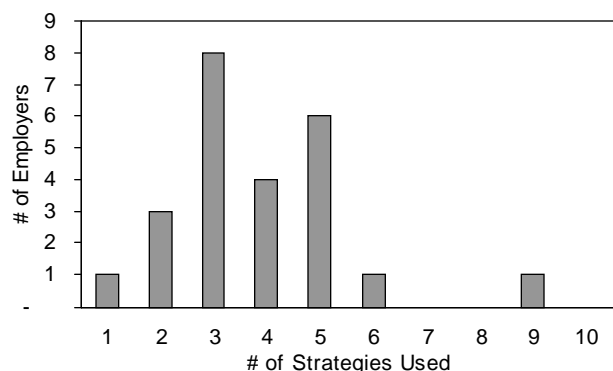
Perhaps most striking was how few of the strategies were checked as having been explored by employers or those who worked closely with employers. Bear in mind that all of the survey respondents acknowledged that they were currently having difficulty filling certain job openings. That their recruitment was limited in large measure to three to five strategies suggests that few employers have exhausted the range of strategic options (see *Figure 29*). One employer used nine strategies while another used six. In some cases, this may be because some strategies simply are not workable for a particular industry or occupation. A more likely reason, though,

Continued page 18

Figure 29

Number of Strategies Used by Employers

Source: *LMEA Supply-Demand Survey*



may be that employers either have not or will not acknowledge that the labor market situation has shifted. The not too distant paradigm of worker surpluses caused by cyclical downturns and restructuring is no longer a reality. The new reality is one of a seller's market fueled by labor and skill shortages.

■ *Gary Kamimura*
Economic Analyst

Inflation and Wages

ECONOMIC TRENDS

Wages are rising. No, wait a minute, wages are falling. Inflation is insignificant, and by most measures overstated. No, wait a minute, inflation is still a concern, and could rear up at any moment throwing the economy into disarray.

There you have it, the current range of opinion on two subjects—wages and inflation—for which there appears to be as many opinions as there are sources of data. These two subjects perfectly illustrate the old joke that if you lined up all the economists in the world end to end, you still couldn't reach a conclusion. But considering the volumes of analysis by throngs of economists who sorted, sifted, modeled, and tortured terabytes of data, that there is such a lack of consensus is really not surprising.

This report will share the current trends in these measures so that readers can gain an appreciation of the variety of data and the conclusions one could draw. One such conclusion is that average wages have been static over the past 20 years.

Rising Prices

In order to understand inflation, we need to understand the reasons for rising prices. These reasons could be divided into three categories: aggregate demand, scarcity, and the wealth illusion.

Aggregate demand describes the combination of either population growth, real gains in income, or a combination of both. Population growth, in and of itself, will push out aggregate demand for all goods and services. By simply increasing the numbers of consumers, demand will rise, and production, output, and the price structure will adjust accordingly. Real gains in income will also result in increased demand as consumers spend greater levels of disposable income.

Scarcity is another reason for increased prices. Scarcity can be limited to one particular

good or service. If a freeze in South America decimates the coffee bean crop, and the price of coffee goes through the roof, that is a scarcity driven price increase. Is that inflation? Not in the classic sense. And even if Starbucks does not drop the price of its refills after the ensuing bumper crop, that is still not inflation, it's strategic pricing. Unlike demand driven price increases, scarcity driven increases can almost immediately lead to substitution, although coffee aficionados may find the prospect of drinking tea rather difficult. Scarcity can also lead to business entry into the substitute field because of the extraordinary, though temporary elevated profitability resulting from increased demand.

These two reasons, aggregate demand, and scarcity could be called legitimate reasons for price increases, because they are driven by market factors. As a result, the mechanism for accommodating such increases is also market based.

The Wealth Illusion

On the other end of the legitimacy spectrum is what is known as the classic *too much money chasing too few goods* scenario. What is being inflated is the supply of money, i.e. the monetary base without a corresponding increase in economic output. This gives the illusion of greater wealth, but is simply more money in circulation that, without increases in output merely results in higher prices for all goods and services.

Price Measures

Regardless of what inflation is or is not, policy makers and consumers still measure inflation by what happens at the cash register, even though these are, in reality, symptoms of inflation and not inflation itself. There are four particular measures that capture either price changes or are used as deflators:

- Consumer Price Index
- Producers Price Index
- Employment Cost Index
- Gross Domestic Product Deflator for Personal Consumption

Consumer Price Index

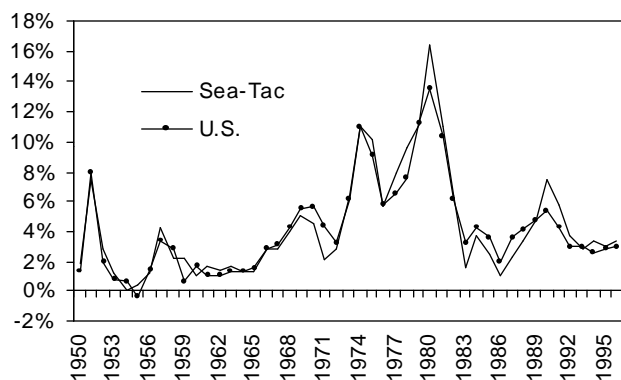
The most commonly used measure of inflation, or what some call the cost of living, is the Consumer Price Index or CPI produced by the U.S. Department of Labor, Bureau of Labor Statistics (BLS). There are several versions of the CPI; the one that covers the largest population base is the consumer price index for all urban consumers (CPI-U). The CPI-U:

- Covers 80 percent of the population
- Measures changes in a fixed market basket of goods
- Data are collected in 85 urban areas
- Covers 21,000 retail and service establishments
- Surveys 40,000 landlords or tenants, and 20,000 owner occupants

In contrasting the Seattle Tacoma region with that of the nation, it appears that consumer prices are more volatile locally. When the economy is on the up swing, prices in the Seattle-Tacoma area advance more quickly than the national norm (*see Figure 30*). No doubt this is caused by the higher than average population growth associated with this region's economic booms. When the economy is in recession, however, prices advance more slowly locally—1971 and 1983 being most evident.

