

The background of the cover is a photograph of the Washington State Capitol building. The building is a large, classical-style structure with a prominent central dome and a portico supported by several columns. The scene is framed by the branches of cherry blossom trees in full bloom, with white and light pink flowers scattered across the image. The sky is a clear, pale blue.

# **Washington State Economic and Revenue Forecast**

February 2015  
Volume XXXVIII, No. 1



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# **Washington State Economic and Revenue Forecast**

Prepared by the  
Economic and Revenue Forecast Council

February 2015  
Volume XXXVIII, No. 1

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# Preface

## **ERFC forecasting structure and schedule**

The Economic and Revenue Forecast Council is required by Chapter 231, Section 34, Laws of 1992 (RCW 82.33.020) to prepare a quarterly state economic and revenue forecast and submit it to the Forecast Council. This report presents the state's economic and General Fund-State revenue forecast. It is issued four times a year. The Washington State GF-S revenue forecast is prepared quarterly in conjunction with the state economic forecast for the Economic and Revenue Forecast Council. The Council consists of six members, two appointed by the Governor and four appointed by the Legislature – one from each caucus of the Senate and House of Representatives. Current members of the Economic and Revenue Forecast Council are listed inside the front cover of this publication. The GF-S revenue forecast is updated four times per year: March (February in even-numbered years), June, September, and November. The staff of the Economic and Revenue Forecast Council is responsible for the preparation of the state's economic forecast and the forecast of the Department of Revenue's GF-S revenue sources as well as GF-S revenue from fines and forfeitures collected by the Administrative Office of the Courts. The staff is also responsible for review and coordination of the revenue forecasts of other agencies that collect relatively large amounts of GF-S revenue. These are the Department of Licensing, the Office of the Insurance Commissioner, the Lottery Commission, the State Treasurer, the Liquor Control Board and the Office of Financial Management. The Office of Financial Management is responsible for summarizing the forecasts of all other state agencies that collect relatively smaller amounts of GF-S revenue.

As a result of the passage of SHB 1105 on February 12th, the March 2015 final economic and revenue forecast was moved up to February 20th, 2015.

## **Forecast Procedure**

For each quarterly update, the staff of the Economic and Revenue Forecast Council, under the direction of the Executive Director, reviews (and if warranted, modifies) a national economic forecast prepared by Global Insight, Inc. A state economic forecast is then prepared using an econometric model that links Washington's economy to the national economy. After review by forecast workgroups; the Governor's Council of Economic Advisors; and the Economic and Revenue Forecast Council in public; this state economic forecast (updated for newly released data) is used to prepare a baseline revenue forecast for GF-S and the related funds. The forecasts are based on current law and administrative practices and do not reflect pending legal challenges to GF-S receipts until they are resolved. Additionally, at least two alternative forecasts are prepared for all GF-S and related fund sources and presented to the Forecast Council for approval. Once the Council approves the forecast, it becomes the official forecast of GF-S and related fund revenues.

Data in this publication are accurate through March 6, 2015

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## Executive Summary

- **The national and Washington economies are advancing at a solid pace. U.S. GDP growth slowed in the fourth quarter of 2014 to 2.2% (SAAR) after growing 5.0% (SAAR) in the third quarter.**
- **U.S. employment growth has exceeded expectations since the November forecast. The average of the past four months of 322,000 new jobs is the strongest job growth since 1997.**
- **The assumption of lower oil prices is the most significant change in the forecast.**
- **The Blue Chip Consensus GDP forecast now calls for real GDP growth of 3.2% in 2015, up from 3.0% in the previous forecast. We expect growth of 2.9%, 2.7%, 2.5%, and 2.4% in 2016 through 2019.**
- **The February forecast anticipates stronger Washington employment growth than assumed in November.**
- **Washington personal income growth was strong in the third quarter of 2014 but the forecast has been reduced due to lower expected interest income.**
- **Revenue collections since November have come in \$69 million over the forecasted amount.**
- **Changes to the economic forecast since the November forecast have resulted in increases in expected revenue of less than half of one percent for each of the forecasted biennia.**
- **The forecast of General Fund-State (GF-S) revenue for the 2013-15 biennium was increased by \$107 million and the forecast for the 2015-17 biennium was increased by \$129 million. The forecast for the 2017-19 biennium was increased by \$154 million.**
- **Existing research makes use of a monthly coincident economic index for each of the 50 states developed by the Federal Reserve Bank of Philadelphia to identify recession start dates four to six months in advance of official recession announcements.**
- **We have extended this research and our updated findings support the view that state coincident index data can be used to successfully identify recessions prior to their official announcement.**

## U.S. Economic Forecast

*The economy is advancing at a solid pace*

The national economy is advancing at a solid pace. Gross domestic product (GDP) grew 2.4% in 2014, despite slowing to 2.2% (SAAR) in the fourth quarter. Job gains have been strong, averaging 336,000 per month over the past three months. Unemployment continues to fall and consumer confidence is picking up. Household spending has increased, helped by the recent plunge in gas prices. Home values are once again increasing and stock prices are hitting records. Significant threats to the economic recovery remain, however, keeping uncertainty elevated. Overall, economic activity has generally been in line with the November baseline forecast of solid growth and declining unemployment.

*GDP and employment growth have been strong*

Real GDP growth slowed in the fourth quarter of 2014 to 2.2% (SAAR) after growing 5.0% (SAAR) in the third quarter. The Blue Chip Consensus GDP forecast now calls for real GDP growth of 3.2% in 2015, up from 3.0% in the previous forecast. We expect growth of 2.9%, 2.7%, 2.5%, and 2.4% in 2016 through 2019. Employment growth once again exceeded expectations in February, with 295,000 net new jobs. The average of the past four months of 322,000 new jobs is the strongest job growth since 1997. The forecast for employment growth has been revised higher since the November forecast.

*Lower oil prices is the most significant change in the forecast*

The forecast for oil prices is the most significant change since the November forecast. Oil prices have dropped much further than anticipated in the past three months. Brent crude prices which were over \$80 per barrel at the beginning of November fell to below \$50 per barrel in January. Prices have since firmed but remain below \$60 per barrel. WTI crude oil has followed a similar pattern over the same period. The increase in U.S. production is expected to largely meet any increase in global demand going forward. We expect the first quarter of 2015 to be the trough for oil prices at \$49 per barrel. The forecast calls for prices to gradually increase, reaching \$71 per barrel in 2019.

## Washington Economic Forecast

*The Washington economy is expanding at a solid pace*

In recent months the Washington economy has performed about as expected in the November forecast. Employment growth has been stronger than expected but this was probably due in part to unusually mild weather. Washington personal income growth was strong in the third quarter thanks to information sector wages. Housing construction improved in the fourth quarter of 2014, narrowly beating the November forecast. Seattle area consumer price inflation remains tame thanks mainly to falling energy costs but shelter costs are rising rapidly.

*The Washington job growth forecast is higher than in November but income growth is weaker*

Our February forecast of 2015 Washington employment growth is higher than assumed in November due mainly to stronger than expected growth through January. Employment growth for the remainder of the forecast is also slightly higher than assumed in the November forecast due to a stronger national forecast. Our February forecast for nominal personal income growth this year of 4.8% is unchanged since the November forecast, however, our new forecast for nominal personal income growth from 2016 through 2019 averages 5.7% per year, down slightly from 5.8% in the November forecast. The main reason for the slower income growth in the February forecast is lower interest income growth. We expect total housing units authorized by building permits to rise 6.9% to 35,600 units in 2015, 8.7% to 38,700 units in 2016, and 8.3% to 41,900 units in 2017. Housing permits are expected to level off in the last two years, rising only 3.0% to 43,200 in 2018 and 1.8% to 44,000 in 2019. We expect the all-items Seattle CPI to rise only 1.2% this year, down from 1.8% in 2014. We expect all-items Seattle area inflation rates of 2.4% in 2016, and 2.1% per year in 2017, 2018, and 2019.

## Revenue Forecast

*Changes to the revenue forecast in February were once again slight but positive*

Revenue collections since the November 2014 forecast came in \$69 million higher than the expected total. Most of the surplus, however, came from non-economic factors. There were \$21 million in large audit payments, and a \$21 million refund that was expected to occur was postponed. Disregarding these factors, the surplus due to economic factors was only \$28 million over three months. As was the case last month, changes to the economic forecast were small but positive on balance. As a result of the small economic changes and slight adjusted collection surplus, forecasted revenue collections for the current and two subsequent biennia have been increased by less than half of one percent.

*GF-S forecast change by biennium (millions):*

*13-15: +\$107  
15-17: +\$129  
17-19: +\$154*

As of February 10<sup>th</sup>, revenue collections for the 2013-15 biennium were \$69.0 million ahead of the November forecast. For the remainder of the biennium, forecasted revenue has been increased by \$36.7 million. Most of the forecast increase, however, was the result of non-economic changes: an audit payment of \$13.3 million that is expected to arrive soon after the forecast plus an \$18.0 million settlement payment to be transferred through the Attorney General's office. The sum of these changes for the 2013-15 biennium is a forecast increase of \$106.8 million, with total biennial revenue of \$33,546.6 million. The forecast for the 2015-17 biennium has been increased by \$129.4 million and the forecast for the 2017-19 biennium has been increased by \$154.5 million. GF-S revenue is now forecasted to total \$36,448.9 million in the 2015-17 biennium and \$39,756.9 million in the 2017-19 biennium.

## State Coincident Indexes and Recessions

*Combines four state-level indicators to summarize current economic conditions*

The Federal Reserve Bank of Philadelphia produces a monthly coincident index for each of the 50 states. The coincident indexes combine four state-level indicators to summarize current economic conditions in a single statistic. The four variables in each coincident index are nonfarm payroll employment, average hours worked in manufacturing, the unemployment rate, and wage and salary disbursements deflated by the consumer price index (U.S. city average).

*Models presented here provided four to nine months' advance warning of the start of a recession relative to the official NBER announcements*

This chapter extends existing research that used the coincident indexes to model the start and end dates of recessions. The models presented here provided four to nine months' advance warning of the start of a recession relative to the official announcements by the National Bureau of Economic Research. Knowing that the economy is or is not in recession does not provide enough detailed information to indicate specific changes to an economic or revenue forecast. However, that knowledge does provide additional information that could be useful to policymakers.



## Chapter 1: U.S. Economy – Current Conditions and Forecast

- **The national economy is advancing at a solid pace. Economic activity has been in line with the November forecast.**
- **U.S. real GDP growth slowed in the fourth quarter of 2014 to 2.2% (SAAR) after growing 5.0% (SAAR) in the third quarter.**
- **Employment growth once again exceeded expectations in February. The average of the past four months of 322,000 new jobs is the strongest job growth since 1997.**
- **The modest housing market recovery has continued and is starting to approach more “normal” levels.**
- **Federal fiscal policy remains a drag on economic growth through lower-than-average spending. Monetary policy remains accommodative, but rate increases are expected this year.**
- **Weak growth in Europe and China remains a threat to the U.S. economy.**
- **The Blue Chip Consensus GDP forecast, our starting point each forecast cycle, now calls for real GDP growth of 3.2% in 2015, up from 3.0% in the previous forecast. We continue to expect growth to moderate as the recovery matures.**
- **A more robust recovery in housing remains the most significant upside risk. A slowdown in global growth is the major downside risk.**

### Current Conditions

*The national economy is advancing at a solid pace*

The national economy is advancing at a solid pace. Gross domestic product (GDP) grew 2.4% in 2014, despite slowing to 2.2% (SAAR) in the fourth quarter. Job gains have been strong, averaging 336,000 per month over the past three months. Unemployment continues to fall and consumer confidence is picking up. Household spending has increased, helped by the recent plunge in gas prices. Home values are once again increasing and stock prices are hitting records. Significant threats to the economic recovery remain, however, keeping uncertainty elevated. Overall, economic activity has generally been in line with the November baseline forecast of solid growth and declining unemployment.

*U.S. real GDP growth slowed to 2.2% (SAAR) in the fourth quarter*

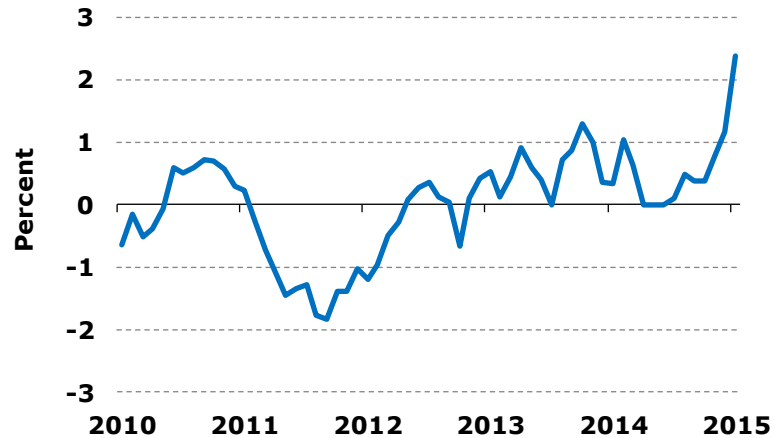
U.S. real GDP growth slowed in the fourth quarter of 2014 to 2.2% (SAAR) after growing 5.0% (SAAR) in the third quarter. Consumer spending made the largest contribution to growth, increasing 4.2% (SAAR) and adding 2.8 percentage points to overall GDP growth. Fixed investment grew 4.5% (SAAR) adding 0.7 percentage points to overall GDP growth. Intellectual property products accounted for most of the increase in fixed investment, growing 10.9% (SAAR) and adding 0.4 percentage points. Inventory investment contributed 0.1 percentage point. Net exports reduced growth by 1.2 percentage points as imports grew 10.1% and exports grew only 3.2%. This was due to the strong domestic growth and rising dollar and will likely remain a drag going forward. Government spending was once again a drag on growth, reducing GDP by 0.3 percentage points. The weakness came from a sharp reduction in national defense spending, although this was likely payback for a strong third quarter. Both nondefense federal spending and spending at the state and local level were positive.

*Low oil prices provided a one-time boost to real wages*

Rising personal income is essential for consumer spending to continue to improve. Real personal income was up 0.8% in January, the highest growth in over two years. Much of the increase came from gains in real wages and salaries, which were up 1.0%. Real disposable personal income growth (income after taxes and adjusted for inflation) was 0.9%. After years of barely keeping up with inflation and being held back by slack in the labor market, real hourly earnings increased over the past two months (see Figure 1.1). In January, real hourly earnings were up 1.2% from the month before and 2.4% since last year. Most of this increase was due to the sharp drop in gas prices, lowering inflation. This provided a short term boost to wage earners, however this source of growth is not likely to continue as nominal wage growth remains low. With relatively low earnings growth over the last few years, spending growth has been inconsistent. Real consumption rose 0.3% in January after falling 0.1% the month before. The personal saving rate increased to 5.5% from 5.0%. Real spending on durable goods increased 0.2% after a 0.5% decline the month before. New vehicle sales appear to have plateaued, coming in at 16.2 million units (SAAR) in February, down from 16.7 million units (SAAR) in January. Real nondurable goods spending was up 0.2% and spending on services increased 0.4% in January. Retail sales were down 0.8% in January due to the plunge in gasoline prices. With low gas prices and wage gains starting to improve, consumption growth should firm going forward.



**Figure 1.1: Year-Over-Year Growth in U.S. Real Average Hourly Earnings**



Source: U.S. Bureau of Labor Statistics; data through January 2015

*Employment growth once again exceeded expectations*

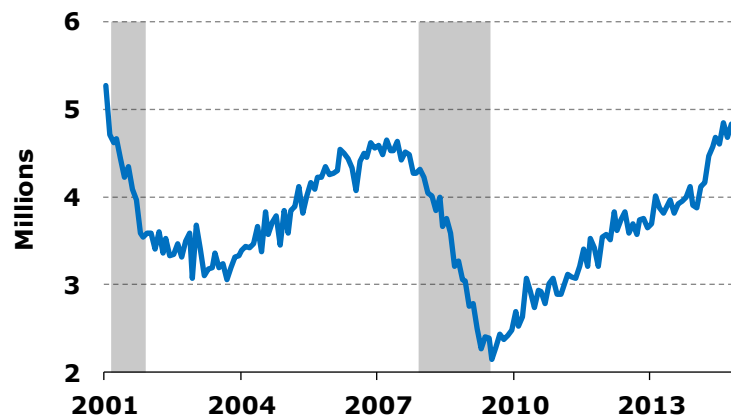
Employment growth once again exceeded expectations in February, with 295,000 net new jobs. The average of the past four months of 322,000 new jobs is the strongest job growth since 1997. The private sector added 288,000 jobs in January as government payrolls turned slightly positive. Private sector job gains were broad-based. Goods-producing industries were led by a strong month of construction employment which added 29,000 jobs. Natural resources and mining employment fell by 8,000, likely due to the decline in oil prices. Employment gains were also strong across service industries. Leisure and hospitality added 66,000 jobs, education and health care added 54,000 jobs, and professional and business services increased by 51,000 despite temporary help employment falling by 8,000.