Continued page 20

Figure 30
CPI-U Annual Percent Change
U.S. and Seattle-Tacoma Region, 1950-1996
Source: Bureau of Labor Statistics



Economic Trends *continued*

Slow to Adjust

One complaint about the CPI is that it doesn't respond quickly enough to changes in consumer purchasing patterns. This may be true, although the argument has been emphasized from only one perspective. The argument is if wages are in actual decline, consumers will substitute lower priced lower quality items rather than remain with higher priced, higher quality items they purchased in the past. Makes sense. But the converse would also be true; if wages are rising then consumers will substitute higher priced, higher quality items for the lower priced lower quality items they used to buy.

In another sense, since the CPI is used as an adjunct standard of living indicator, it is incumbent to have a fixed market basket of goods in order that any disconnect between prices and income, particularly wage income, becomes evident. It is only by such divergence that increases or decreases in the standard of living can be gauged.

Producer Price Index

The Producer Price Index (PPI) also is a BLS product. This is a monthly indicator that measures the average change in selling prices received by domestic producers for their output. Those prices included in the PPI are from the first commercial transaction. What is significant about the PPI is that it is supposed to be a leading indicator for consumer prices.

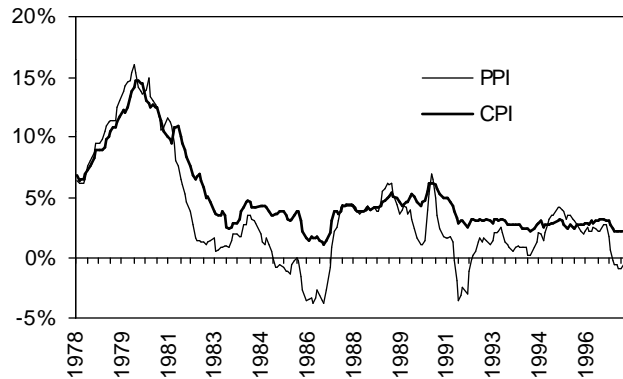
There are three primary systems of the PPI:

- Over 3,200 commodity price indexes organized by type of product and end use
- Over 500 industry price indexes, including price indexes for approximately 9,750 specific industry products and product categories
- Several major aggregate price indexes organized by both commodity-based and industry-based stage of process

The PPI sample includes approximately 34,000 establishments that provide close to 119,000 monthly price quotations.

The best way to view the PPI is to overlay it on the CPI. It is obvious that the PPI is much more variable than the CPI (*see Figure 31*). This should not be too surprising as consumer prices would be moderated through traditional pricing mechanisms.

Figure 31
PPI and CPI Annualized Monthly Percent Change
U.S., January 1970 - September 1997
Source: Bureau of Labor Statistics



What is noteworthy is the leading quality that can be discerned in 1980 and 1982 is not particularly evident in the more recent points on the graph. This may be the result of the quicker pace of current production and inventory methods. Our *just-in-time* economy may have compressed the PPI/CPI relationship.

Employment Cost Index

BLS has another series called the employment cost index or ECI. The ECI is a quarterly series that measures changes in wages and benefits in the total private economy and the public sector, but excludes farms, households, and the federal government. This is a relatively recent series started in 1982.

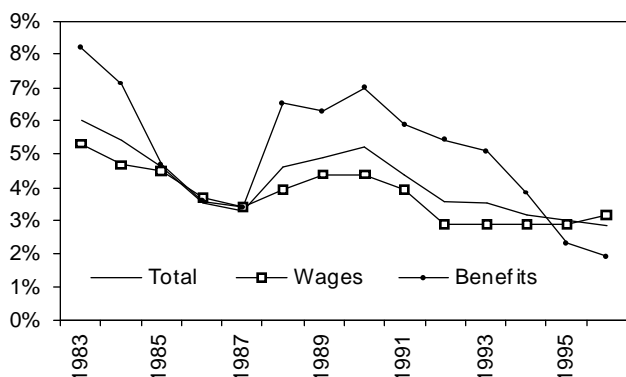
The ECI is not a series that can be used as a deflator. It merely measures the nominal changes by quarter. Nonetheless, it is a useful tool in discerning wage trends.

The Employment Cost Index covers:

- 17,500 occupations in 4,100 establishments in private industry
- 4,400 occupations in 800 establishments in state and local government

In the time that data have been kept, it has been infrequent that wages and benefits have moved in unison (see Figure 32). Between 1983 and 1996, the norm has been one in which gains in benefits have out-paced wage increases. In the latter part of this period, that trend collapsed with the great health care debate of 1993. Since then, wage gains have surpassed benefit gains, a phenomenon not seen in the decade prior.

Figure 32
Employment Cost Index Annual Percent Change
Total, Wages, and Benefits: U.S., 1983-1996
Source: Bureau of Labor Statistics



Gross Domestic Product Deflator for Personal Consumption Expenditures

Probably the least well-known inflation indicator is the GDP deflator for personal consumption expenditures. This indicator is derived from the National Income and Product Accounts as produced by the U.S. Department of Commerce, Bureau of Economic Analysis (BEA). The national income and product accounts are a system of calculating the nations' gross domestic product. Because it is based on the broadest measure of output—GDP—it tends to be the most desirable since it does not exclude any population groups as does the CPI.

These data are also *chain-weighted*, which means that shifts in consumption patterns are captured more quickly than in the CPI. To their credit, BEA uses as much available data from external sources as possible, gathering data from BLS and the Department of Agriculture among others.

Contrasting the personal consumption expenditure (PCE) deflator with the CPI is revealing. Changes in the PCE have been consistently lower than changes in the CPI (see Figure 33), particularly when inflation is high. That relationship is not near as apparent when inflation is low, but that may be because differences in large number are inherently more obvious than in small numbers.

Over time, however, the PCE/CPI relationship has some interesting ramifications. By equalizing both indices to a common starting point, it is even more apparent that the CPI advances more quickly than the PCE (see Figure 34). On a cumulative basis, between 1970 and 1996, the CPI is over 8 percent higher than the PCE. While

Continued page 22

Figure 33
PCE and CPI Annual Percent Change
U.S., 1970-1996
Source: Bureaus of Labor Statistics & Economic Analysis

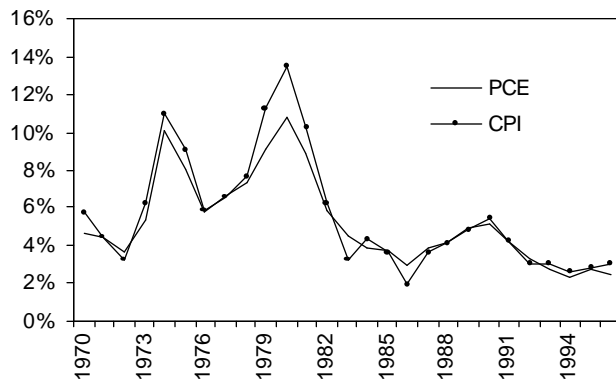
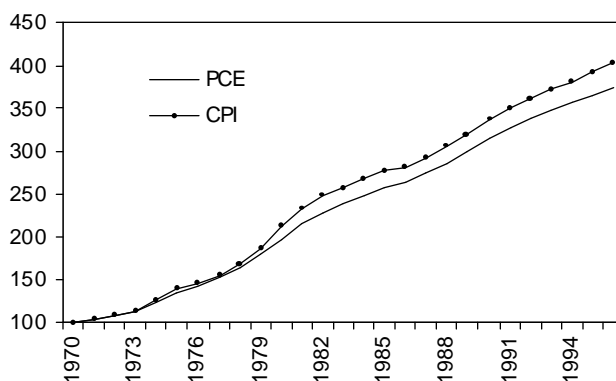


Figure 34
PCE and CPI
Indexed to 1970=100
Source: Bureaus of Labor Statistics & Economic Analysis



Economic Trends *continued*

that may not seem like a lot for a 26-year period, consider what this would mean in terms of measuring real wages over time. Also consider how this could impact national fiscal policy as many budget items are adjusted using the CPI.

WAGES

There are just about as many wage measures as inflation measures. Those that will be discussed include:

- Average covered wages
- Hours and earnings data
- Employer costs for employee compensation data
- Per capita personal income data

There are other wage and income measures in addition to the above, but these are the most well known.

Average Covered Wages

Covered wages are those wages reported to the Employment Security Department for those employees covered by the Unemployment Insurance program. These data are part of the broad Federal-State cooperative programs and are overseen by BLS. The UI program covers over 90 percent of all workers in Washington. Similar relationships exist amongst the other states, so the data are comparable between states, especially at the industry level.

Over time, the current dollar graph of average covered wages looks quite attractive (*see Figure 35*). But as stated earlier, this is the illusion of wealth. The picture changes dramatically when the data are deflated, i.e. when inflation is accounted for. Using the CPI, there is a serious decline in average covered wages for both the state and nation between 1973 and 1981 (*see Figure 36*), though the decline for the nation was less pronounced than that of the state. By this measure, wages fell 11.5 percent nationwide and 18.0 percent in Washington.

The nation and Washington differ on two particular points in the CPI adjusted average

Figure 35

Average Covered Wages

U.S. and Washington, 1970-1996

Source: Bureau of Labor Statistics & Employment Security

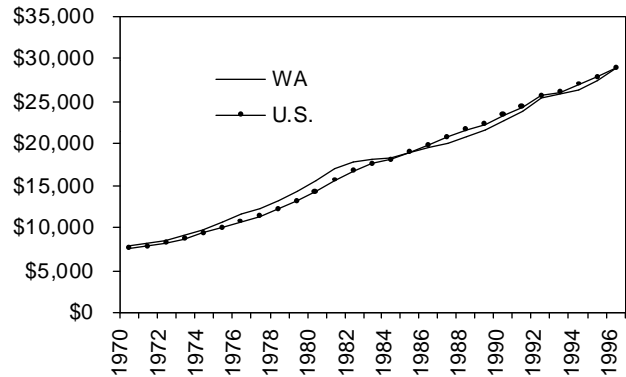
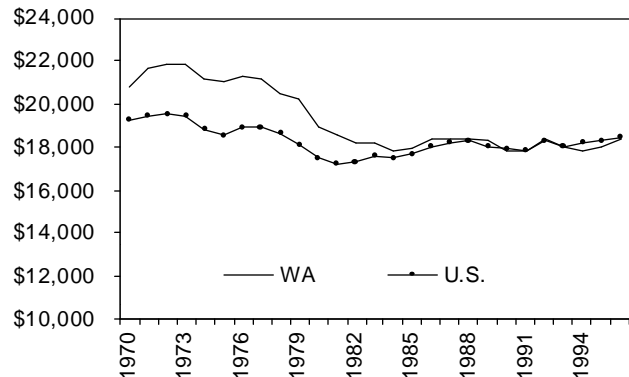