*The labor market is improving*

The strong job growth is absorbing not only unemployed workers, but some new entrants into the labor force as well. The unemployment rate has fallen from 6.7% in February 2014 to 5.5% in February 2015. During this time, the labor force increased by 1.3 million people. The labor force participation rate declined from 62.9% to 62.8% as the labor force declined in February. Even with the slight decline, it appears the labor force participation rate has reached a trough and is hovering just below 63%. Previously discouraged workers are re-entering the labor force now that they believe they have a chance at employment. Joblessness, while still elevated at 8.7 million people, has dropped by 1.7 million people since last year. The most comprehensive measure of underemployment, which includes those marginally attached to the labor force plus workers employed part time for economic reasons, has declined from 12.6% to 11.0% since last year. Job openings are rebounding as well. Job openings in December reached a post recession high of 5.0 million, up from 4.8 million the month before (see Figure 1.2). As the economy has continued to gain

momentum, employers are seeking to expand their staffing. Workers are also feeling more confident in their employment prospects. Workers quitting their jobs are up 12% since last year and are increasingly making up a larger share of job losses. As the rate of job openings has outpaced the rate of new hires, the slack in the labor market is starting to diminish. The number of unemployed workers per job opening has fallen to 1.8, the lowest it has been since 2008. Initial claims for unemployment insurance are now back to pre-recession levels. For the week ending February 28<sup>th</sup>, the four week moving average of initial claims increased by 10,250. This increase was most likely affected by severe winter weather through the Midwest and East coast. Even with the recent increase, the latest reading is down 9.6% from a year ago and down 53.7% since the peak in 2009.

**Figure 1.2: U.S. Job Openings**



Source: U.S. Bureau of Labor Statistics; data through December 2014

*Consumer confidence has broken out of recessionary territory*

Consumer confidence has finally broken out of recessionary territory. The recent fall in gas prices has given consumers some extra expendable income. An improving economy and stronger labor market conditions have enabled consumers to feel more confident. Rising home prices have also helped confidence recently. Equity markets continue to improve consumers' financial position. Despite the recent strength in confidence, the latest readings are down. The Conference Board indicated that confidence dropped sharply in February, down 7.4 points to 96.4. Both the present conditions and expectations components fell, with the weaker outlook contributing to most of the decline. The University of Michigan reading of consumer sentiment showed similar results in February, dropping 2.7 points to 95.4. Consumers indicated they felt worse about their current finances and believed the outlook has diminished. In both measures, the drop in confidence in February reflects more of a return to trend after a strong January. Both January readings of confidence were post-recession highs. Even with the most recent decline,

confidence in February remains much higher than it was a year ago.

*Small business confidence is improving*

Small business confidence has followed a similar path as consumer confidence. The National Federation of Independent Business (NFIB) small business optimism index declined 2.5 points in January to 97.9. Even with the decline, business confidence remains on an upward trend and higher than a year ago. The December reading of 100.4 was the highest since before the recession. The index is now consistent with a slowly expanding economy as opposed to the recessionary readings of a year ago. Most of the decline in January was a due to a worsening of expected business conditions, lower expected sales, and lower earnings. Low quality of labor is now emerging as an issue, cited by 11% of respondents as the most important problem they face. Taxes and government regulation remain the most concerning problems cited by a plurality of small businesses. Poor sales continue to be a concern facing businesses, cited by 13% of respondents as their most important issue.

*Oil prices remain low after having dropped sharply*

Oil prices remain low after having dropped sharply in recent months. Increased domestic supply combined with a global drop in demand has led oil prices to drop over \$50 per barrel since peaking last summer. West Texas Intermediate (WTI) was \$50 per barrel for the week ending March 6<sup>th</sup> while the Brent price was \$61 per barrel. Oil inventories remain high, increasing 10.3 million barrels in the last week of February. Increased supply is currently meeting the increase in demand. U.S. crude production is at its highest level since 1984 and U.S. inventories are at their highest level in 80 years. U.S. oil demand is up 7.7% from a year ago. Driving the increase in demand has been the strong labor market. Recent job growth combined with low gas prices are encouraging consumers to use more oil. Internationally, OPEC will let prices stay low in hopes that some of the more expensive drilling techniques being deployed in the U.S. will no longer be profitable and shut down. Amidst the recent drop in energy prices, geopolitical conflict has continued. Even with the conflict in the Middle East intensifying, energy markets have been able to digest the turmoil. Disruptions related to the unrest have been viewed as temporary and are no longer causing large price swings. Although Islamic militants have kept their grip in Northern and Western Iraq, their actions have had very little impact on the country's production and exports since major oil operations are in the south. Russia's intervention into Ukraine has continued as well, but this too has done little to raise prices. An agreement between the U.S. and Iran regarding Iran's nuclear capabilities has the potential to boost Iranian oil production putting further downward pressure on prices.

*Inflation remains low*

Headline inflation plunged in January, pushing the year-over-year change in the Consumer Price Index (CPI) to -0.2%. Energy

prices were responsible for the decline, dropping another 9.7% and are now down 20.0% from a year ago. Gasoline prices led the decline in the energy index, falling 18.7%. Fuel oil also dropped sharply, down 9.9% from the prior month. Food prices were unchanged in January after months of steadily increasing. Food prices are now up 3.2% year-over-year. Shelter costs increased 0.3% and are now up 3.0% year over year. Core inflation, which excludes food and energy, was 0.2% in October and 1.6% since last year.

*The modest housing recovery has continued*

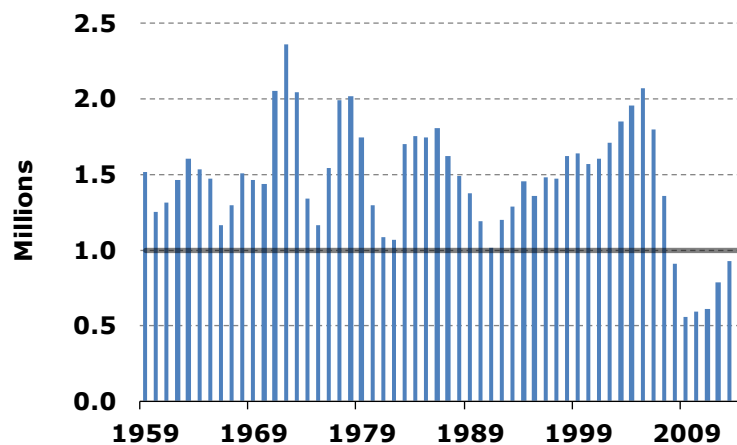
The modest housing market recovery has continued and is starting to approach more “normal” levels. Recent data have generally been positive and there remains a great deal of upside in the housing recovery. The excess stock of distressed properties has largely been worked through and fewer are available for sale at deep discounts. Distressed sales made up 11% of the market of existing home sales in January, unchanged from the month before. While the trend in home sales has generally been positive, the recovery remains uneven. Sales of existing homes declined in January to their lowest level since April. January’s decline of 3.9% brought the number of existing sales to 4.82 million units (SAAR). Single-family home sales decreased 5.1% while condo and co-op sales decreased 3.5%. The market for existing homes remains tight. Total inventory in January rose 0.5% to 1.87 million but remains 0.5% lower than a year ago. Inventory is at a 4.7 month supply at the current sales pace, up from 4.4 in December. The number of new home sales dropped slightly in January by 0.2% to 481,000 units (SAAR). The supply of new homes has increased 8% over the year, but remains tight at 5.4 months. Mortgage rates continue to remain at historically low levels. The rate in January reached its lowest level since May 2013 at 3.67% for a conventional 30-year mortgage.

*New construction has been modest*

Home construction remains modest and well below levels seen before the recession. Housing starts slowed in January to 1.065 million units (SAAR) after coming in at 1.087 million units (SAAR) in December. Total housing starts for calendar year 2014 were 1.001 million units, up 7.7% from 2013. This ended six consecutive years where housing starts were fewer than 1.0 million units annually. Prior to the recession, the number of housing starts were never under 1.0 million units annually with data going back to 1959 (see Figure 1.3). Even with the slowdown from the prior month, housing starts in January were 18.7% higher than a year ago. The decline in January was due to a drop in single family homes to 678,000 units (SAAR), which were down 6.7% over-the-month. Multi-family housing increased 12.1% in January to 381,000 units (SAAR). Multi-family construction continues to outpace single-family construction; new apartments are being rented out at the highest rate since 2005. Housing permits show a similar trend to starts. Total permits declined 0.7% in January but remain up 8.1% over-the-year. Single family permits declined 3.1% while multi-family

permits increased 3.6% in January. Both housing starts and permits are hovering just above the 1.0 million unit (SAAR) range. While housing activity remains sluggish, homebuilder confidence has followed suit. The National Association of Homebuilders (NAHB) housing market index, which measures confidence of homebuilders, indicates that homebuilder sentiment remains “fairly solid.” In February, the composite index was 55, down two points from the months before and down slightly from the post recession high of 59 in September. The dip in confidence in February was attributed to the unusually high snow levels across much of the country.

**Figure 1.3: U.S. Housing Starts**



Source: U.S. Census Bureau; data through 2014

*Home prices are once again increasing*

Home price appreciation has resumed after nationwide price declines in the summer. The seasonally adjusted Case-Shiller 20-city home price index increased 0.9% in December, the strongest growth in ten months. Home prices are up 4.5% from a year ago and seem to be settling into a more sustainable growth pattern. Prices have increased 23.8% since the trough of the recession, but remain 15.6% below their previous peak. The rise in home prices has been positive for the overall housing market. Rising prices have typically encouraged new construction and are enabling previously underwater homeowners to sell their homes and trade up for more expensive houses. Affordability issues have emerged however, especially among first time home buyers. Although homes remain affordable by historic standards, affordability is down sharply from the past two years.

*The manufacturing sector has slowed*

The manufacturing sector continues to improve, but at a slower pace than earlier in the recovery. The Institute of Supply Management (ISM) Report on Business indicated that activity in the manufacturing sector expanded again in February. The ISM index slipped to 52.9 from 53.5 the month before (index levels above 50 indicate expansion), but still indicated modest growth. Details from the report were generally negative in comparison

from the month before. New orders edged down 0.4 points to 52.5 and production fell 2.8 points to 53.7. Both components are down sharply from the second half of last year. The employment component fell 2.7 points but remains positive at 51.4. The latest G-17 report from the Federal Reserve, which measures manufacturing output, indicated continued growth. Output increased 0.2% (SA) in January and is 5.6% above last year. The production of durable goods rose 0.4% while the production of nondurable goods was unchanged. Production of primary metals and computer and electronic products had increases of more than 1.0%. New orders for core capital goods (nondefense capital goods excluding aircraft) rebounded in January, growing 0.6% after declining 0.7% and 0.5% in December and November. New orders are now up 0.3% over the year. Shipments fell 0.3% in January but remain up 3.6% over last year.

*Federal fiscal policy remains a drag on the recovery*

Federal fiscal policy remains committed towards deficit reduction and remains a drag on growth. Real federal government expenditures declined 7.5% (SAAR) in the fourth quarter led by a sharp retrenchment in defense spending. In 2014, reductions in federal government spending are estimated to have reduced overall GDP growth by 0.1 percentage points, the fourth consecutive year of decline. Unlike federal government spending which has continued to fall, state and local government spending is increasing. Due to improving tax revenues, state and local governments are no longer slashing spending to balance budgets. State and local government spending increased 2.0% (SAAR) in the fourth quarter, and has had positive growth in seven of the past eight quarters.

*The Federal Reserve is setting the stage for rate increases*

Monetary policy remains accommodative, but the nontraditional policies of the last few years employed by the Federal Reserve have essentially come to an end. Policymakers are now shifting their focus to determining when the fed funds rate should be raised. The Federal Reserve decision-making process remains data driven. With inflation hovering around 1%, there does not appear to be a rush at raising rates. At the January meeting, the Federal Reserve reiterated that it will be "patient" in assessing when to begin normalizing monetary policy. Policymakers also pointed to their concern about international developments and the impact to the U.S. economy.

*Weak global growth remains a threat*

Weakness in economic growth abroad remains a threat to the U.S. recovery. Japan appears to have successfully navigated its economy out of a brief recession last year. Growth, however, remains low. Prime Minister Shinzo Abe has engaged in a two year stimulus campaign in hopes of addressing the decades old structural imbalances while also spurring demand. Much of the stimulus has been in the form of buying government bonds and other assets by the Japanese central bank. Economic activity in China has continued to weaken, threatening U.S. exports. Last

year Chinese year-over-year GDP was 7.4%, the slowest in 24 years. Chinese leaders have targeted even slower growth this year of 7%. According to premier Li Keqiang, the economic problems in China are “deep-seated” and “the downward pressure on China’s economy is intensifying.” China has struggled to shift to a more consumer-based economy and lower its reliance on exports.

*The European economy remains weak*

The weakness in European economies remains a threat to the U.S. economic recovery. Greece is once again in the news and the risk of a Eurozone exit has intensified. Greece has been in a recession for more than six years, the impact of which has lowered its GDP by more than a quarter. The European economy remains stagnant and has just recently emerged from the recession that started at the end of 2011. The combination of the latest European recession with the 2007-09 recession has resulted in a historic period of economic weakness. Real GDP in the Eurozone is still lower than in 2008. Relative to the start of the 2007-09 recession, European output is now lower than at the same point in the recovery from the Great Depression. Although the Eurozone economy is no longer contracting, growth remains weak. Real GDP in the Eurozone increased at a 1.3% annualized rate in the fourth quarter of 2014, up from a 0.7% rate the previous quarter. Some member countries continue to experience negative growth, including Italy and Greece. Employment growth in the Euro area has been weak, increasing just 0.6% in the third quarter. As a result, unemployment remains elevated. Poor economic conditions across the European Union will continue to put financial pressure on member countries and keep the threat of a European financial crisis alive.

## Forecast

*Our forecast is based on the February Blue Chip Consensus forecast*

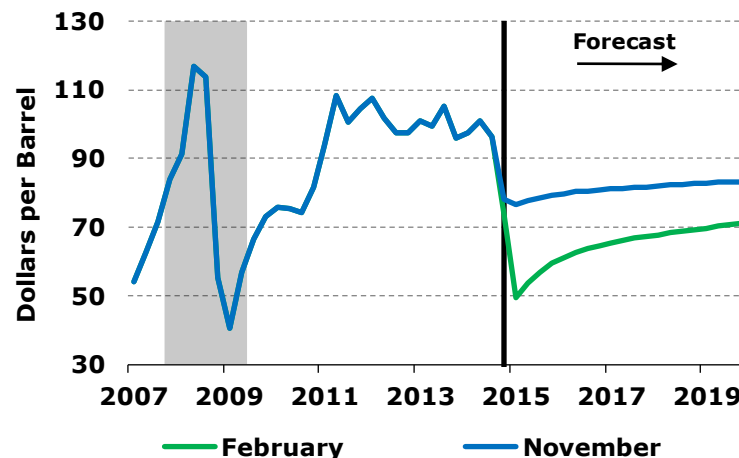
The February 2015 economic forecast was based on a modified version of Global Insight's February 2015 Control forecast for the U.S. economy. Consistent with our standard practice, the U.S. real GDP forecast was adjusted to match the February Blue Chip Consensus GDP forecasts for 2015 and 2016. We also incorporated the latest long term Blue Chip GDP forecast for 2017 through 2019. Our oil price forecast was adjusted to incorporate futures prices for both Brent crude oil and for West Texas Intermediate crude.

*Oil prices have plummeted, representing the biggest change since November*

The forecast for oil prices is the most significant change since the November forecast. Oil prices have dropped much further than anticipated in the past three months. Brent crude prices which were over \$80 per barrel at the beginning of November fell to below \$50 per barrel in January. Prices have since firmed but remain below \$60 per barrel. WTI crude oil has followed a similar pattern over the same period. The drop in crude oil has caused gasoline prices to plummet to just over \$2 per gallon in January before rising to \$2.33 in the last week of February. U.S. oil

production has continued to increase, reaching over 9.28 million barrels per day in February. With such low oil prices, there is a risk that U.S. oil production could stagnate or even fall. The number of rigs drilling for oil peaked in early October 2014 at 1,609 and has since shrunk to 1,056. It is estimated that for oil output to decline, the number of rigs in operation would have to drop below 500 for an extended period of time. Turmoil in oil-producing countries has escalated, although markets seem to be less affected than in the past. Libya's oil production plunged to 200,000 barrels a day following an attack on a pipeline that connects the country's largest oil field to its export terminal. Production is once again far below the pre-revolution capacity of 1.6 million barrels per day. Escalating violence in Iraq and sanctions against Russia have not severely affected prices. Weak economic growth in China and Europe has lowered the demand for oil. The increase in U.S. production is expected to largely meet any increase in global demand going forward. We expect the first quarter of 2015 to be the trough for oil prices at \$49 per barrel. The forecast calls for prices to gradually increase, reaching \$71 per barrel in 2019 (see Figure 1.4). With the plunge in oil prices, inflation is forecasted to be just 0.4% in 2015. We then expect low inflation throughout the forecast ranging from 1.7% to 1.8%. The previous forecast expected inflation to range from 1.6% to 1.9%.

**Figure 1.4: Average Price of Crude Oil**



Source: DOE, ERFC February 2015 forecast; historical data through 2014Q4

*Real GDP growth is slightly higher*

The Blue Chip Consensus GDP forecast, our starting point each forecast cycle, now calls for real GDP growth of 3.2% in 2015, up from 3.0% in the previous forecast. The increase is due to increased consumer spending resulting from lower energy prices and increased confidence. Real GDP grew 2.4% in 2014, higher than the 2.2% anticipated in the November forecast. GDP growth is expected to accelerate from the fourth quarter 2014 growth rate of 2.6% (SAAR), reaching 3.0% (SAAR) in the middle of



2015. Real GDP growth is unchanged from the November forecast for 2016 through 2019. We continue to expect growth to moderate as the recovery matures. We expect growth of 2.9%, 2.7%, 2.5%, and 2.4% in 2016 through 2019.

*Spending growth has been revised higher*

The forecast for consumer spending growth has been revised higher since the November forecast. Consumers are feeling more optimistic and there are indications that wages may be on the verge of increasing faster. The jobs recovery has accelerated in recent months. Equity markets continue to increase and the dip in home values appears to have been temporary. We expect real spending growth to slightly outpace overall real GDP growth this year, growing 3.3% after 2.5% growth in 2014. We expect consumption growth to slow throughout the remainder of the forecast, reaching 2.4% in 2019. We expect consumer spending to contribute 2.3 percentage points to real GDP growth this year followed by a 1.8 percentage point contribution on average for each year of the forecast through 2019.