Figure 36

CPI Adjusted Average Covered Wage

U.S. and Washington, 1970-1996

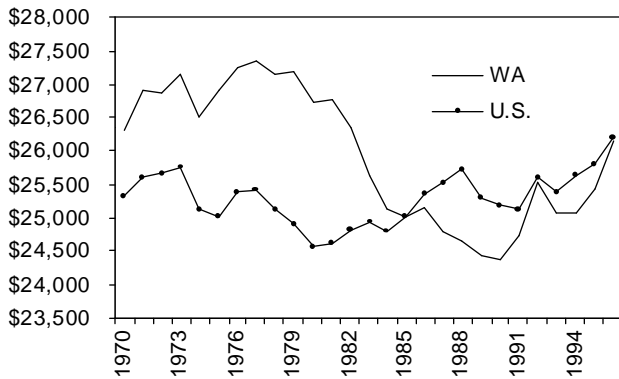
Source: Bureau of Labor Statistics & Employment Security



covered wage trends. The wage decline experienced nationwide was much less severe, the trough occurred in 1981, and wages rebounded by about \$1,200 since. In Washington, the decline continued until 1984, and wages have hovered in a \$500 range since.

When the covered wage data are adjusted using the PCE deflator, a bit different pattern emerges (*see Figure 37 on the next page*). Nationwide, wages fell by 4.4 percent between 1973 and 1980, and have since rebounded above their earlier peak. Covered wages in Washington peaked later, in 1977, declined by 10.9 percent through 1990—a much later trough—and rebounded aggressively through 1996, though were still below their earlier peak.

Figure 37
PCE Adjusted Average Covered Wage
U.S. and Washington, 1970-1996
Source: BLS, BEA, and ESD



With just this example, it is apparent why there could be confusion and disagreement as to wage trends.

Average Weekly Earnings

Average weekly earnings are another BLS monthly series. These data differ from average covered wages in both methodology and scope. Average weekly earnings data are a product of the Current Employment Statistics, establishment survey. This is a sampling of employers used in generating the current nonagricultural employment figures. It covers private, production and non-supervisory workers, or about 83 percent of all nonfarm workers.

This discussion will focus on the weekly earnings in manufacturing for Washington and the nation, as these are the data that are most comparable. Throughout the period in question, Washington manufacturing wages surpassed those of the nation (see Figure 38).

After adjusting the weekly manufacturing data with the CPI, the trend is definitely south—peaking in 1978 and trending down since (see Figure 39). Loss of lumber, shipbuilding, paper, and other high-wage manufacturing jobs have played a leading role in this decline.

Using the PCE to adjust weekly manufacturing wages results in a shift in pattern (see Figure 40). Wages peaked in about 1978 for the nation and about 1981 for the state. From peak to trough, the average weekly wage in manufac-

Figure 38
Weekly Earnings in Manufacturing
U.S. and Washington, 1970 - 1996
Source: BLS and ESD

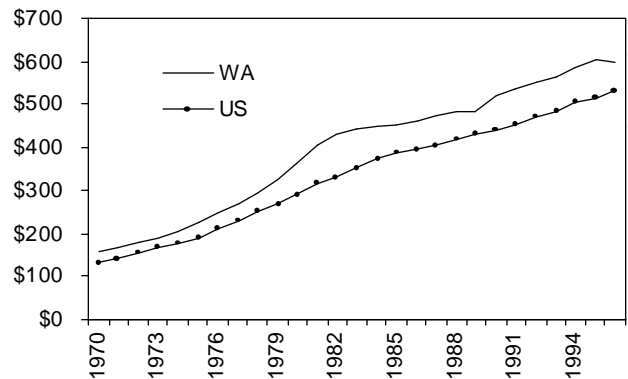


Figure 39
CPI Adjusted Weekly Manufacturing Earnings
U.S. and Washington, 1970-1996
Source: BLS and ESD

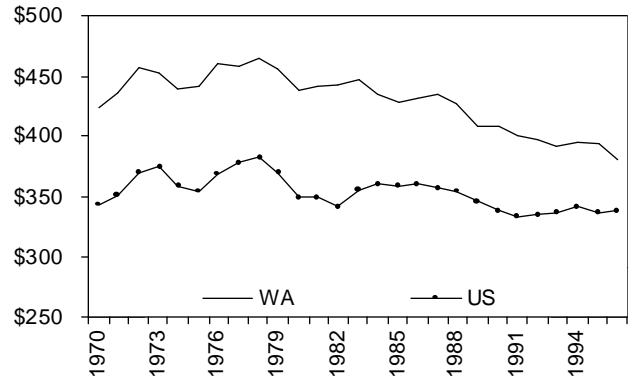
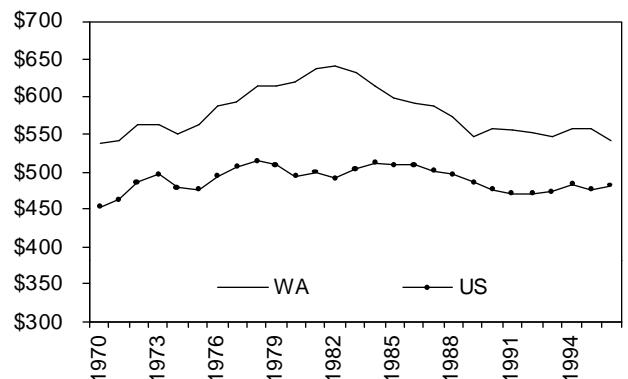


Figure 40
PCE Adjusted Weekly Manufacturing Earnings
U.S. and Washington, 1970-1996
Source: BLS, BEA, and ESD



Continued page 24

Economic Trends *continued*

turing declined almost 15 percent in Washington and 8.7 percent nationwide.