*Personal income growth will pick up*

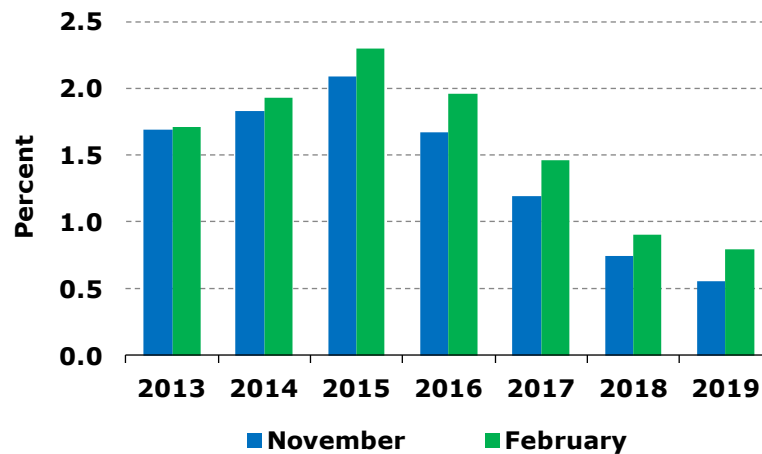
Real disposable personal income growth rebounded to 2.4% in 2014 after declining 0.2% in 2013. We expect growth to accelerate to 3.3% in 2015 before moderating to 2.9% in 2016. We then expect growth in real disposable personal income to reach a post-recession high of 3.9% in 2017. Growth is then expected to slow, growing 3.4% in 2018 and 3.2% in 2019, unchanged since the November forecast. Nominal disposable income is expected to grow 3.8% this year, led by strong wage growth, particularly in the private sector. Wages and salaries are expected to grow 4.7% this year, the strongest growth since 2007. The forecast then calls for growth in wages and salaries of over 5.0% each year for the remainder of the forecast. Income will also be boosted over the next few years by strong growth in dividend income as equity markets continue to rise. Interest income will add to overall personal income growth beginning in 2016 as interest rates rise and return to pre-recession rates.

*The outlook for employment has been revised higher*

The forecast for employment growth has been revised higher since the November forecast (see Figure 1.5). Growth in payrolls is expected to be 2.3% this year after growing 1.9% in 2014. We expect employment growth of 2.0% in 2016, trending down to 0.8% in 2019. The November forecast had called for growth of 2.1% this year trending down to 0.6% in 2019. The forecast calls for the U.S. economy to add 250,000 jobs per month on average through the end of this year as private sector gains continue while public sector hiring remains flat. The forecast calls for job growth to slow through the rest of the forecast, averaging just 100,000 jobs per month in 2019 as labor force growth slows due to retiring baby boomers. As a result of the steady job growth, we expect the unemployment rate to drop to 5.5% in 2015 from 6.2% the year before. We expect the unemployment rate to reach 5.1% in 2017 and remain there for the rest of the forecast. The continued strengthening of the labor market and

corresponding fall in the unemployment rate will create an incentive for more and more marginally attached workers to begin looking for a job. Older people are also staying in the workforce longer. These two factors will push the labor force participation rate up from a trough of 61.4% in 2014 to 62.6% in 2019.

**Figure 1.5: Total Nonfarm Employment Growth**



Source: BLS, ERFC February 2015 forecast; historical data through 2014

*Private sector hiring will continue to outpace public sector hiring*

Employment growth in nonfarm payrolls has been led by private sector hiring throughout the recovery as the public sector has been weighed down by budget concerns. While state and local governments have largely worked through their budgetary issues and have started hiring again, the federal government continues to shed jobs. We expect the drag from weak government job growth to continue through 2016. Private sector employment is estimated to have reached 116.0 million in the first quarter of last year, making up all of the jobs lost during the recession. We do not expect the job losses in the public sector to be made up until the second half of 2019. Federal government employment will continue to decline throughout the forecast, but this will be offset by modest gains in state and local government employment. The forecast calls for total government employment to increase 0.2% this year after virtually no growth in 2014. Growth in government payrolls will slowly increase throughout the forecast, reaching 1.3% in 2019. We expect private sector job growth of 2.7% this year, which would mark the fastest growth since 1998. The forecast calls for private sector job growth to gradually slow throughout the remainder of the forecast to just 0.7% in 2019.

*Business investment is improving*

Business investment continues to improve despite lingering headwinds. The drop in oil prices, which is good for overall growth, lowers the incentive for additional investment by energy companies. The weak economic outlook abroad has also given

businesses pause. On the plus side, vacancy rates for office buildings fell to 16.7% in the fourth quarter, from 16.8% for the third quarter, the lowest since 2009. Companies still have a high level of cash on hand and borrowing rates remain low. We expect nonresidential construction to decline 3.0% this year, after growing 8.0% in 2014. The drop is due to a decline in mining and petroleum structures caused by the recent plunge in oil prices. The forecast calls for growth to strengthen to 3.5% in 2016 before picking back up with growth of 9.8% in 2017, as the drag of low oil prices diminishes. The forecast then calls for growth to slow through 2019, reaching 4.2%. Equipment investment is expected to have strong growth throughout the forecast as businesses expand and improve productivity. Although we do not expect to see the double-digit growth experienced early in the recovery, we do expect capital equipment to remain an important driver of GDP growth. Investment in equipment and software is expected to peak at 9.3% growth this year. The forecast then calls for growth to gradually decline to 3.9% in 2019. We expect overall real nonresidential fixed investment to grow 5.8% this year and accelerate to 6.8% in 2017. The forecast then calls for growth to moderate to 5.8% in 2018 and 3.9% in 2019.

*The modest housing recovery will continue*

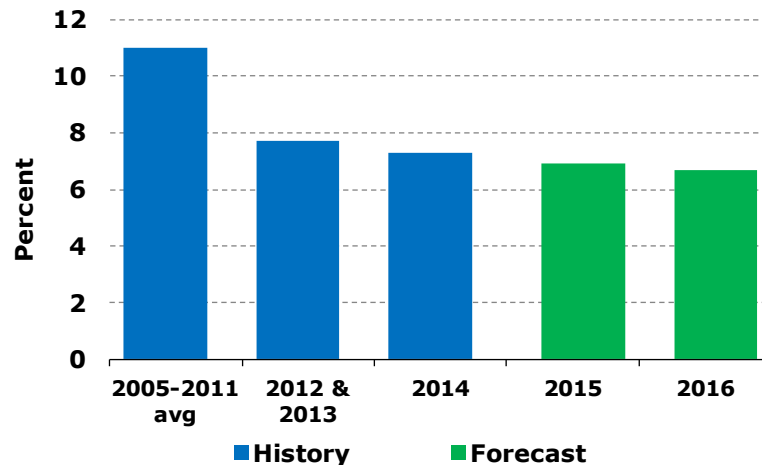
The slow housing recovery has continued, although there are signs that growth is set to rebound. Some of the barriers facing the housing sector have gradually started to erode. Lending standards have loosened somewhat for homebuyers and developers who are now getting easier access to credit. Much of the surplus of distressed properties caused by the recession has been worked through. Continued improvement in the housing market remains dependent on job growth and access to financing. The FHA recently cut its annual mortgage insurance premium by 50 basis points, boosting affordability, particularly for first-time home buyers. The forecast calls for growth in housing starts of 15.5% for this year, up from 8.0% in 2014. The forecast expects robust growth in housing starts to continue in the near term. Growth in single-family starts is expected to be 19.6% this year, up from 4.1% in 2014. Growth will remain strong at 14.5% in 2016 and 18.7% in 2017. The forecast then calls for single family housing to slow in 2018 and 2019 at 4.6% and 2.3%. The multi-family housing segment is expected to slow after growing at a double-digit rate for each of the past four years. The forecast calls for 8.1% growth this year and then picks back up to 14.4% in 2016. After 2016, we expect the multi-family segment to remain flat before resuming growth in 2019 at 7.2%. The housing market will continue to improve, particularly while interest rates remain low by historical standards and inventories are lean. Mortgage rates for a conventional 30-year fixed rate mortgage are expected to rise from 4.1% this year to 5.7% in 2017 and then to level off. Population remains on an upward trend and employment continues to increase at a solid pace. The number of housing units remains at a historically low level and there is considerable

pent-up demand created by the recent lack of household formation. The forecast calls for total housing starts to reach 1.60 million in 2019, still 23% below the peak in 2005.

*Weak foreign demand has weighed down export growth*

The outlook for economic growth of major economies continues to weaken. Europe has just emerged from a prolonged recession and economic activity remains low. Greece is engaged in new bailout negotiations, again bringing the possibility of a Eurozone exit to the forefront. The latest Blue Chip forecast calls for 1.2% (SAAR) growth this year for the Eurozone followed by 1.6% (SAAR) growth in 2016. The weak economic growth has led to painfully high unemployment with rates for the Eurozone as a whole above 10% for the past three and a half years. This has had an adverse effect on consumer spending and reduced the exports of U.S. firms to Europe. The weakness in Europe has contributed to a slowdown in growth in other important U.S. trading partners as well. China, which is our largest export market outside of North America, in particular has slowed. Chinese GDP growth in 2014 was 7.3% (SAAR), well below the 2005-11 average of 11%. The most recent Blue Chip forecast calls for Chinese growth to slow further, with growth of 6.9% (SAAR) this year and 6.7% (SAAR) in 2016 (see Figure 1.6). Japan is also just emerging from a recession as consumption had slowed. Japanese GDP growth in the fourth quarter was 2.2% (SAAR), much slower than the 3.6% (SAAR) forecasted by economists. The most recent Blue Chip forecasts expect slow growth in the near term even as Japan engages in monetary stimulus. The forecast calls for GDP growth of 1.0% (SAAR) this year followed by 1.4% (SAAR) in 2016.

**Figure 1.6: Chinese GDP Forecast**



Source: Blue Chip Economic Indicators; historical data through 2014

*Export growth will remain positive, but not at a level to stimulate the economy*

Foreign trade is not likely to provide a substantial boost to the U.S. economy. GDP growth in U.S. trading partners is expected to increase, but not at a rate sufficient to lift the U.S. economy to a higher growth path in the near term. After growing 2.4% in 2014, the forecast calls for GDP growth in U.S. trading partners to increase to 2.6% this year and by 3.0% in 2016. The forecast then calls for GDP growth in U.S. trading partners to average 3.2% through 2019. We expect real U.S. export growth of 4.2% this year, before increasing to 4.4% in 2016. The forecast calls for export growth of 4.0% in 2017, improving to 4.6% by 2018 and 5.0% in 2019 as global economic conditions revive. Export growth is more than offset by increased imports starting this year. Net exports are expected to reduce overall GDP growth by 0.4 percentage points this year. Beyond 2015, net exports are expected to reduce GDP growth by 0.3 percentage points on average through 2019 as the U.S. economy recovers and import growth picks up.

*U.S. policymakers remained focused on deficit reduction*

Uncertainty surrounding fiscal policy remains low as policymakers remain focused on deficit reduction in the near term. The forecast calls for a \$143.0 billion reduction in the federal deficit over the next two years. After dropping by \$15.5 billion in 2014, we expect real defense spending to increase slightly this year before declining slowly through the remainder of the forecast. Real nondefense purchases will decline as well throughout the forecast. We expect a \$0.6 billion decline this year followed by a \$2.3 billion per year average reduction through 2019. With the prospect of expanded military action in the war against Islamic militants in Syria and Iraq, defense spending may be increased in the near term. Even with the potential increase, however, nondefense spending cuts might be required to offset them. Although federal government spending will continue to decline throughout the forecast, this will be made up by increases in government spending at the state and local levels. The forecast calls for 2014 to be the trough in total real government purchases. We expect total real government spending to increase 1.0% this year and then average 0.5% growth throughout the remainder of the forecast.

*The Fed is normalizing its monetary policy*

The Federal Reserve is now moving to normalize monetary policy after years of measures aimed at supporting the economy. Recent data suggest that the Federal Reserve is achieving its employment mandate but failing to achieve its price stability mandate as inflation continues to decline. In January, the Federal Reserve reiterated that they will be patient in raising rates. The forecast calls for Fed policymakers to begin to raise interest rates in June of this year. They remain data driven, and there are a number of risks that could delay the rise in rates. While the forecast still assumes inflation will be low and the labor market not fully recovered, it is still anticipated that the Fed will be comfortable raising rates. We expect rates to rise gradually before leveling off at the end of 2017.

Table 1.1 provides a fiscal year summary of the U.S. economic indicators. For calendar year tables, see the appendix.

## Risks to the Forecast

*Downside and upside risks are balanced*

Our view of the risks to the forecast is similar to the November forecast. The largest change since the last forecast has been a larger drop in oil prices than anticipated. Employment gains have also been stronger than anticipated. On the downside, there is an increased risk of a slowdown in Chinese economic growth and renewed fears of a Greek exit from the Eurozone. The level of uncertainty in the baseline remains elevated, although downside risks and upside risks are now balanced.

### Downside Risks

*Low household formation*

Low wage growth, slower immigration, and other social and economic burdens restrain household formation. Demand for new homes dampens and the housing-sector recovery never materializes.

*Employment growth weakens*

The recent level of employment growth proves temporary. Job growth is no longer sufficient to quickly reduce unemployment and bring new entrants back into the labor market.

*Fiscal tightening*

Policymakers misinterpret weak growth and depressed confidence, decide on austerity, and cut discretionary spending, further reducing growth.

*Hard landing in China*

Global growth is restrained by a hard landing (growth <5%) in China. This leads to weaker growth in emerging economies in particular.

*Sovereign debt contagion*

Breakdown in Greek bailout negotiations result in debt default and Eurozone exit.

*Geopolitical conflict*

Tensions in Ukraine escalate, destabilizing the region. Oil shipments and financial linkages to Europe are stressed.

*Slow Japanese growth*

The conflict in Iraq and Syria escalates. Major oil infrastructure is compromised, reducing supply globally. The U.S. expands its military presence.

*Low real wage growth*

Real wage growth remains flat, resulting in a drop in spending.

### Upside Risks

*Oil price remain low*

OPEC producers do not respond to falling prices by cutting supply, and instead engage in a price war. Their hopes of making U.S. producers unprofitable do not materialize. U.S. producers keep expanding production.

*Housing  
recovery  
ignites*

The housing sector improves faster than anticipated. Home prices continue to increase and buyers move off the fence. Affordability is not a major issue as income gains offset any increase in interest rates. Homebuilders respond and housing starts increase, leading to more hiring.

*Employment  
growth  
continues*

Greatly increased production brings significant wage and payroll gains. As employment and wage growth both pick up, they lift the pace of US consumption growth.

*Eurozone  
monetary  
stimulus*

The European Central Bank's (ECB) quantitative easing successfully steers the Eurozone away from its current economic malaise.

*Emerging  
market  
growth*

Emerging market GDP growth accelerates. Global growth picks up and U.S. exports are boosted.

*Chinese  
growth*

China successfully transitions to a more consumption based economy.

Table 1.1  
**U.S. Economic Forecast Summary**  
 Forecast 2015 to 2019

Fiscal Years

	2012	2013	2014	2015	2016	2017	2018	2019
<b>Real National Income Accounts (Billions of Chained 2009 Dollars)</b>								
Real Gross Domestic Product	15,205.8	15,502.5	15,884.6	16,369.7	16,840.4	17,313.3	17,757.5	18,193.7
% Ch	2.0	2.0	2.5	3.1	2.9	2.8	2.6	2.5
Real Consumption	10,351.7	10,566.3	10,820.4	11,150.8	11,495.1	11,793.9	12,104.6	12,392.7
% Ch	1.8	2.1	2.4	3.1	3.1	2.6	2.6	2.4
Real Nonresidential Fixed Investment	1,891.2	1,953.1	2,046.9	2,174.9	2,305.5	2,448.7	2,610.1	2,737.0
% Ch	9.5	3.3	4.8	6.3	6.0	6.2	6.6	4.9
Real Residential Fixed Investment	407.6	464.7	494.0	519.0	582.6	648.0	691.5	714.7
% Ch	8.9	14.0	6.3	5.1	12.3	11.2	6.7	3.4
Real Personal Income	12,844.4	13,172.0	13,349.5	13,793.4	14,266.0	14,822.0	15,372.7	15,826.8
% Ch	2.8	2.6	1.3	3.3	3.4	3.9	3.7	3.0
Real Per Capita Income (\$/Person)	40,981	41,732	41,996	43,057	44,170	45,521	46,835	47,835
% Ch	2.1	1.8	0.6	2.5	2.6	3.1	2.9	2.1
<b>Price and Wage Indexes</b>								
U.S. Implicit Price Deflator, PCE (2009=1.0)	1.052	1.067	1.081	1.089	1.102	1.121	1.140	1.160
% Ch	2.4	1.4	1.3	0.8	1.2	1.7	1.7	1.8
U.S. Consumer Price Index (1982-84=1.0)	2.276	2.314	2.350	2.364	2.395	2.445	2.495	2.547
% Ch	2.9	1.7	1.6	0.6	1.3	2.1	2.1	2.1
Employment Cost Index (Dec. 2005=1.0)	1.150	1.171	1.193	1.222	1.257	1.294	1.334	1.377
% Ch	1.7	1.8	1.9	2.5	2.8	3.0	3.1	3.2
<b>Current Dollar National Income (Billions of Dollars)</b>								
Gross Domestic Product	15,855.9	16,430.8	17,080.7	17,854.7	18,727.4	19,689.3	20,595.9	21,492.8
% Ch	4.0	3.6	4.0	4.5	4.9	5.1	4.6	4.4
Personal Income	13,516.9	14,058.1	14,426.1	15,018.5	15,721.3	16,615.3	17,524.7	18,361.5
% Ch	5.3	4.0	2.6	4.1	4.7	5.7	5.5	4.8
<b>Employment (Millions)</b>								
U.S. Civilian Labor Force	154.3	155.3	155.5	157.1	159.8	161.9	164.0	166.0
Total U.S. Employment	141.2	143.3	145.0	148.1	151.2	153.5	155.6	157.4
Unemployment Rate (%)	8.53	7.77	6.76	5.73	5.37	5.19	5.13	5.14
Nonfarm Payroll Employment	133.00	135.18	137.60	140.66	143.62	146.21	147.84	149.04
% Ch	1.6	1.6	1.8	2.2	2.1	1.8	1.1	0.8
Manufacturing	11.83	11.98	12.09	12.32	12.62	12.81	12.83	12.75
% Ch	1.8	1.2	0.9	1.9	2.4	1.5	0.1	-0.7
Durable Manufacturing	7.38	7.51	7.60	7.80	8.07	8.25	8.27	8.22
% Ch	3.1	1.7	1.2	2.7	3.5	2.2	0.3	-0.7
Nondurable Manufacturing	4.45	4.47	4.49	4.52	4.55	4.56	4.56	4.53
% Ch	-0.2	0.4	0.5	0.7	0.6	0.3	-0.1	-0.6
Construction	5.60	5.74	5.99	6.30	6.70	7.17	7.70	8.10
% Ch	2.0	2.4	4.4	5.2	6.4	7.0	7.4	5.1
Service-Providing	114.74	116.61	118.65	121.14	123.45	125.35	126.40	127.28
% Ch	1.5	1.6	1.7	2.1	1.9	1.5	0.8	0.7
<b>Miscellaneous Indicators</b>								
Oil-WTI (\$ per barrel)	95.0	92.3	101.2	67.9	59.0	63.7	65.9	67.6
Personal Saving/Disposable Income (%)	6.4	6.3	4.9	4.8	4.6	5.4	6.5	7.1
Auto Sales (Millions)	6.6	7.4	7.6	7.8	7.8	8.2	8.4	8.5
% Ch	11.5	12.1	2.1	2.6	0.9	4.2	3.0	1.4
Housing Starts (Millions)	0.684	0.875	0.954	1.088	1.234	1.430	1.510	1.571
% Ch	20.1	27.8	9.1	14.0	13.4	15.9	5.6	4.0
Federal Budget Surplus (Billions)	-1,149.6	-863.2	-612.0	-608.3	-483.8	-439.5	-482.0	-531.4
Net Exports (Billions)	-593.5	-532.5	-515.0	-480.0	-422.6	-435.4	-509.9	-542.8
3-Month Treasury Bill Rate (%)	0.05	0.08	0.04	0.09	0.90	2.47	3.53	3.53
10-Year Treasury Note Yield (%)	2.08	1.82	2.71	2.22	2.99	3.76	3.83	3.76
Bond Index of 20 G.O. Munis. (%)	3.97	3.75	4.54	3.91	4.68	5.25	5.26	5.21
30-Year Fixed Mortgage Rate (%)	4.01	3.53	4.33	3.94	4.71	5.67	5.75	5.68



Table 1.2  
**Forecast Analysis**  
 Comparison of Forecasts for 2013-15

Forecast Date	<b>2012</b>				<b>2013</b>				<b>2014</b>				<b>2015</b>	
	<u>Feb.</u>	<u>June</u>	<u>Sept.</u>	<u>Nov.</u>	<u>Mar.</u>	<u>June</u>	<u>Sept.</u>	<u>Nov.</u>	<u>Feb.</u>	<u>June</u>	<u>Sept.</u>	<u>Nov.</u>	<u>Feb.</u>	<u>June</u>
<b>U.S.</b>														
Percent Growth, 2013:2-2015:2														
Real GDP	5.9	6.1	6.1	6.0	5.8	5.8	5.7	5.5	6.2	5.5	5.5	5.6	6.0	
Implicit Price Deflator	4.3	4.4	3.8	3.4	3.4	3.1	3.1	2.9	2.6	3.2	2.8	2.5	1.7	
Average Rate, 2013:3 to 2015:2														
3 Month T-Bill Rate	0.27	0.50	0.17	0.16	0.12	0.08	0.09	0.07	0.06	0.07	0.06	0.08	0.07	
Mortgage Rate	5.17	4.97	4.45	4.16	3.99	4.15	4.63	4.56	4.61	4.48	4.40	4.33	4.13	

Table 1.3

Fiscal Years

**Forecast Comparison**

Forecast 2015 to 2019

	<b>2013</b>	<b>2014</b>	<b>2015</b>	<b>2016</b>	<b>2017</b>	<b>2018</b>	<b>2019</b>
<b>U.S.</b>							
<b>Real GDP</b>							
February Baseline	15502.5	15884.6	16369.7	16840.4	17313.3	17757.5	18193.7
% Ch	2.0	2.5	3.1	2.9	2.8	2.6	2.5
November Baseline	15502.5	15884.6	16308.6	16775.4	17260.4	17699.6	18133.3
% Ch	2.0	2.5	2.7	2.9	2.9	2.5	2.5
<b>Implicit Price Deflator</b>							
February Baseline	1.067	1.081	1.089	1.102	1.121	1.140	1.160
% Ch	1.4	1.3	0.8	1.2	1.7	1.7	1.8
November Baseline	1.067	1.081	1.094	1.108	1.127	1.147	1.169
% Ch	1.4	1.3	1.2	1.3	1.7	1.8	1.9
<b>Unemployment Rate</b>							
February Baseline	7.77	6.76	5.73	5.37	5.19	5.13	5.14
November Baseline	7.77	6.78	5.77	5.34	5.16	5.12	5.14
<b>Mortgage Rate</b>							
February Baseline	3.53	4.33	3.94	4.71	5.67	5.75	5.68
November Baseline	3.53	4.33	4.33	5.15	5.80	6.15	6.12
<b>3 Month T-Bill Rate</b>							
February Baseline	0.08	0.04	0.09	0.90	2.47	3.53	3.53
November Baseline	0.08	0.04	0.12	0.96	2.47	3.53	3.54



## Chapter 2: Washington Economy – Current Conditions and Forecast

- **The Washington economy is expanding at a solid pace.**
- **The February forecast anticipates stronger employment growth than assumed in November.**
- **Housing construction improved in the fourth quarter of 2014. Seattle home prices are rising again.**
- **Personal income growth was strong in the third quarter of 2014 but the forecast has been reduced due to lower expected interest income.**
- **Energy prices are down, benefitting local consumers but Seattle shelter costs are rising rapidly**
- **We expect the Washington economy to continue to outperform the U.S. economy.**

### Current Conditions

*The Washington economy is expanding at a solid pace*

The Washington economy is expanding at a solid pace. In recent months the Washington economy has performed slightly better than expected in the November forecast. Employment growth has been stronger than expected but this was probably due in part to unusually mild weather. Washington personal income growth was strong in the third quarter thanks to information sector wages. Housing construction improved in the fourth quarter of 2014, narrowly beating the November forecast. Seattle area consumer price inflation remains tame thanks mainly to falling energy costs but shelter costs are rising rapidly.

*Employment growth has been stronger than expected*

The Washington economy added 31,600 jobs in the three months since the November forecast was adopted, 13,300 more than the 18,300 expected in the forecast. We believe that unusually mild weather accounted for some of the strong growth. Construction employment grew 7,700 in the three-month period which was much better than the 2,200 increase expected in the forecast. Manufacturing employment rose 3,600 which was also much better than the 100 increase expected in the forecast. Private services-providing employment grew 18,800 compared to a

forecast of 14,700 and public sector employment growth slightly exceeded the forecast with 1,400 net new jobs compared to a forecast of 1,200 net new jobs.

*Historical employment data were revised up*

We have also incorporated another quarter of benchmark employment data from the Quarterly Census of Employment and Wages (QCEW). The new QCEW data and other revisions raised the estimated level of total employment in October 2014 by 2,600 jobs. As a result of the upward revisions to history and stronger-than-expected growth, the total effect is 15,900 (0.5%) more jobs in January 2015 than expected in the November forecast.

*Initial claims reach new post recession lows*

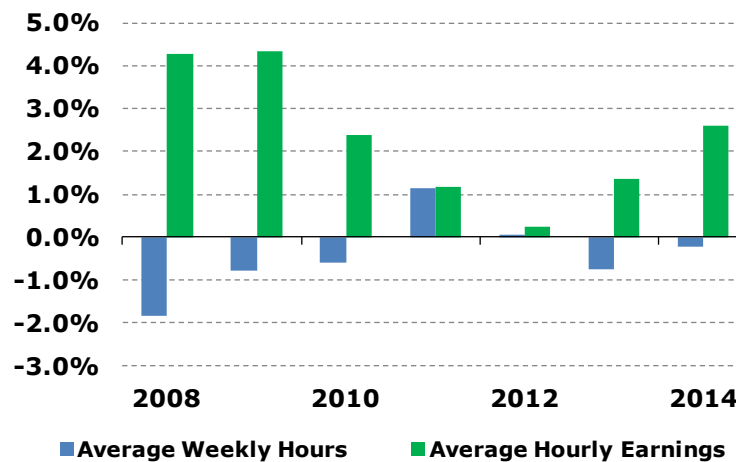
Initial claims for unemployment insurance reached new post-recession lows in early 2015. The four-week moving average declined to 7,450 in the week ending February 28<sup>th</sup> from 7,606 in the previous week. While slightly higher than earlier in the year, claims have fallen more than 55% since the peak and are now lower than before the onset of the recession.

*Average weekly earnings growth was 2.6% in 2014*

Growth in average hourly earnings picked up in 2014 and the reduction in average weekly hours declined. Private sector average hourly earnings in the twelve months ending in December 2014 were up 2.6% over the previous twelve month period. A year ago the comparable rate of increase was only 1.4% (see Figure 2.1). Average weekly hours declined 0.2% in the most recent twelve month period compared to the previous year. A year ago the decline in average weekly hours was 0.7%. As a result of the improvement in average hourly earnings growth and smaller decline in hours, average weekly earnings growth improved to 2.4% compared to 0.6% a year ago.

*Average hourly earnings growth is improving*

**Figure 2.1: Hours and Earnings Growth**



Source: Bureau of Labor Statistics; data through 2014

*Export growth is strong thanks to transportation equipment and agriculture*

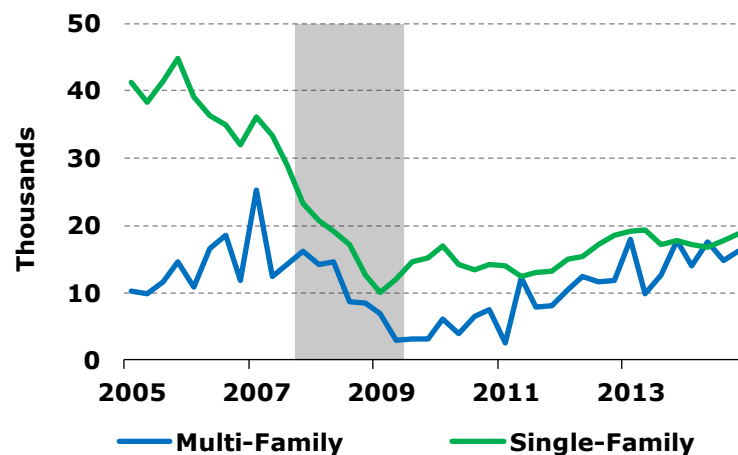
Washington exports reached an all-time high of \$25.2 billion in the fourth quarter of 2014 thanks mainly to aerospace. Fourth quarter exports were up 11.6% over the year due to a 27.0% increase in transportation equipment exports (mostly Boeing planes) which also reached an all-time high of \$14.3 billion in the quarter. Agricultural exports managed a 1.7% increase over the year but exports of commodities other than transportation equipment and agricultural products fell 7.1% over the year.

*Housing construction improved in the fourth quarter of 2014*

Housing construction improved in the fourth quarter of 2014. The number of housing units authorized by building permits increased to 35,000 (SAAR) in the fourth quarter from 32,600 in the third quarter. The November forecast predicted 34,100 units. The number of single-family units increased from 17,700 to 18,800, exceeding the forecast of 17,600 units. The number of multi-family units also increased, from 14,900 to 16,200, but fell slightly short of the 16,500 units forecasted in November. Multi-family construction has returned to pre-recession levels but single-family construction is still well below (see Figure 2.2). Housing construction got off to a very strong start in 2015 as the number of units soared to 59,000 (SAAR) in January. The February forecast assumes an average of 34,400 units for the first quarter as a whole. The January strength should be taken with a large grain of salt for a couple of reasons. First, January weather was unseasonably mild. Second, the strength was entirely in the volatile multi-family segment where the number of units permitted was 40,700 compared to the forecast of 16,000 for the quarter. The number of single-family units permitted was 18,300 which was almost exactly the 18,400 units expected for the quarter.

*Single-family home building is still weak*

**Figure 2.2: Housing Units Authorized by Building Permits**



Source: Census Bureau; data through fourth quarter, 2014

*Seattle-area home prices are up 30.0% since the trough*

According to the S&P/Case-Shiller Home Price Indices, seasonally adjusted Seattle area home prices increased 1.2% in December, following a 0.5% increase in November and a 0.8% increase in October. Seattle area home prices have declined only once (last May) in the last three years. Prices are up 6.6% over the previous December and are 30.0% higher than the November 2011 trough. The steady gains in the Seattle area index have brought local home prices to within 9.7% of the pre-recession peak.

*Microsoft has completed its second ever mass layoffs*

Last July Microsoft announced its second ever mass layoffs in the wake of its purchase of Nokia. These were mostly outside the local area but there were significant cuts in the Puget Sound region as well. A total of 2,733 Washington employees received layoff notices under the Worker Adjustment and Retraining Notification (WARN) act of layoffs in September, November, and December 2014. We do not expect any further large scale reductions in software employment.

*Aerospace employment will continue to decline*

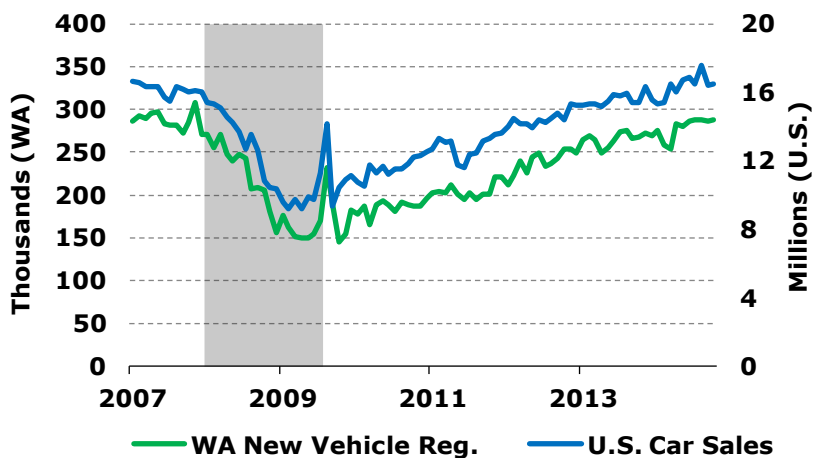
As in November, we assume a gradual decline in aerospace employment throughout the forecast. We continue to believe that this downturn will be relatively mild due to the large and increasing backlog of orders. The current reductions are due to improvements in productivity rather than reductions in production.

*Manufacturing growth slowed in February*

The Institute of Supply Management - Western Washington Index (ISM-WW) declined to 65.9 in February from 66.6 in January (index values above 50 indicate positive growth while values below 50 indicate contractions). The production, employment, and inventory components all fell in February but the orders and deliveries components increased. The last time the ISM-WW index was below 50 was July 2009.

*New vehicle registrations are near the post-recession high*

**Figure 2.3: New Vehicle Registrations**



Source: Autodata Corp., WA DOL; data through February 2014

*Car and truck sales are near the post-recession high*

Washington car and truck sales increased 1.6% in February 2015 following a 5.0% decline in January. New vehicle registrations totaled 288,900 (SAAR) in February, just 3.5% below the post-recession high of 299,200 in December (see Figure 2.3). February registrations were up 11.9 percent over the year.

*Third quarter personal income growth was boosted by information sector earnings*

In late December, the Bureau of Economic Analysis released estimates of state personal income through the third quarter of 2014. Washington personal income grew at a 4.7% rate (SAAR) in the third quarter which ranked 7th among the states (including the District of Columbia). The national average personal income growth rate was 3.9%. Washington's higher-than-average income growth in the third quarter was more than accounted for by the information sector, which includes software publishing.

*Seattle shelter costs are rising rapidly*

Seattle area consumer price inflation remains tame thanks mainly to falling energy costs. Over the last year, from December 2013 to December 2014, consumer prices in the Seattle area rose 1.7% compared to 0.7% for the nation. Core prices, which exclude food and energy, were up 2.6% in Seattle compared to 1.6% for the nation. The reason Seattle inflation was so much higher than the national rate is much more rapid growth in shelter costs. During the year, shelter costs in Seattle rose 5.2% compared to 2.9% for the nation. Excluding shelter costs, Seattle inflation was -0.1% over the year which is only slightly higher than the national rate of -0.4%.

## **Washington State Forecast**

*The February Washington forecast reflects a new U.S. forecast*

The February Washington State forecast is based on a new national forecast that is very similar to the forecast adopted in November. GDP growth in the February forecast averages 2.7% per year through 2019, the same rates as expected in the November forecast. Employment growth, however, is stronger, averaging 1.5% per year compared to 1.2%. Real personal income growth averages 3.5% per year, also the same rate as expected in November but personal consumption expenditure inflation averages 1.5% per year compared to 1.6% in November. Oil prices, however, are much lower than assumed in November. These revisions in the national forecast feed through to the state economic forecast.