Now in each of the previous examples, the declines have been pervasive and disturbing. But the difficulty with all these previous measures is that they counted just wages and salaries. The inclusion of *benefits* results in some interesting finding.

Employer Costs for Employee Compensation

Another BLS series is called employer costs for employee compensation or ECEC. This is derived from the same survey that generates the employment cost index. The employer costs for employee compensation series covers:

- Wages and salaries
- Detailed benefits, which include legally required benefits
- General occupations, industries, and regions

The ECEC is a relatively recent series, begun just in 1987. In order to extend the analysis, an older discontinued series called the Employer Expenditures for Employee Compensation (EEEC) was added. While current data includes public sector wages and benefits, this discussion only includes figures for private employment, as that is what is comparable in the earlier data.

Even with the obvious break in series, the wage and benefit relationship was heavily weighted in favor of benefit increases twixt 1974 and 1993 (*see Figure 41*). During this period, benefits had grown from about 25 percent above and beyond wages and salaries, to about 40 percent above and beyond wages and salaries.

While the wage benefit trade-off is important, consider what happens to these data when deflated. When deflated with the CPI, the total compensation package—wages and benefits—lost ground since 1977 (*see Figure 42*). When deflated with the PCE, there is still some decline in total compensation though to a somewhat lesser degree (*see Figure 43*).

Figure 41
Employer Costs for Employee Compensation
U.S., 1966-1997

Source: Bureau of Labor Statistics

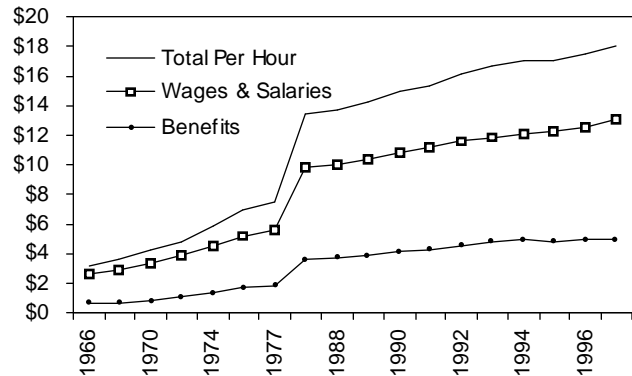


Figure 42
CPI Adjusted Compensation Costs
U.S., 1966-1997

Source: Bureau of Labor Statistics

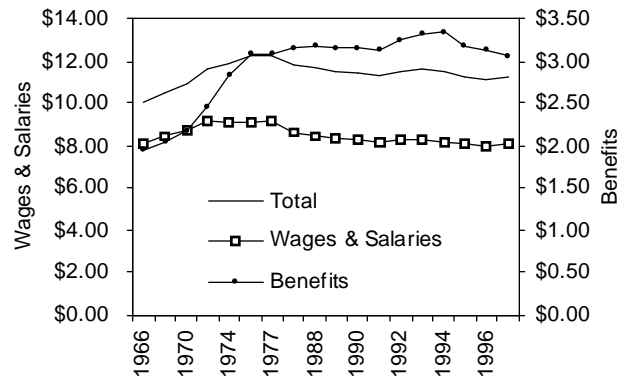
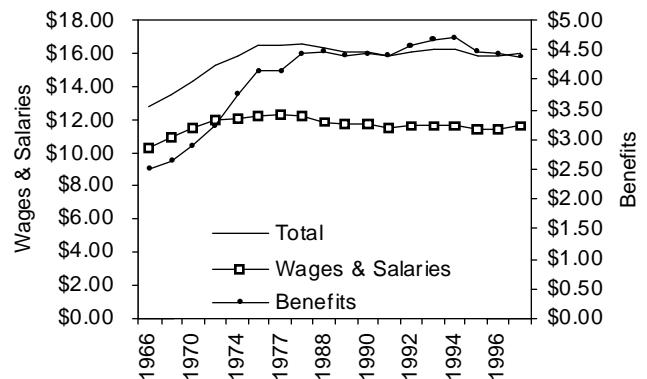


Figure 43
PCE Adjusted Compensation Costs
U.S., 1966-1997

Source: Bureaus of Labor Statistics & Economic Analysis



There are some other noteworthy trends as well. While the health-care controversy of 1993 was supposed to result in moderated benefit increases, in reality the average hourly contribution for benefits has declined in current dollar values, and not just when deflated. Wages, on the other hand, have shown a small, though perceptible gain. The net result is that total compensation, has remained flat overall.

Per Capita Personal Income

Now all of the previous data on wages and compensation are solid and reliable in terms of accurately relaying what it is they measure. And all have a bit different story to tell regarding wage trends. But there is another measure of wealth that can go a long way to clarify the whole issue of wage trends and that is per capita personal income.

Per capita personal income is the most comprehensive measure of wealth in that it does not exclude any population groups or other sources of income. It includes:

- Wages and salaries
- Proprietors income
- Interest, dividends, rents
- Transfer payments
- Farm income

The most distinct contrast between the previous wage measures and per capita personal income is how the state and national PCPI track much more closely. Though there are periods of divergence, the overall trends tend to move in unison (see *Figure 44*).

After deflating the data with the CPI, what is most apparent, and in dramatic contrast with the previously deflated wage measures, is that the trend is still upward (see *Figure 45*). In the CPI adjusted figure, there are periods when PCPI in Washington was significantly higher than the national average, but the most recent trends show the data converging. There is also a very distinct period when per capita income in Washington was in actual decline—from 1979 to 1983. These years were earmarked by the failure of the WPPSS nuclear projects and serious declines in the lumber and wood products sector.

Figure 44
Per Capita Personal Income
U.S. and Washington, 1970-1996
Source: Bureau of Economic Analysis

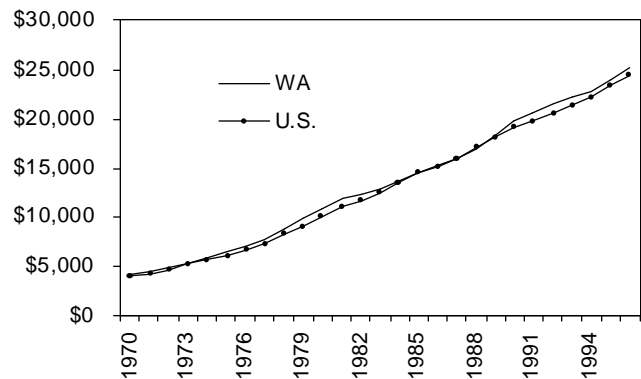
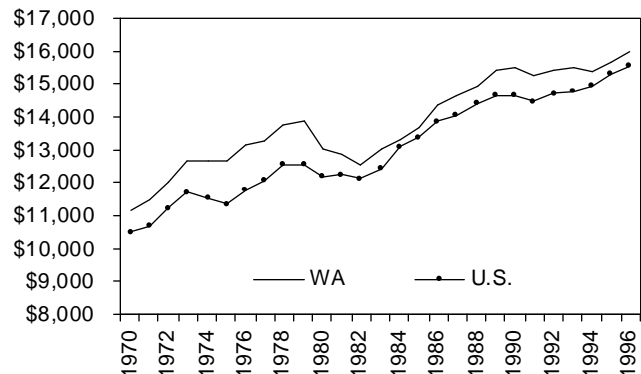


Figure 45
CPI Adjusted Per Capita Personal Income
U.S. and Washington, 1970-1996
Source: Bureaus of Economic Analysis & Labor Statistics



When deflated with the PCE, the state and national income lines also alternately converge and diverge (see *Figure 46 on the next page*) though not to the degree in the CPI adjusted series. In this graph, as in the CPI graph, PCPI in Washington recorded declines between 1979 and 1983. But the remaining trends are positive.

Differences Cause Controversy

Why such a difference between the per capita income graphs and all the previous wage graphs? Principally because wages have become a lesser share of the total income equation. Since 1970, wages, or earned income, has lost at least 10 percentage points in the income pie (see *Figure 47 on the next page*). In the meanwhile, investment income—interest, dividends,

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Economic Trends *continued*

Figure 46

PCE Adjusted Per Capita Personal Income
U.S. and Washington, 1970-1996

Source: Bureau of Economic Analysis

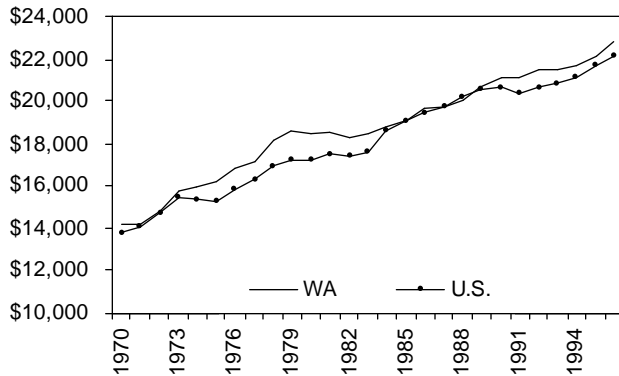
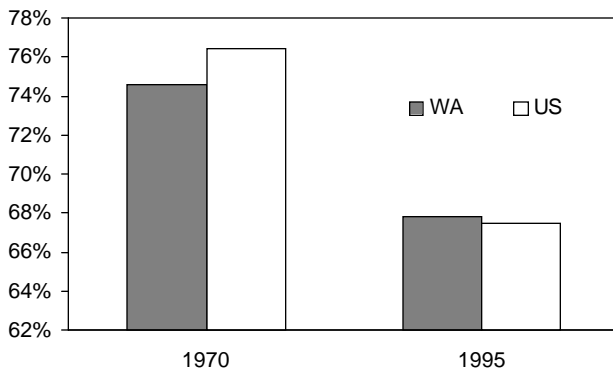


Figure 47

Earned Income % of Total Personal Income
U.S. and Washington, 1970 and 1995

Source: Bureau of Economic Analysis



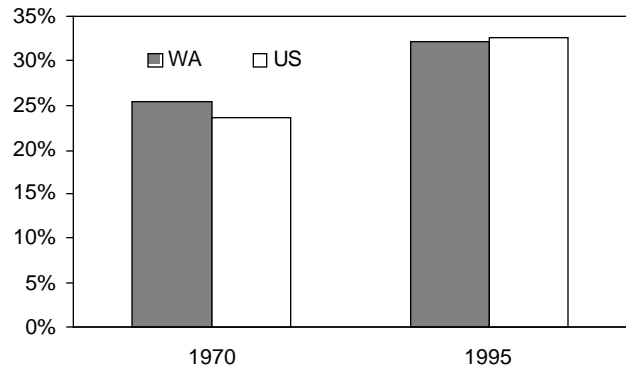
rent—along with transfer payments have become more important (*see Figure 48*). One of the first observations regarding income developments is that the average wage earner has little if any investment or transfer payment income; these income items tend to be found amongst the elderly or wealthier populations.