*The Washington job growth forecast is higher than in November but income growth is weaker*

Our February forecast of 2015 Washington employment growth is higher than assumed in November due mainly to stronger than expected growth through January. Employment growth for the remainder of the forecast is also slightly higher than assumed in the November forecast due to a stronger national forecast. Our February forecast for nominal personal income growth this year of 4.8% is unchanged since the November forecast, however, our new forecast for nominal personal income growth from 2016 through 2019 averages 5.7% per year, down slightly from 5.8%

in the November forecast. The main reason for the slower income growth in the February forecast is lower interest income growth. We expect total housing units authorized by building permits to rise 6.9% to 35,600 units in 2015, 8.7% to 38,700 units in 2016, and 8.3% to 41,900 units in 2017. Housing permits are expected to level off in the last two years, rising only 3.0% to 43,200 in 2018 and 1.8% to 44,000 in 2019. We expect the all-items Seattle CPI to rise only 1.2% this year, down from 1.8% in 2014. We expect all-items Seattle area inflation rates of 2.4% in 2016, and 2.1% per year in 2017, 2018, and 2019.

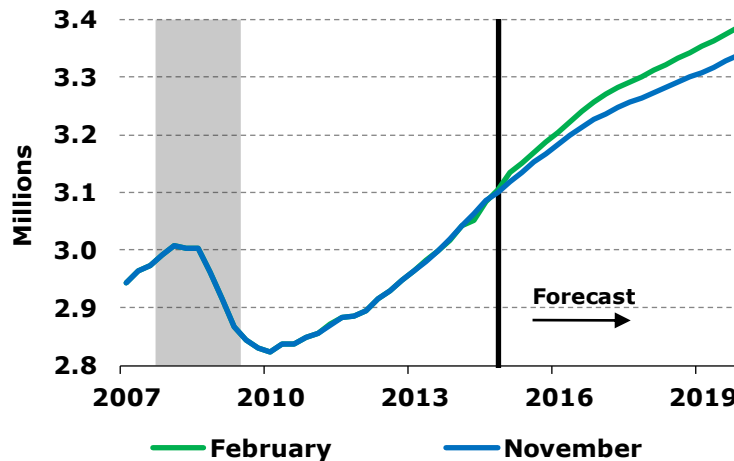
## Washington Payroll Employment

*Washington employment is expected to grow 2.9% this year*

Our February forecast of 2015 Washington employment growth is higher than assumed in November due mainly to stronger than expected growth through January. Washington employment is expected to grow 2.9% this year compared to the 2.3% growth assumed in the November forecast. Employment growth for the remainder of the forecast is also slightly higher than assumed in the November forecast reflecting the stronger national forecast. The February forecast for average annual employment growth in 2016 through 2019 is 1.6% per year, up slightly from 1.4% in the November forecast (see Figure 2.4).

*The forecast of Washington employment is higher than assumed in November*

**Figure 2.4: Nonfarm Payroll Employment Growth**



Source: Bureau of Labor Statistics, ERFC February 2015 Forecast; historical data through 2014

*Aerospace employment is slowly declining*

Aerospace employment did not decline as much as expected during the last three months but we have not changed our expectation of a downward trend over the next few years. We continue to believe that this downturn will be relatively mild due to the large and increasing backlog of orders. The current reductions are due to improvements in productivity and restructuring. The steep cuts in the past have been associated with production cuts which we do not expect over the next few



years. On an annual average basis, we expect aerospace employment to decline 2.4% in 2015, 2.5% per year in 2016 and 2017, 2.2% in 2018, and 2.0% in 2019.

*Software employment will resume its upward trend*

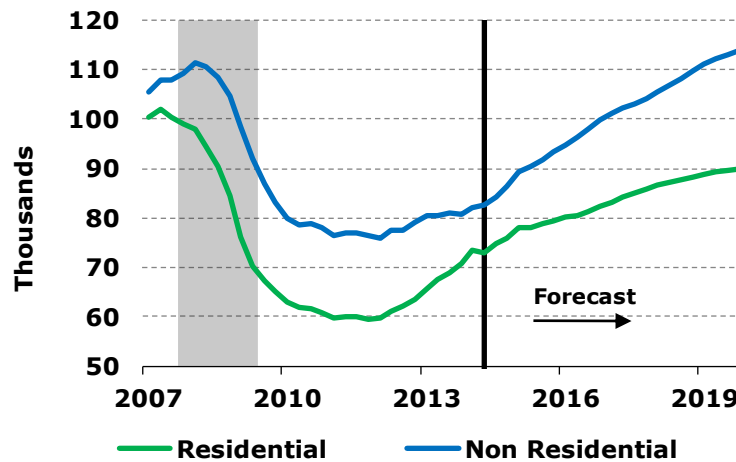
Software employment grew continuously following the first ever Microsoft layoffs in 2009 through the third quarter of 2014, finally exceeding the previous peak by 5,400 jobs. In 2014 Microsoft initiated another set of layoffs with effective dates ranging from September to December 2014. With the layoffs now complete, we expect moderate positive growth to resume. Software employment rose 3.1% in 2014 which was the highest growth rate since 2008. We expect a 1.6% decline in 2015 as a result of the 2014 layoffs. Positive growth is expected to return in 2016 through 2019 with growth rates of 0.8% in 2016 and 1.4% per year in 2017, 2018, and 2019.

*Construction employment is growing rapidly*

Construction employment grew 6.2% in 2014, down slightly from 7.0% in 2013 but still very strong. Most of the growth in construction employment during the recovery has been in residential construction however nonresidential construction employment growth should take the lead in 2015 to 2019 (see Figure 2.5). Overall construction employment will grow 7.4% in 2015, 5.0% in 2016, 5.0% in 2017, 4.3% in 2018, and 3.5% in 2019. Even with these impressive growth rates, construction employment will still be 6,200 below its previous peak at the end of 2019.

*Construction employment growth will increasingly be nonresidential*

**Figure 2.5: Washington Construction Employment**



Source: Bureau of Labor Statistics, ERFC February 2015 Forecast; historical data through 2014

*Financial activities employment will decline in 2016-19*

Credit intermediation has not recovered at all since the recession but other financial sectors have improved, particularly insurance carriers and related activities. On a calendar year basis, financial activities employment grew 0.2% in 2011, 2.4% in 2012, 4.1% in 2013, and 1.8% in 2014. Going forward, we expect a declining

trend in financial activities employment due to productivity growth and outsourcing. Employment will grow only 1.5% in 2015 before declining 0.4% in 2016, 1.7% in 2017, 1.8% in 2018, and 0.5% in 2019.

*Retail trade employment is benefitting from strong growth in electronic shopping*

Retail trade is another highly cyclical sector that declined early and sharply but has now turned around. Growth in Washington has been much stronger than the national average during the recovery thanks to our outsized and rapidly growing electronic shopping sector. Retail trade employment grew 1.5% in 2011, 2.1% in 2012, 3.3% in 2013, and 3.4% in 2014 following declines of 0.2%, 5.5%, and 0.4% in 2008, 2009, and 2010. Growth this year is also expected to be strong, at 3.5%. The forecast assumes weaker growth in the next four years as the recovery matures. We expect growth rates of 1.0%, 0.7%, 0.1%, and 0.3% in 2016 through 2019.

*Employment services and IT are driving professional and business services growth*

As is typical during recoveries, professional and business services is one of Washington's fastest growing sectors. During a recovery, growth in this sector is boosted by gains in employment services, mainly temporary help services. As businesses gauge whether the increase in demand will continue, they typically hire temporary staff before they hire permanent employees. Employment services employment has grown 42% in the last five years. IT employment growth has also been very strong during the recovery. Computer systems design and related services employment grew 45% in the last five years. We expect growth to remain very strong in this sector in 2015 through 2017 with growth rates of 5.3%, 6.0%, and 3.5%. We expect growth to slow to 1.7% and 2.0% in 2018 and 2019.

*State and local government employment will grow moderately*

State and local government employment was a drag on the overall jobs recovery long after most other sectors turned around. State and local government employment peaked in the fourth quarter of 2008 and declined through the first quarter of 2012. Since then, employment levels have risen steadily but slowly. State and local government employment finally passed its pre-recession peak in the third quarter of 2014. On an annual average basis, state and local government employment rose 0.8% in calendar 2013 and 1.9% in 2014 following three years of decline. We expect moderate employment growth in 2015 through 2019 with growth rates of 1.5% in 2015, 1.0% in 2016, and 1.8% per year in 2017, 2018, and 2019.

## **Washington Personal Income**

*Third quarter 2014 personal income was slightly lower than assumed in November*

In late December, the Bureau of Economic Analysis released estimates for state personal income through the third quarter of 2014. We have incorporated the new BEA estimates as well as additional Washington Quarterly Census of Employment and Wages (QCEW) and other wage data also through the third quarter. Our current estimate of Washington personal income in

the third quarter of 2014 is \$350.2 billion which is \$1.2 billion (0.3%) lower than assumed in November.

*The interest income growth forecast is lower*

Our February forecast for nominal personal income growth this year of 4.8% is unchanged since the November forecast, however, our new forecast for nominal personal income growth from 2016 through 2019 averages 5.7% per year, down slightly from 5.8% in the November forecast. The main reason for the slower income growth in the February forecast is lower interest income growth.

## Washington Building Permits

*Single-family construction will continue to strengthen*

After strong growth in 2012 and 2013, the housing recovery in Washington faltered in 2014. Housing units authorized by building permits rose only 1.1% in 2014 to 33,300 units. The housing recovery to date has been mostly in the multi-family segment. Multi-family housing recovered from a low of only 4,000 units in 2009 to 15,700 in 2014. We expect little further growth in multi-family housing construction with the number of units in the 16,000 to 17,000 range. The recovery in single-family construction has been much less robust, from 13,000 units in 2009 to 17,600 in 2014. We expect single-family construction to continue to strengthen with the number of units reaching 27,400 in 2019. We expect total housing units authorized by building permits to rise 6.9% to 35,600 units in 2015, 8.7% to 38,700 units in 2016, and 8.3% to 41,900 units in 2017. Housing permits are expected to level off in the last two years, rising only 3.0% to 43,200 in 2018 and 1.8% to 44,000 in 2019.

## Seattle Consumer Price Index

*Rents are driving Seattle core inflation higher*

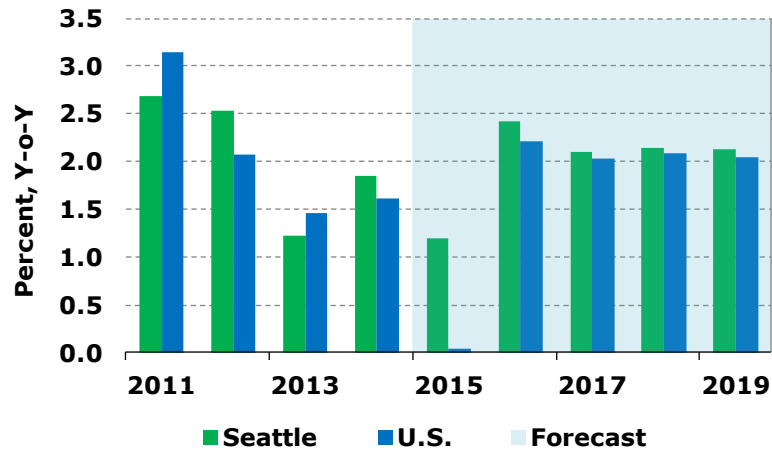
Core inflation (excluding food and energy) in Seattle increased to 2.0% in 2014 from 1.5% in 2012 while national core inflation slowed from 1.8% to 1.7%. The reason for the divergence is shelter costs which are rising much faster in Seattle. We expect Seattle core inflation to rise to 2.5% in 2015 compared to 1.8% for the nation as this divergence in shelter costs continues. We expect core Seattle CPI inflation to decline to around 2.0% by 2017.

*Energy costs will temporarily reduce headline inflation*

We expect the all-items Seattle CPI to rise only 1.2% this year, down from 1.8% in 2014. The reason is the recent drop in oil prices. Nationally we expect 0.0% headline inflation in 2015. The reason Seattle inflation is so much higher than the national average in 2015 is much higher than average shelter cost inflation. While the drop in oil prices reduces inflation in 2015, it slightly increases inflation during the remainder of the forecast as oil prices gradually increase. We expect all-items Seattle area inflation rates of 2.4% in 2016, and 2.1% per year in 2017, 2018, and 2019 (see Figure 2.6).

*Seattle inflation will continue to exceed the national average*

**Figure 2.6: Consumer Price Inflation**



Source: U.S. Department of Labor, Bureau of Labor Statistics, ERFC February 2015 Forecast; historical data through 2014

Table 2.1 provides a fiscal year summary of the state economic indicators. For calendar year tables, see the appendix.

## Alternative Scenarios

*Alternate forecasts are prepared in accordance with state law*

In accordance with state law, the Washington State Economic and Revenue Forecast Council adopted a forecast based on optimistic assumptions and a forecast based on pessimistic assumptions.

### Optimistic

*In the optimistic scenario, low oil prices and strong exports boost growth*

In the optimistic scenario, OPEC producers attempt to protect market share and domestic oil production gains continue. This scenario assumes that the U.S. variable production costs are generally low. Additionally, the need to preserve cash flow on many prior investments, and a prevailing opinion that such low prices are temporary, drive the decision to continue production. Brent oil prices fall to \$29 per barrel by the end of 2015 driving down the price of gasoline and thus encouraging additional consumer spending. Meanwhile, the European Central Bank's (ECB) quantitative easing successfully steers the Eurozone away from its current economic malaise. Eurozone growth strengthens more than in the baseline as fiscal conditions improve, credit conditions ease, and pent-up demand is released. Emerging-market GDP growth also accelerates as these markets implement structural reforms to increase labor productivity. The S&P 500 jumps 6.4% in the first quarter of 2015, and grows 15.2% for the whole 2015. Greatly increased production brings significant wage and payroll gains. As employment and wage growth both pick up, they lift the pace of U.S. consumption growth. Real consumption grows 4.7% in 2015 and 5.1% in 2016.

*The optimistic scenario also assumes a much stronger Washington economy*

In addition to reflecting the impact of the stronger U.S. forecast on the state economy, the optimistic Washington forecast assumes that aerospace employment flattens out through 2016 rather than continuing to fall as in the baseline. Software employment growth is also much stronger than in the baseline forecast. In the optimistic scenario, Seattle consumer prices are initially lower than in the baseline forecast due to the much lower oil price assumption but eventually the stronger regional economy drives the price level above the baseline. Washington average wage growth is higher in the optimistic scenario than in the baseline. The strong local economy also drives population growth higher. The recovery in construction employment is much stronger than in the baseline forecast with employment in the sector exceeding the previous peak in the first quarter of 2018. By the end of 2019, Washington nonfarm payroll employment is higher by 165,900 jobs than in the baseline forecast and Washington personal income is \$39.3 billion higher.

### **Pessimistic**

*Household formation stagnates and the housing market weakens*

The pessimistic scenario assumes household formation remains at recession levels through 2016. This implies that the social and economic drivers of the lower household formation rates continue. These drivers include poor wage growth, slower immigration, family caregiver obligations, lower marriage rates, limited access to credit, degraded mobility, and onerous student loan burdens. Tight credit, a scarcity of developed lots, and rising construction costs further deter builders from adding to the housing stock. Housing starts weaken relative to the baseline forecast. Inventories are tight, but demand is weaker, causing home prices to sink, thereby eroding the attractiveness of purchasing a house versus renting. A declining stock market also weakens confidence. As both equity values and residential asset prices drop, the wealth effect kicks in and consumers scale back on their purchases. With businesses unwilling to expand further in such a weak environment, nonresidential fixed investment growth slows. In this scenario, US export growth declines as foreign growth opportunities wane. The double squeeze from weak domestic sales and slow exports weakens businesses, initiating a slowdown in payroll growth. Depressed wages, low profits, and slow employment growth ensue, with the unemployment rate rising back above 6.0% in late 2015.

*This scenario also assumes a weaker local economy*

In addition to reflecting the impact of the weaker U.S. forecast on the state economy, aerospace employment declines much more rapidly in 2013 through 2019 than assumed in the baseline forecast. Software employment continues to decline after the scheduled layoffs rather than turning positive as in the baseline forecast. Population growth is also weaker than in the baseline forecast as migration into Washington drops. Construction employment drifts lower in the pessimistic alternative rather than rising as in the baseline. The Seattle CPI is lower than in the

baseline forecast, as are Washington wage rates, further depressing personal income. By the end of 2019, Washington nonfarm payroll employment is 219,000 lower than in the baseline forecast and Washington personal income is \$40.2 billion lower.

Table 2.2 compares the optimistic and pessimistic forecasts with the baseline forecast.

### **Governor’s Council of Economic Advisors (GCEA)**

In the GCEA scenario, the U.S. and state forecasts were adjusted to match the average view of the Council members.

*The Governor’s Council members expect weaker output growth but higher inflation*

At the national level, the GCEA outlook for real GDP growth is slightly lower than the baseline forecast in each year. Real consumer spending growth is also lower in each year of the forecast in the Governor’s Council scenario. However, the Governor’s Council members expect higher inflation than predicted in the baseline forecast. As a result of the higher inflation assumption, nominal consumption is higher in the Governor’s Council scenario than in the baseline forecast. The GCEA oil price forecast is slightly lower than the baseline in each year. The Council members’ mortgage rate forecast is a little higher than the baseline forecast this year but the same or lower in each year from 2016 through 2019.