Such a disconnect between wage trends and income trends is likely the source of all controversy regarding whether the average worker is better off or worse off. While economists can profess with confidence that average *incomes* have been rising, no such claim can be made for *wages*. At best, average wages and benefits have been flat for the past 20 years, and within that average, consider the range of possibilities.

Figure 48

Investment and Transfers % of Total Personal Income
U.S. and Washington, 1970 and 1995

Source: Bureau of Economic Analysis



Why Slow Wage Growth

There are several reasons for the flat wage trends experienced from the mid 1970s until recently:

- A slow growing economy. Only recently can we claim to have historically representative economic growth. It takes a faster growing economy to generate growing wages. The surging economy of the past 18 months should play out in higher wages.
- Relatively cheaper imports have made it difficult to pass higher costs on to consumers and, as a result, wages have been constrained.
- Until recently the labor markets had an abundant supply of workers fueled by the baby-boom cohort. The more recent labor shortages are an endemic phenomenon related to low birth rates of the same baby-boomers and should be a net plus for future wage earners.
- The industry mix has certainly played a part in this trend. The ascendance of service employment in conjunction with the decline of employment opportunities in manufacturing has drawn down the average wage.
- Since 1950 the share of unionized workers has fallen by more than half, from over 30 percent to just 15 percent today.

Conclusion

With the variety of wage measures and inflation indices, it is easy to see how one could arrive at different conclusions using similar data. The crux of the matter is, by mingling the wage and inflation data, it becomes apparent that average wages have been relatively static for the past 20 years. It is also obvious that during periods of high inflation, like the late 1970s to early 1980s, the wealth illusion is greater and more likely to disrupt and corrupt consumption patterns. In the low inflation being experienced more recently, the relative slow advancement in real wages becomes more readily apparent.

■ *Robert Wm. Baker*
Senior Economic Analyst

A Study of 1996-1997 Salary Offers

SALARY DEVELOPMENTS

Proprietary Information

Labor Market Information comes in many forms and from many sources. Most of those sources are public, be they federal, state, or local government agencies. But proprietary sources of economic information have long been available too. These sources have filled specific niches in the vast economic and labor market information landscape. This article will highlight the product of one such enterprise.

The National Association of Colleges and Employers conducts a quarterly salary survey and reports the results. They compile responses from 343 career planning and placement offices of colleges and universities across the United States. The quarterly reports analyze the starting salary offers made to new college graduates by discipline. The following is an example of their quarterly analysis.

Salary Survey September 1997

Cabbage Patch dolls were all the rage when they were kids, so 1997 graduates understand demand. Now, they're the ones being grabbed up—by employers seeking cutting-edge skills and anxious to bring in fresh talent to keep their operations booming. These grads are blessed, graduating into a market characterized by an economy that's better than we've seen in a decade. Add low inflation, a resurgence of the manufacturing sector, and an ever-increasing demand for new technologies and the picture comes into sharper focus: New college graduates with the right mix of skills—or with the aptitude to acquire such skills—are being sought after by employers from every economic sector, every industry. As a result, starting salary offers to many

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Salary Developments *continued*

types of new bachelor's degree graduates are up, as this issue of *Salary Survey* shows.

Reports in the national media indicate that wage increases for existing workers aren't climbing much—2.8 percent increases seem to be the norm—but it also appears that many employers are using bonuses to keep workers happy while keeping wages down. Much of the data in this issue of *Salary Survey* seem to reflect that containment strategy, with many disciplines earning reasonable, not spectacular, increases. (With inflation below 2 percent, increases in the 4 percent range look pretty good.) Still, some disciplines saw their average offers climb substantially—7 percent, 8 percent, and up.

Technology was (and continues to be) the big story this year, driving demand for graduates in all disciplines—from the expected (computer engineering grads) to the unexpected (English majors, for goodness sake!), creating an economist's dream of symmetry—new jobs for new graduates to fill new needs of new markets.

While technology is getting a lot of media play, the resurgence of the manufacturing sector deserves at least equal credit for pumping up the economy and creating a job market receptive to new college graduates. Accounting for nearly 36 percent of all job offers to 1997 graduates, manufacturing is a major player in these boom times.

That darling of technology—the computer science grad—had a great year. Sought after by employers of all types and sizes, these grads saw their average offer rise 5.7 percent to \$37,215, and considering the short supply of students in this discipline, it's a good bet that the coming cycle of computer science grads will also be sifting through multiple offers as employers from every corner of the economy vie for their talents.

Most engineering disciplines earned increases—often substantial ones—in their starting salary offers. Hot, hot, hot computer engineering grads saw their average offer jump 6.8 percent to \$40,093, no surprise since they're being sought after by manufacturers and service employers alike. Computer and business equipment manu-

facturers accounted for 22 percent of their offers, but computer software/data processing employers—part of the service sector—were next most likely to offer jobs to computer engineering grads; these employers accounted for 18 percent of the offers. Also aggressively pursuing computer engineers were electrical/electronics manufacturers (17 percent of offers to computer engineering grads), consulting services firms (8 percent), communication services firms (8 percent), aerospace manufacturers (6 percent), and widely diversified manufacturers (6 percent).

Electrical engineers, also riding the technology wave, earned a 4 percent increase in their average offer, which now stands at \$39,546. Fifty percent of their offers came from just three employer types: electrical/electronics manufacturers (27 percent of offers); computer and business equipment manufacturers (13 percent); and aerospace companies (10 percent). Still, nearly a third of their offers came from service employers, notably those related to computers and technology, e.g., communication services companies, computer software/data processing firms, and consulting services organizations.

And if you need more evidence that manufacturing is back, look at the aerospace industry. Aerospace manufacturers accounted for nearly 7 percent of all offers to graduates with technical degrees and are largely responsible for the 8.2 percent increase aerospace engineering grads earned in their average offer, which now stands at \$38,334. Compare that to the early 1990s when the industry, besieged by defense cuts, trimmed its rolls and all but closed the doors to new college grads—providing less than 2 percent of the offers to 1992 grads. The aerospace industry is diversifying, with telecommunications, automotive parts, and other goods joining avionics as revenue streams.

In the business disciplines, the story is repeated, with most types of grads posting increases. Accounting grads saw their average offer rise just 2.7 percent to \$30,154—an “in line with inflation” type increase—but were handily outpaced by business administration grads, economics/finance grads, and construc-

tion management majors, all of whom saw their average offers rise substantially.

While technology-related jobs play a part, it's other opportunities afforded by a booming economy that are boosting offers to these grads. For example, thanks to new construction that's occurring in most parts of the country, the average offer to construction management majors rose 13.5 percent to \$30,011. Building materials and construction manufacturers, commercial banking employers, consulting services firms, and finance companies all sought construction management grads—some to create, others, perhaps, to protect their investment in the creation.

Finance companies, commercial and investment banks, consulting services organizations, insurance companies, public accounting firms, and merchandisers—plus a slew of other types of employers—offered opportunities for economics/finance graduates. They ended the 1996-97 recruitment cycle with an average starting salary offer of \$31,333, a 6.5 percent increase. Those studying business administration also had a wide variety of employers looking for their skills, with merchandisers topping that list, followed by finance companies, consulting services firms, commercial banks, and computer software/data processing firms. Averaging \$29,346—a 7.6 percent increase—these graduates pulled in 20 percent of their offers from manufacturers, another sign that the manufacturing sector is doing well.

Offers to humanities and social sciences graduates may best illustrate how well the economy is doing. It's this part of the student body that's always been something of an orphan child of recruitment, despite the claims of every humanities professor that "everyone wants to hire a liberal arts grad." Well, this year that old chestnut appears to be more than just wishful thinking, for while employers weren't lining up to hire, say, sociology majors, they did look to grads in these disciplines to round out their work forces. As you would expect, these grads got their fair share of "traditional" offers—to work in sales, in insurance claims, as management trainees, etc. But they also were offered high tech jobs—in soft-

ware design and development, systems programming, computer programming, and systems analysis and design, for example. And while their dollar amounts didn't reach the dizzying heights enjoyed by some grads in the technical disciplines (you know who they are), their salary increases were nothing to sneeze at, either. Letters grads, for example, can boast a respectable 3.2 percent increase in their average offer, which now stands at \$23,816. And the average offer to psychology grads climbed 5 percent to \$23,421.

Given the current economic conditions, the 1997-98 recruitment cycle should be an instant replay of the 1996-97 year. Technology and computer-related disciplines should continue to enjoy multiple offers, signing bonuses, and the limelight. Engineering grads, too, should be sought after as the manufacturing sector—the engine that drives the economy—continues its comeback, and other types of graduates should benefit from the overall economic good times.

Life beyond the campus could well have a profound impact on college recruiting as bidding wars for some types of experienced candidates heat up. In addition, there's speculation that wages for current employees will rise to reflect the pressures of the tight labor market. All of this could spell an increase in college recruiting, as the new grad offers up-to-date skills and a price tag that is typically much lower than that of the experienced candidate.

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Salary Developments *continued*

Editorial Comment

“If you want a good job, get a college education.” How many Baby-boomers grew up with that parental admonition ringing in their ears? In the past several decades, social and economic trends have confirmed the wisdom of that advice. Observers have noted the greater return in wages and salaries to those acquiring a higher education. Some three decades back, workers with at least a 4-year degree earned 53 percent more than those with just a high school diploma. Today, those who’ve acquired at least a bachelor’s degree are earning almost 96 percent more than workers with only a high school education.

In the previous article, average wages were examined, and the trend was found wanting. In this article, wages were examined from a different perspective. First the analysis was narrower—covering recent college graduates. Next it covered only one period—1996-1997. By examining the wages offered graduates for their first post-college employment, we can discern the value of a college education and the relative differences in demand by educational discipline.

Also within the report, is a comparison of wages offered to men and women within the same academic discipline. One of the more popular wage measures today is the ratio of average women’s wages compared to that of men. This has oft been held as evidence of sexual discrimination in the work place. Yet by using such an average, workers of all occupations, tenure, and full-time or part-time status are bundled together. This can cause measurement difficulties. The higher concentration of women in part-time jobs alone would lower their average wage relative to that of men. As a result, one would need to adjust the wages to account for occupational distribution, work force continuity (tenure), and part-time status to get a useful comparison. By examining the offered salaries to new college graduates by common disciplines, one can eliminate these adjustments altogether.

All in all, the National Association of Colleges and Employers produces a report that is comprehensive, timely, useful, flexible (it can be custom-fitted to a specific geographic region), and interesting. For employers in the market for recent college graduates, a subscription to this report would be valuable indeed.

LMI REVIEW

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- Jobs for Welfare Recipients
- High Tech Industries in Washington:
Definition and Trends

INTERNET SITES

U.S. Department of Labor
Bureau of Labor Statistics

<http://www.bls.gov/>

U.S. Department of Commerce
Bureau of the Census

<http://www.census.gov/>

U.S. Department of Commerce
Bureau of Economic Analysis

<http://www.bea.doc.gov/>

Board of Governors of the Federal Reserve

<http://www.bog.frs.fed.us/>

Resources for Economists on the Internet

*[http://econwpa.wustl.edu/EconFAQ/
EconFAQ.html](http://econwpa.wustl.edu/EconFAQ/EconFAQ.html)*