*The GCEA members expect weaker Washington income and job growth*

The GCEA scenario for Washington is also similar to the baseline forecast but generally a little more pessimistic. Their real personal income growth forecast averages 3.6% per year in 2015 through 2019 compared to the baseline forecast of 4.0% but, because they expect higher inflation, their nominal personal income growth forecast is closer (5.3% versus 5.5% in the baseline forecast). The council members’ forecast for total employment growth is slightly weaker on average than the baseline forecast. Overall, their forecast expects a 1.7% average rate through 2019 compared to 1.9% per year in the baseline forecast. The GCEA forecast for manufacturing employment growth is lower than the baseline forecast as is their construction employment growth forecast. However, the Council members’ housing permit forecast is about the same, averaging 40,700 units per year through 2019. At the end of 2019, the GCEA forecast for Washington nonfarm payroll employment is 21,100 lower than in the baseline forecast and Washington personal income is \$4.9 billion lower.

Table 2.3 compares the GCEA forecast with the baseline forecast.

Table 2.1  
**Washington Economic Forecast Summary**  
 Forecast 2015 to 2019

Fiscal Years

	2012	2013	2014	2015	2016	2017	2018	2019
<b>Real Income (Billions of Chained 2009 Dollars)</b>								
Real Personal Income	298.029	308.689	314.587	326.789	339.668	354.727	369.519	382.314
% Ch	3.8	3.6	1.9	3.9	3.9	4.4	4.2	3.5
Real Wage and Salary Disb.	151.451	156.706	162.317	169.094	176.617	183.677	190.276	197.254
% Ch	2.7	3.5	3.6	4.2	4.4	4.0	3.6	3.7
Real Nonwage Income	146.578	151.983	152.270	157.696	163.050	171.050	179.243	185.060
% Ch	4.9	3.7	0.2	3.6	3.4	4.9	4.8	3.2
Real Per Capita Income (\$/Person)	43,389	44,450	44,756	45,859	47,026	48,465	49,849	50,935
% Ch	2.6	2.4	0.7	2.5	2.5	3.1	2.9	2.2
<b>Price and Wage Indexes</b>								
U.S. Implicit Price Deflator, PCE (2009=1.0)	1.052	1.067	1.081	1.089	1.102	1.121	1.140	1.160
% Ch	2.4	1.4	1.3	0.8	1.2	1.7	1.7	1.8
Seattle Cons. Price Index (1982-84=1.0)	2.360	2.404	2.437	2.471	2.521	2.577	2.631	2.687
% Ch	3.1	1.8	1.4	1.4	2.0	2.2	2.1	2.1
Average Nonfarm Annual Wage	52,764	54,174	55,610	56,729	58,592	60,771	63,201	65,898
% Ch	3.7	2.7	2.6	2.0	3.3	3.7	4.0	4.3
Avg. Hourly Earnings-Mfg. (\$/Hour)	24.04	24.19	24.75	25.48	26.11	26.80	27.53	28.33
% Ch	1.2	0.6	2.3	2.9	2.5	2.6	2.8	2.9
<b>Current Dollar Income (Billions of Dollars)</b>								
Personal Income	313.633	329.448	339.953	355.810	374.322	397.650	421.253	443.549
% Ch	6.3	5.0	3.2	4.7	5.2	6.2	5.9	5.3
Disposable Personal Income	280.085	292.140	300.030	313.303	327.630	346.830	367.739	388.106
% Ch	5.7	4.3	2.7	4.4	4.6	5.9	6.0	5.5
Per Capita Income (\$/Person)	45,660	47,438	48,364	49,932	51,823	54,328	56,827	59,093
% Ch	5.1	3.9	2.0	3.2	3.8	4.8	4.6	4.0
<b>Employment (Thousands)</b>								
Washington Civilian Labor Force	3,482.2	3,470.8	3,461.2	3,512.4	3,589.2	3,655.3	3,717.8	3,781.7
Total Washington Employment	3,180.0	3,211.5	3,235.4	3,299.9	3,374.5	3,444.4	3,506.7	3,569.4
Unemployment Rate (%)	8.68	7.47	6.52	6.05	5.98	5.77	5.68	5.61
Nonfarm Payroll Employment	2,894.2	2,955.6	3,027.0	3,119.2	3,196.1	3,262.6	3,307.0	3,348.1
% Ch	1.4	2.1	2.4	3.0	2.5	2.1	1.4	1.2
Manufacturing	274.8	284.9	287.3	291.5	298.4	302.5	304.0	304.5
% Ch	4.9	3.7	0.8	1.4	2.4	1.4	0.5	0.2
Durable Manufacturing	199.2	208.6	209.3	211.4	216.1	218.7	219.1	219.1
% Ch	6.2	4.7	0.3	1.0	2.2	1.2	0.2	0.0
Aerospace	90.8	96.4	94.9	92.9	90.4	88.1	86.0	84.2
% Ch	10.0	6.2	-1.6	-2.1	-2.7	-2.5	-2.4	-2.0
Nondurable Manufacturing	75.6	76.3	78.0	80.1	82.3	83.8	85.0	85.4
% Ch	1.5	1.0	2.2	2.6	2.8	1.9	1.4	0.5
Construction	136.6	144.0	153.1	164.3	173.7	182.9	191.0	198.9
% Ch	-1.1	5.4	6.3	7.3	5.7	5.3	4.4	4.1
Service-Providing	2,476.9	2,520.7	2,580.3	2,657.3	2,718.0	2,770.9	2,805.5	2,838.2
% Ch	1.2	1.8	2.4	3.0	2.3	1.9	1.2	1.2
Software Publishers	52.1	52.9	55.1	55.2	55.0	55.7	56.5	57.3
% Ch	1.7	1.6	4.1	0.3	-0.4	1.2	1.5	1.4
Nonfarm Payroll Employment, EOP*	2,916.0	2,981.4	3,051.9	3,152.1	3,223.0	3,281.9	3,321.8	3,364.5
% Ch*	1.6	2.2	2.4	3.3	2.2	1.8	1.2	1.3
<b>Housing Indicators (Thousands)</b>								
Housing Units Authorized by Bldg. Permit	23.887	31.402	32.772	34.342	37.016	40.647	42.564	43.708
% Ch	15.5	31.5	4.4	4.8	7.8	9.8	4.7	2.7
Single-Family	14.152	18.552	17.262	18.511	20.325	23.964	26.280	27.207
% Ch	4.9	31.1	-7.0	7.2	9.8	17.9	9.7	3.5
Multi-Family	9.736	12.850	15.510	15.831	16.691	16.683	16.285	16.502
% Ch	35.2	32.0	20.7	2.1	5.4	0.0	-2.4	1.3
30-Year Fixed Mortgage Rate (%)	4.01	3.53	4.33	3.94	4.71	5.67	5.75	5.68

\*End of Period, for use in the Budget Stabilization Account calculation

Table 2.2  
**Comparison of Alternative Forecasts**

Fiscal Years

	2014	2015	2016	2017	2018	2019
<b>U.S.</b>						
<b>Real GDP, Percent Change</b>						
Optimistic	2.5	3.3	4.1	3.8	3.3	3.1
Baseline	2.5	3.1	2.9	2.8	2.6	2.5
Pessimistic	2.5	2.7	0.7	1.6	1.9	2.0
<b>Implicit Price Deflator, Percent Change</b>						
Optimistic	1.3	0.4	0.2	1.7	1.7	1.9
Baseline	1.3	0.8	1.2	1.7	1.7	1.8
Pessimistic	1.3	0.4	0.5	2.5	2.9	3.0
<b>Mortgage Rate, Percent</b>						
Optimistic	4.33	4.49	6.09	6.49	5.78	5.54
Baseline	4.33	3.94	4.71	5.67	5.75	5.68
Pessimistic	4.33	3.82	4.20	5.23	6.00	6.82
<b>3 Month T-Bill Rate, Percent</b>						
Optimistic	0.04	0.34	2.52	3.66	3.54	3.51
Baseline	0.04	0.09	0.90	2.47	3.53	3.53
Pessimistic	0.04	0.03	0.20	0.30	1.10	2.93
<b>Washington</b>						
<b>Real Personal Income, Percent Change</b>						
Optimistic	1.9	5.1	7.6	6.6	5.4	4.3
Baseline	1.9	3.9	3.9	4.4	4.2	3.5
Pessimistic	1.9	3.0	0.5	0.6	1.4	2.1
<b>Personal Income, Percent Change</b>						
Optimistic	3.2	5.6	7.8	8.4	7.1	6.2
Baseline	3.2	4.7	5.2	6.2	5.9	5.3
Pessimistic	3.2	3.5	1.0	3.1	4.4	5.2
<b>Employment, Percent Change</b>						
Optimistic	2.4	3.2	3.3	3.1	2.5	2.2
Baseline	2.4	3.0	2.5	2.1	1.4	1.2
Pessimistic	2.4	2.7	0.8	0.4	0.0	0.2
<b>Housing Permits, Thousands of Authorized Units</b>						
Optimistic	32.8	34.6	38.6	43.6	47.9	49.7
Baseline	32.8	34.3	37.0	40.6	42.6	43.7
Pessimistic	32.8	33.7	31.2	32.4	32.4	31.2



Table 2.3

Calendar Years

**Governor's Council of Economic Advisor's Forecast**

	2015	2016	2017	2018	2019
<b>U.S.</b>					
<b>Real GDP</b>					
<i>Growth</i>					
ERFC	3.2	2.9	2.7	2.5	2.4
GCEA Average	3.0	2.7	2.5	2.3	2.3
<b>Real Consumption</b>					
<i>Growth</i>					
ERFC	3.3	2.8	2.6	2.5	2.4
GCEA Average	3.1	2.6	2.5	2.4	2.3
<b>Implicit Price Deflator, PCE</b>					
<i>Growth</i>					
ERFC	0.4	1.8	1.7	1.8	1.8
GCEA Average	0.7	2.1	1.8	1.8	1.9
<b>Mortgage Rate</b>					
<i>Percent</i>					
ERFC	4.1	5.4	5.7	5.7	5.7
GCEA Average	4.2	4.9	5.7	5.7	5.6
<b>Oil Price (Brent)</b>					
<i>Dollars per barrel</i>					
ERFC	59.5	68.2	72.0	74.5	76.7
GCEA Average	58.8	65.1	68.7	71.1	72.0
<b>Washington State</b>					
<b>Real Personal Income</b>					
<i>Growth</i>					
ERFC	4.3	3.9	4.5	3.7	3.3
GCEA Average	4.0	3.6	3.8	3.5	3.1
<b>Wage and Salary Employment</b>					
<i>Growth</i>					
ERFC	2.9	2.2	1.7	1.2	1.3
GCEA Average	2.6	2.0	1.7	1.2	1.2
<b>Manufacturing Employment</b>					
<i>Growth</i>					
ERFC	2.2	2.1	0.8	0.3	-0.1
GCEA Average	0.8	0.5	0.1	-0.1	-0.2
<b>Construction Employment</b>					
<i>Growth</i>					
ERFC	7.4	5.0	5.0	4.3	3.5
GCEA Average	5.5	4.2	3.9	3.4	2.9
<b>Housing Permits</b>					
<i>Thousands of authorized units</i>					
ERFC	35.6	38.7	41.9	43.2	44.0
GCEA Average	36.1	41.0	41.6	42.4	42.6
<b>Washington Average Annual Wage</b>					
<i>Growth</i>					
ERFC	2.3	3.6	3.9	4.2	4.2
GCEA Average	2.6	3.2	3.5	3.7	3.6

Table 2.4  
**Forecast Analysis**  
 Comparison of Forecasts for 2013-15

Forecast Date	<b>2012</b>				<b>2013</b>				<b>2014</b>				<b>2015</b>	
	<u>Feb.</u>	<u>June</u>	<u>Sept.</u>	<u>Nov.</u>	<u>Mar.</u>	<u>June</u>	<u>Sept.</u>	<u>Nov.</u>	<u>Feb.</u>	<u>June</u>	<u>Sept.</u>	<u>Nov.</u>	<u>Feb.</u>	<u>June</u>
<b>Washington</b>														
Percent Growth, 2013:2-2015:2														
Employment	3.6	3.7	4.3	4.2	3.8	3.7	3.6	3.6	4.3	4.4	4.9	5.2	5.7	
Personal Income	11.5	11.4	11.5	11.0	11.0	10.6	10.7	10.5	10.1	9.9	9.8	9.4	9.4	
Real Personal Income	6.9	6.7	7.4	7.3	7.3	7.3	7.4	7.4	7.2	6.4	6.8	6.7	7.5	
Total (Thousands of units), 2013:3 to 2015:2														
Housing Units Authorized	64.2	61.8	63.6	64.4	70.1	72.6	69.1	66.0	67.0	67.8	68.1	67.7	67.1	

Table 2.5  
**Forecast Comparison**  
 Forecast 2015 to 2017

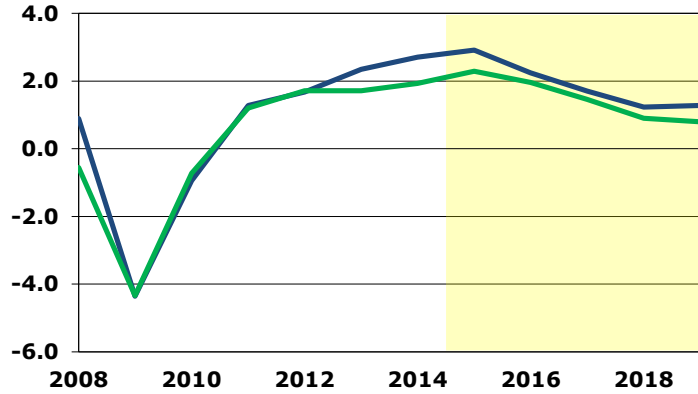
Fiscal Years

	<b>2013</b>	<b>2014</b>	<b>2015</b>	<b>2016</b>	<b>2017</b>	<b>2018</b>	<b>2019</b>
<b>Washington</b>							
<b>Real Personal Income</b>							
February Baseline	308.689	314.587	326.789	339.668	354.727	369.519	382.314
% Ch	3.6	1.9	3.9	3.9	4.4	4.2	3.5
November Baseline	308.689	314.651	325.770	338.605	354.027	368.172	380.958
% Ch	3.6	1.9	3.5	3.9	4.6	4.0	3.5
<b>Personal Income</b>							
February Baseline	329.448	339.953	355.810	374.322	397.650	421.253	443.549
% Ch	5.0	3.2	4.7	5.2	6.2	5.9	5.3
November Baseline	329.448	340.023	356.249	375.278	398.886	422.304	445.318
% Ch	5.0	3.2	4.8	5.3	6.3	5.9	5.4
<b>Employment</b>							
February Baseline	2955.6	3027.0	3119.2	3196.1	3262.6	3307.0	3348.1
% Ch	2.1	2.4	3.0	2.5	2.1	1.4	1.2
November Baseline	2955.6	3030.6	3110.4	3175.6	3231.6	3269.3	3304.8
% Ch	2.1	2.5	2.6	2.1	1.8	1.2	1.1
<b>Housing Permits</b>							
February Baseline	31.402	32.772	34.342	37.016	40.647	42.564	43.708
% Ch	31.5	4.4	4.8	7.8	9.8	4.7	2.7
November Baseline	31.259	33.664	34.082	36.707	40.982	43.004	43.470
% Ch	31.5	7.7	1.2	7.7	11.6	4.9	1.1

Figure 2.7: Comparison of Washington and U.S. Economic Forecasts  
(Percent change)

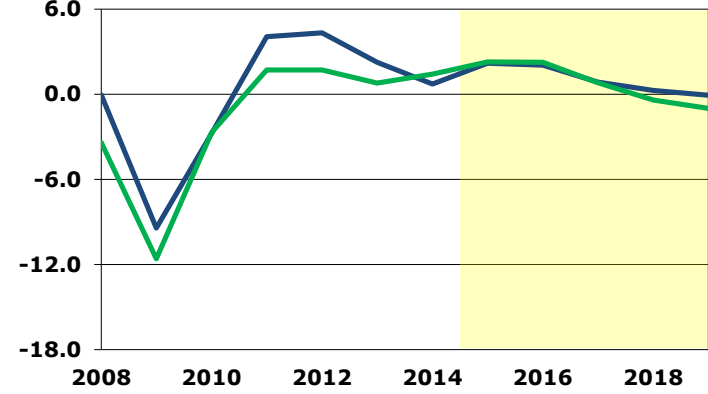
Forecast

Total nonfarm payroll employment



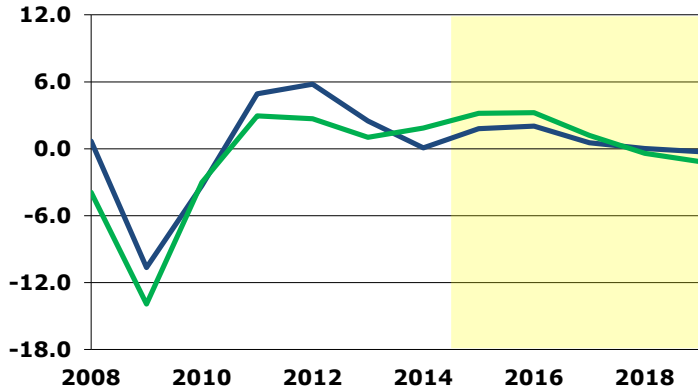
Source: WA State Employment Security Dept. 2013, ERFC 2019

Manufacturing employment



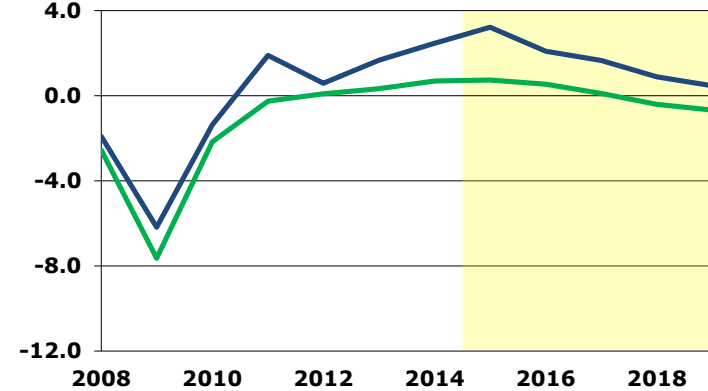
Source: WA State Employment Security Dept. 2013, ERFC 2019

Durable manufacturing employment



Source: WA State Employment Security Dept. 2013, ERFC 2019

Nondurable manufacturing employment



Source: WA State Employment Security Dept. 2013, ERFC 2019

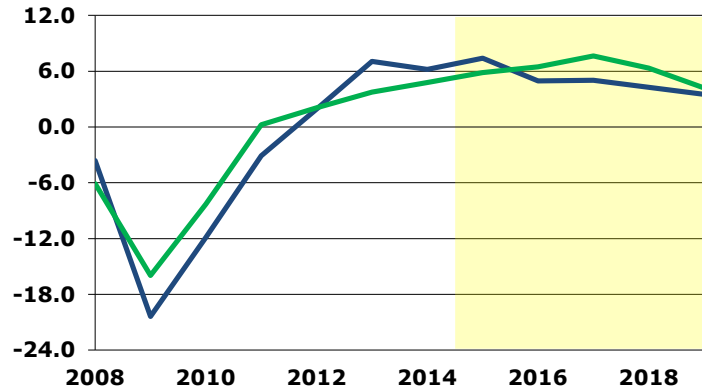
Washington

U.S.

Figure 2.7: Comparison of Washington and U.S. Economic Forecasts (continued)  
 (Percent change)

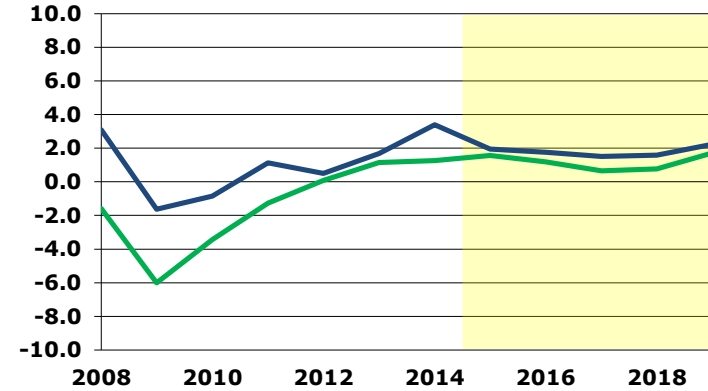
Forecast

Construction employment



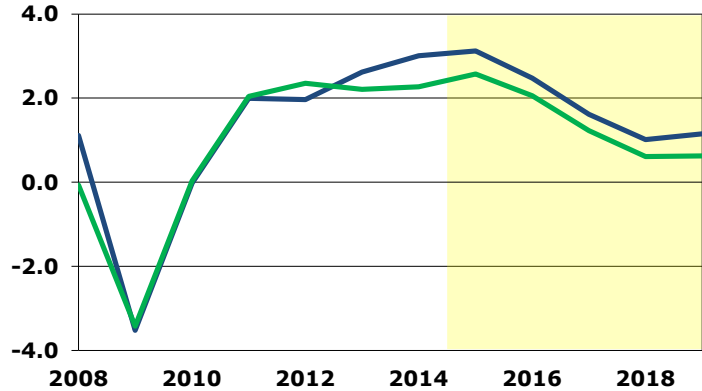
Source: WA State Employment Security Dept. 2013, ERFC 2019

Information employment



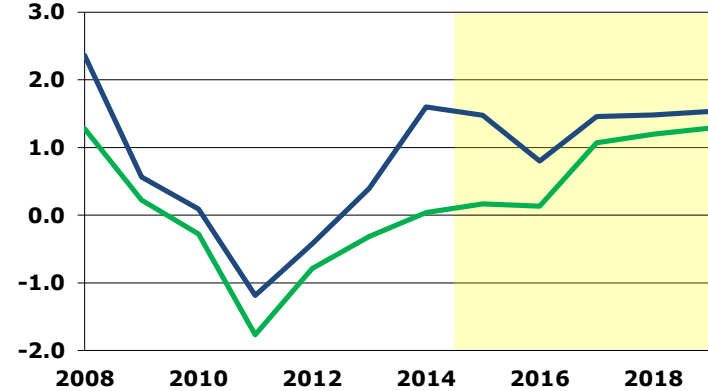
Source: WA State Employment Security Dept. 2013, ERFC 2019

Other private employment



Source: WA State Employment Security Dept. 2013, ERFC 2019

Government employment



Source: WA State Employment Security Dept. 2013, ERFC 2019

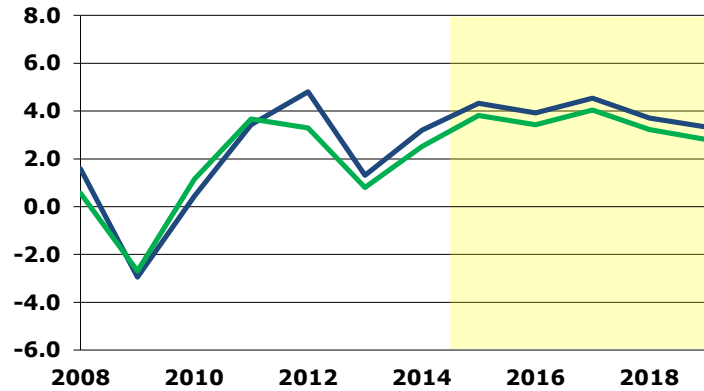
Washington

U.S.

Figure 2.7: Comparison of Washington and U.S. Economic Forecasts (continued)  
(Percent change)

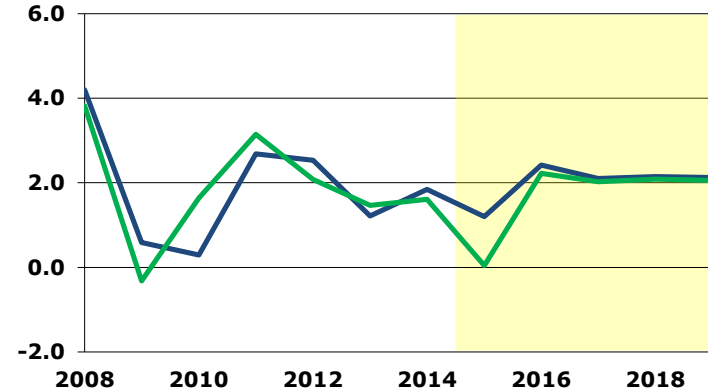
Forecast

Real personal income



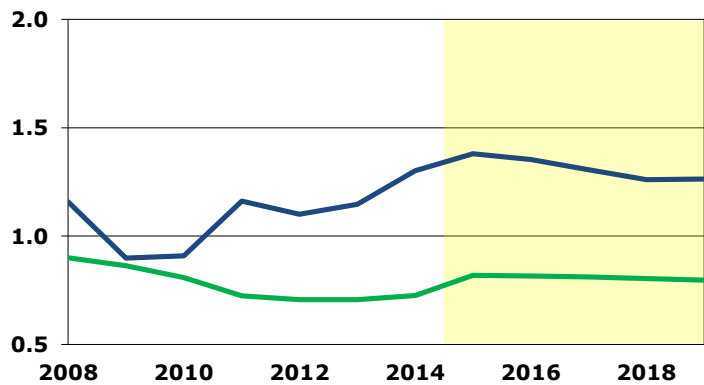
Source: Bureau of Economic Analysis 2013, ERFC 2019

Consumer price indices



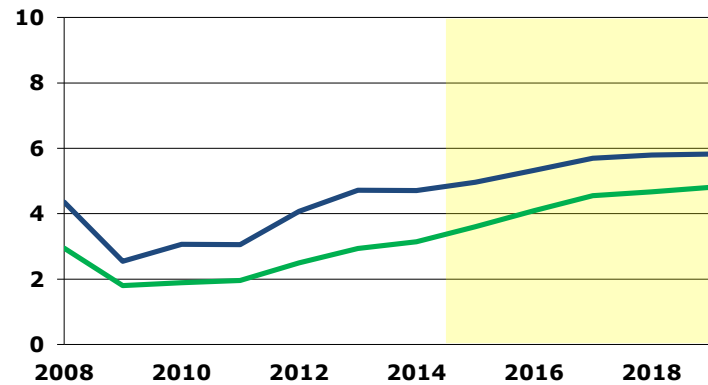
Source: Bureau of Labor Statistics 2013, ERFC 2019

Population



Source: Office of Financial Management 2010, ERFC 2019

New Housing Units Per 1,000 population (level)



Source: Census Bureau 2013, ERFC 2019

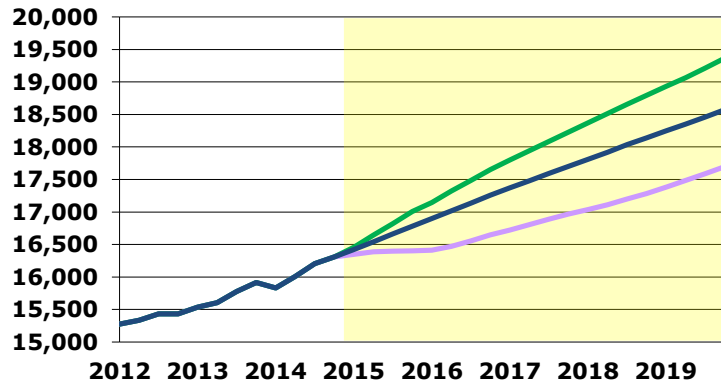
Washington

U.S.

Figure 2.8: Comparison of Alternative U.S. Economic Forecasts

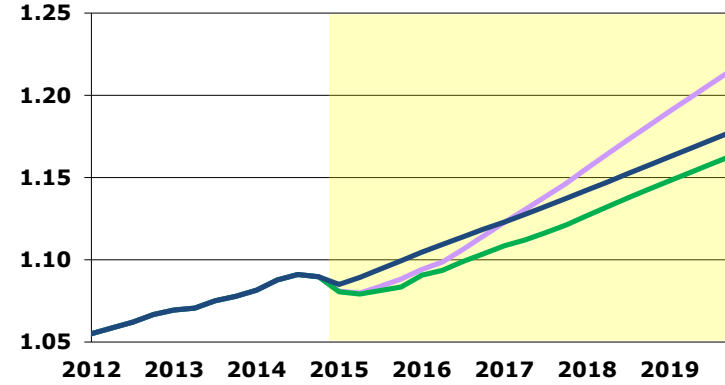
Forecast

Real GDP, billions of chained 2009 dollars



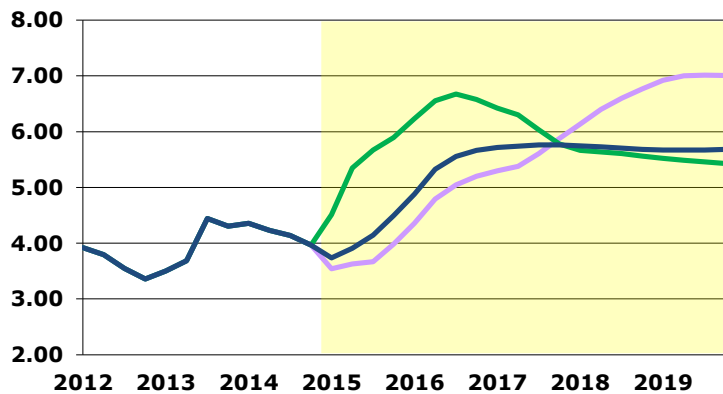
Source: Bureau of Economic Analysis 2014 Q2, ERFC 2019

Implicit price deflator, index 2009 = 1.0



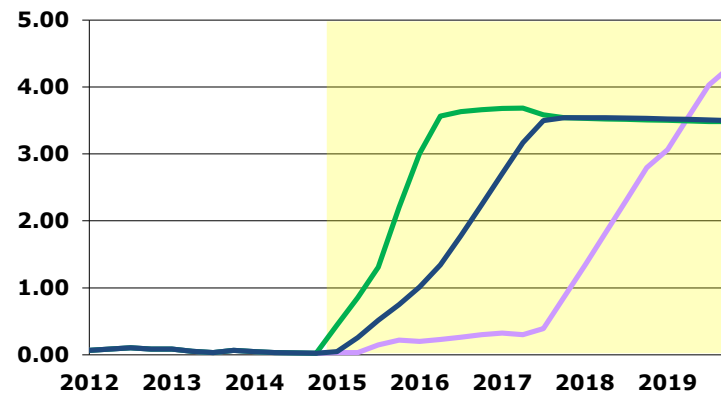
Source: Bureau of Economic Analysis 2014 Q2, ERFC 2019

Mortgage rate, percent



Source: Freddie Mac 2014 Q2, ERFC 2019

Three month T-bill rate, percent



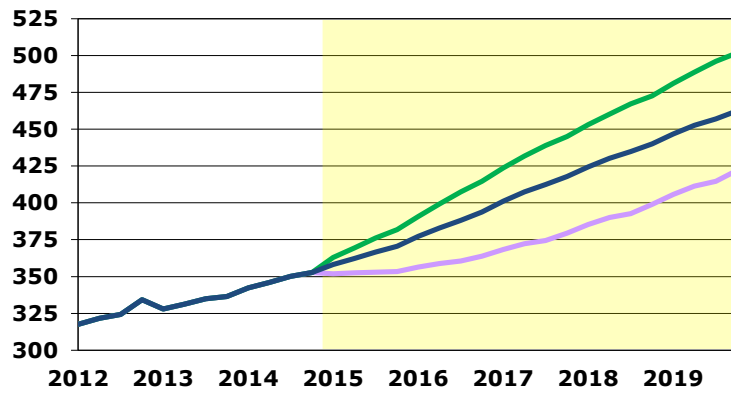
Source: Federal Reserve Board 2014 Q2, ERFC 2019

■ Baseline      ■ Optimistic      ■ Pessimistic

Figure 2.9: Comparison of Alternative Washington Economic Forecasts

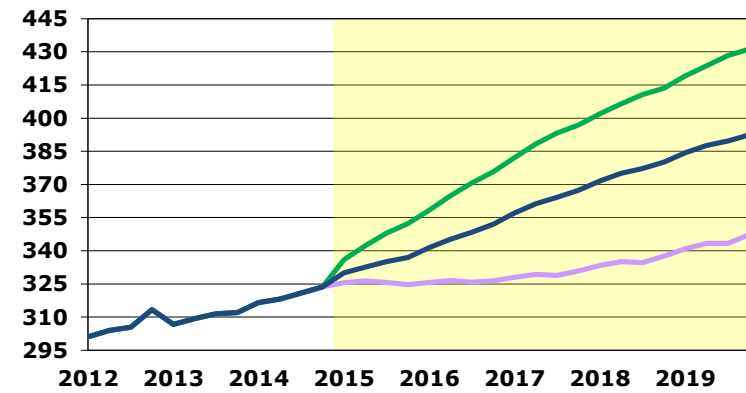
Forecast

Personal income, billions of dollars



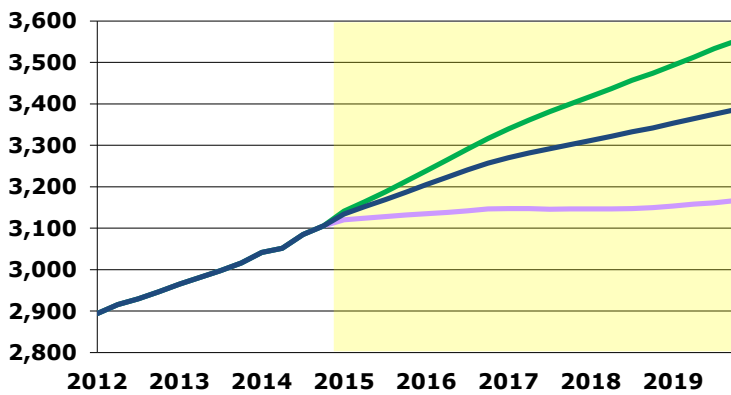
Source: Bureau of Economic Analysis 2012 Q4, ERFC 2019

Real personal income, billions of chained 2009 dollars



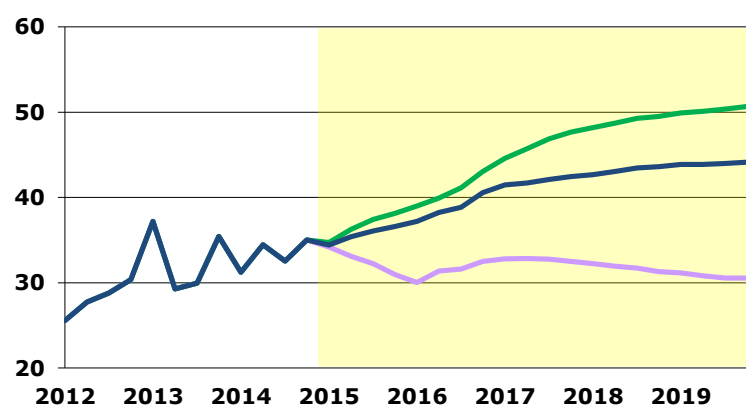
Source: Bureau of Economic Analysis 2012 Q4, ERFC 2019

Total nonfarm payroll employment, thousands



Source: WA State Employment Security 2014 Q2, ERFC 2019

Housing permits, thousands



Source: Census Bureau 2014 Q2, ERFC 2019

■ Baseline      ■ Optimistic      ■ Pessimistic





## Chapter 3: Washington State Revenue Forecast Summary

- **Revenue collections since November have come in \$69 million over the forecasted amount.**
- **Changes to the economic forecast since the November forecast have resulted in increases in expected revenue of less than half of one percent for each of the forecasted biennia.**
- **The forecast of General Fund-State (GF-S) revenue for the 2013-15 biennium was increased by \$107 million and the forecast for the 2015-17 biennium was increased by \$129 million. The forecast for the 2017-19 biennium was increased by \$154 million.**

### Overview

*Changes to the revenue forecast in February were once again slight but positive*

Revenue collections since the November 2014 forecast came in \$69 million higher than the expected total. Most of the surplus, however, came from non-economic factors. There were \$21 million in large audit payments, and a \$21 million refund that was expected to occur was postponed. Disregarding these factors, the surplus due to economic factors was only \$28 million over three months. As was the case last month, changes to the economic forecast were small but positive on balance. As a result of the small economic changes and slight adjusted collection surplus, forecasted revenue collections for the current and two subsequent biennia have been increased by less than half of one percent.

*GF-S forecast change by biennium (millions):*

*13-15: +\$107  
15-17: +\$129  
17-19: +\$154*

Table 3.1 summarizes the changes to the forecasts of GF-S revenue for the 2013-15 through 2017-19 biennia. As of February 10<sup>th</sup>, revenue collections for the 2013-15 biennium were \$69.0 million ahead of the November forecast. For the remainder of the biennium, forecasted revenue has been increased by \$36.7 million. Most of the forecast increase, however, was the result of non-economic changes: an audit payment of \$13.3 million that is expected to arrive soon after the forecast plus an \$18.0 million settlement payment to be transferred through the Attorney General's office. The sum of these changes for the 2013-15 biennium is a forecast increase of

\$106.8 million, with total biennial revenue of \$33,546.6 million. The forecast for the 2015-17 biennium has been increased by \$129.4 million and the forecast for the 2017-19 biennium has been increased by \$154.5 million. GF-S revenue is now forecasted to total \$36,448.9 million in the 2015-17 biennium and \$39,756.9 million in the 2017-19 biennium.

*GF-S forecast (\$millions):*

2013-15:  
\$33,547

2015-17:  
\$36,449

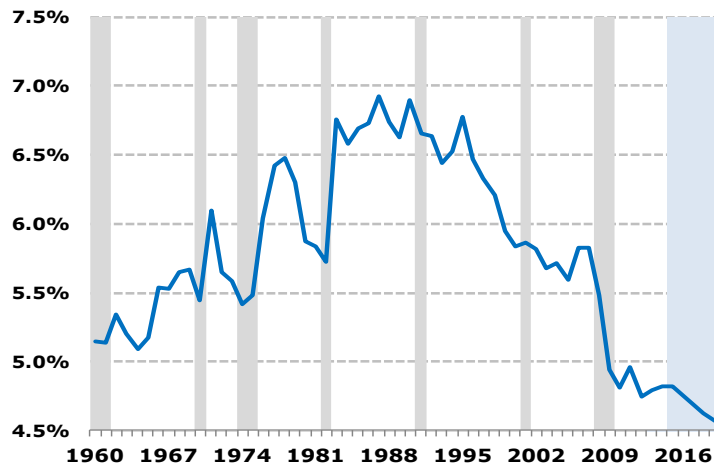
2017-19:  
\$39,757

**Table 3.1: Revisions to the General Fund-State forecast (cash basis, millions of dollars)**

	<b>2013-15 Biennium</b>	<b>2015-17 Biennium</b>	<b>2017-19 Biennium</b>
Collection Experience	\$69.0	NA	NA
Non-Economic Change	\$31.3	\$0.0	\$0.0
Forecast Change	\$6.4	\$129.4	\$154.5
<b>Total Change</b>	<b>\$106.8</b>	<b>\$129.4</b>	<b>\$154.5</b>

**Figure 3.1: GF-S Revenue (Current Definition) as a Percentage of State Personal Income (Fiscal Years)**

*GF-S revenue relative to state personal income has been on a declining trend since 1995*



Source: ERFC, data through fiscal year 2014

*The ratio of collections to income is at historical lows*

As can be seen in Figure 3.1, the amount of GF-S revenue that is collected relative to state personal income is forecasted to reach its lowest levels in ERFC records. The ratio of revenue to income has been on a downward trend since 1995, broken only by the housing boom that raised the ratio from 2005 to mid-2008, and by temporary taxes and transfers of funds from non-GF-S sources into the GF-S that again boosted the ratio in fiscal years 2011 and 2013. The ratio for FY 2014 is slightly higher than that of FY 2013, but the increase was due mainly to slow income growth in that fiscal year. The February forecast, as shown in the light blue shaded area, has the ratio remaining roughly constant

in FY 2015 before continuing its downward trend through the end of the forecast period in FY 2019.

*Forecast details are at the end of the chapter*

The history of nominal and real GF-S revenue by biennium can be found in Table 3.3. GF-S forecast changes by agency and major revenue classification for the 2013-15 biennium can be found in Table 3.5 (cash) and Table 3.6 (GAAP). Forecast changes for the 2015-17 biennium can be found in Table 3.7 (cash) and Table 3.8 (GAAP). The GF-S forecast by fiscal year and major source category through FY 2019 can be found in Table 3.9.

## Recent Collection Experience

*Cumulative receipts from major sources that are tracked monthly were \$69 million (1.5%) more than the November forecast*

Revenue collections from the Department of Revenue (DOR), Department of Licensing, and Administrative Office of the Courts are tracked monthly. In the period since the November forecast, total revenue from the above sources came in \$69.0 million (1.5%) higher than expected (see Table 3.2). Revenue Act collections reported by the DOR were \$52.0 million (1.6%) above the forecast. Revenue from other DOR tax sources from November through January was \$15.6 million (1.3%) above the forecast.

**Table 3.2: Pre-Forecast Collection Variance of Major General Fund-State Taxes by Agency (relative to the November 2014 forecast, cash basis, millions of dollars)**

<u>Agency/Source</u>	<u>Collection Variance</u>	<u>Percent of Estimate</u>
Department of Revenue		
Revenue Act	\$52.0	1.6%
Non Revenue Act	\$15.6	1.3%
Subtotal	\$67.6	1.5%
Department of Licensing		
Administrative Office of the Courts	\$1.4	7.2%
<b>Total*</b>	<b>\$69.0</b>	<b>1.5%</b>

\* Detail may not add to total due to rounding.

Source: ERFC; Period: November 11 - February 10, 2015

*Most of the positive variance in collections came from non-economic factors*

Most of the positive variance in Revenue Act collections was due to non-economic factors. Since the November forecast, there has been a net of \$21.2 million in large one-time audit payments. In addition, a \$21 million refund that the forecast expected to occur in December is now expected to occur in March. Without these \$42.2 million in special factors, Revenue Act collections would have been only \$9.7 million (0.3%) higher than forecasted.

*Real estate excise and cigarette taxes came in much higher than forecasted*

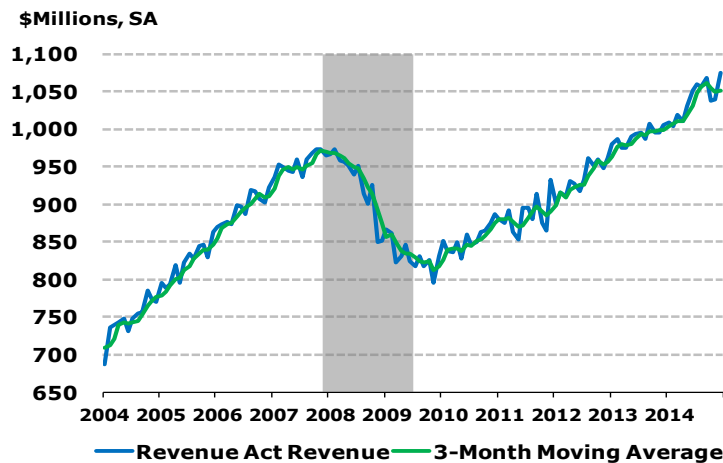
Real estate excise tax (REET) receipts came in well above the forecast, beating it by \$10.2 million (7.2%). Cigarette tax receipts came in \$11.9 million (13.1%) higher than forecasted, although about a third of the surplus was due to the timing of payments, resulting in a reduced forecast in future months. Liquor sales and liter tax receipts came in \$3.6 million (5.2%) higher than forecasted, and transfers of unclaimed property into the GF-S were \$2.5 million (8.8%) higher than forecasted. Property tax receipts came in \$9.2 million (1.1%) lower than forecasted. Revenue from the Department of Licensing was \$78,000 (10.8%) higher than forecasted and revenue from the Administrative Office of the Courts was \$1.4 million (7.2%) higher than forecasted.

*Adjusted Revenue Act collections were up 8.2% year over year in the most recent collection period and up 4.3% in the previous period*

Figure 3.2 shows seasonally adjusted Revenue Act receipts excluding payments received under the tax amnesty program in early 2011 and other large payments. It is also adjusted for some changes in payment patterns. As shown in the figure, collections have been on an upward trend since November 2009. Growth was aided by a temporary increase in the business and occupation tax rate paid by service industries that took effect in May 2010. This temporary increase expired on July 1, 2013. Adjusted for large one-time payments and refunds, receipts grew 8.2% year over year in the January 11 - February 10 collection period and 4.3% in the previous period.

**Figure 3.2: Revenue Act Collections\***

*Seasonally adjusted Revenue Act collections have been uneven in recent months*



Source: ERFC; Data through February 10, 2014 preliminary allocation  
\*Adjusted for large payments/refunds and payment pattern change

*Fourth quarter Revenue Act collections grew 5.8% year over year*

Adjusted Revenue Act collections from November 11, 2014 – February 10, 2015, which primarily reflected fourth quarter 2014 taxable activity, were up 5.8% year over year. Revenue Act collections from third quarter activity (August 11 – November 10, 2014 adjusted collections) were up 7.2% year over year, while second quarter growth was 4.5% year over year. The year-over-

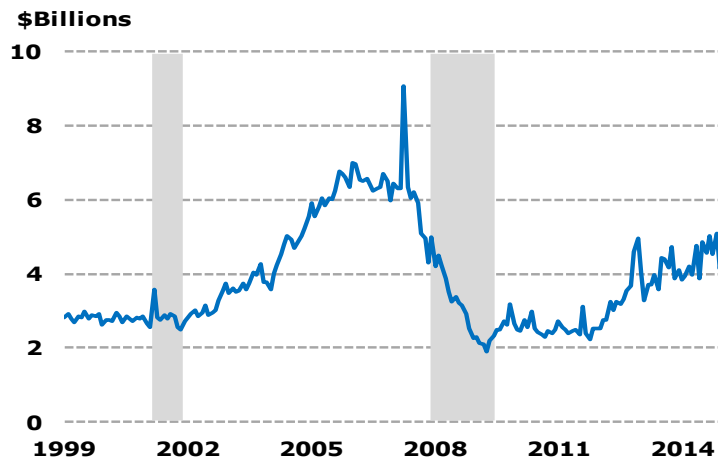
year growth rate for the second quarter was lowered by about 2 percentage points due to the expiration of the temporary business and occupation tax surcharge on July 1, 2013.

*REET collections were elevated by sales of large commercial properties*

Much of the large positive variance in REET collections was due to strong sales of commercial property. Sales of property worth \$10 million or more totaled \$2.5 billion in the three months since the last forecast, generating \$29.8 million in GF-S REET. Residential sales were slightly higher than forecasted in November and January but much lower than expected in December. Large commercial sales have been causing spikes in seasonally adjusted activity since November 2012 (see Figure 3.3), but such sales have been consistently elevated for most of the last year.

**Figure 3.3: Taxable Real Estate Excise Activity, SA**

*Large commercial sales have caused spikes in activity since November 2012*



Source: ERFC; data through January 2015

## Revenue Forecasts by Source

### Department of Revenue

*Taxes collected by DOR are most of GF-S taxes*

The Department of Revenue (DOR) collects and administers the majority of Washington’s GF-S revenue, accounting for 95% of total GF-S revenue in FY 2014. The largest tax sources administered by the DOR are the retail sales tax, business and occupation tax, property tax, use tax, cigarette tax and real estate excise tax. The revenue forecasts discussed below can be found in Tables 3.5-3.8.

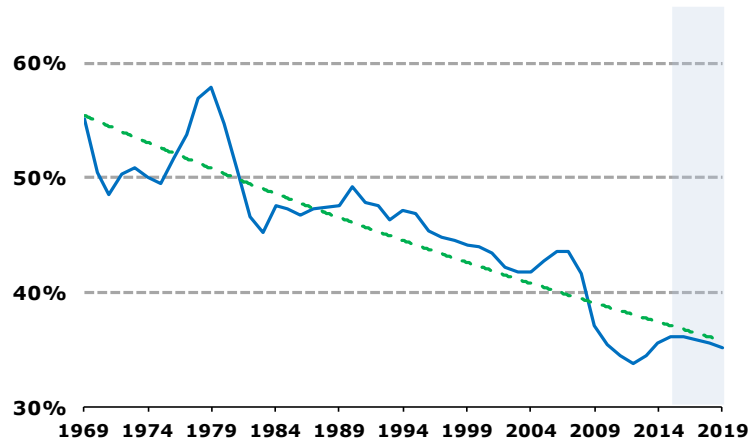
*Retail sales taxes are the largest source of GF-S revenue*

The retail sales tax is the largest source of GF-S revenue, accounting for 46.9% of GF-S revenue in FY 2014. The state’s share of the tax is 6.5% of the sales price. While construction

labor, repair services, and some other services are taxed, the tax does not apply to most services. Taxable sales as a share of personal income have been declining. Their share fell sharply during the recession and continued to fall through FY 2012. In that year, 33.8% of personal income was spent on taxable items, the lowest percentage on record. The taxable sales share of personal income grew to 34.4% in FY 2013 and 35.6% in FY 2014, due largely to the elimination of the sales tax exemption for wired phone lines that took effect on July 1, 2013. The share is now forecasted to increase slightly to 36.1% in FY 2015 and FY 2016 before declining through FY 2019. The historical and forecasted relationship between taxable sales and income is illustrated in Figure 3.4.

**Figure 3.4: Taxable Sales\* as Percentage of State Personal Income**

*The ratio of taxable sales to state personal income is below a declining trend*



\*Past tax base adjusted to represent current base. Shaded area indicates forecast

Source: ERFC; forecast through FY 2019

*Retail sales tax receipt growth forecast:*

FY15: 6.5%  
 FY16: 5.5%  
 FY17: 5.6%  
 FY18: 5.0%  
 FY19: 4.3%

The growth rate of taxable retail activity improved from 4.1% in FY 2012 to 6.7% in FY 2013, due mainly to increasing construction activity. Continued growth in construction, along with the newly-revoked sales tax exemption on wired home phone lines, brought growth in taxable activity of 6.4% in FY 2014. Growth is forecasted to increase slightly to 6.5% in FY 2015 but the rate is forecasted to then diminish through the end of the forecast period as the rate of construction activity growth slows, reaching 4.3% growth in FY 2019 (see Table 3.4). Due to the lag between taxable activity and collections and the presence of tax deferrals, credits, refunds, and payments of past due taxes, the growth in actual collections differs from the growth in taxable activity. Growth in collections for FY 2014 was 7.1%. Forecasted FY 2015 growth is 6.5%. Growth is forecasted to slow to 5.5% in FY 2016 and 5.6% in FY 2017. FY 2018 growth is forecasted at 5.0% and FY 2019 at 4.3%.

*Business and Occupation taxes are the second largest source of GF-S revenue*

The business and occupation (B&O) tax is the second largest source of GF-S revenue, accounting for 19.8% of GF-S revenue in FY 2014. It is a tax on the gross receipts of all businesses operating in Washington. The state portion of the tax applies ten different rates according to various classifications of business activities. In FY 2014, the largest contributor to total state B&O tax was the services sector, which had a gross tax rate of 1.5% and represented an estimated 41% of B&O taxes due. The next largest sector was retailing, which is taxed at 0.471% and represented an estimated 23% of taxes due, followed by the wholesaling sector, which is taxed at 0.484% and represented an estimated 20% of taxes due.

*B&O tax growth forecast:*

*FY15: 5.0%  
FY16: 5.8%  
FY17: 6.0%  
FY18: 5.2%  
FY19: 4.9%*

In FY 2013, B&O tax receipts grew by 5.8%. The expiration of a temporary increase in the B&O service tax rate on July 1, 2013, in addition to several large refunds, caused receipts to shrink by 1.8% in FY 2014. Growth is forecasted to rebound to 5.0% in FY 2015, 5.8% in 2016 and 6.0% in FY 2017. Growth in FY 2018 and 2019 is forecasted at 5.2% and 4.9%.

*State property taxes are the third largest source of GF-S revenue*

The state property tax levy is the third largest source of GF-S revenue, accounting for 12.0% of total revenue in FY 2014. Though the tax goes into the GF-S, it is dedicated to the funding of basic education. By law, the total state tax levy on existing property can only increase by the lesser of 1% per year or the rate of inflation as measured by the year-over-year change in the U.S. Implicit Price Deflator in the second quarter of the year preceding the levy, unless a greater increase is approved by the voters. The year-to-year growth in the total amount levied, however, can exceed the aforementioned limits due to the value of new construction, property improvements, and other additions to real property assessed by the state. Collections can also grow faster or slower than the rate of assessment growth due to the payment of past due taxes or nonpayment of current taxes.

*Property tax growth forecast:*

*FY15: 2.0%  
FY16: 2.0%  
FY17: 2.3%  
FY18: 2.5%  
FY19: 2.5%*

Property tax collections grew by 2.1% in FY 2014 and are forecasted to grow at 2.0% in FY 2015. Due to a decrease in oil prices since the November forecast, the forecasted year-over-year increase in the IPD for the second quarter of 2015 is only 0.14%. The levy on existing property for taxes due in 2016 is therefore only forecasted to increase by that amount, down from a forecasted 1% increase in November. This caused the forecasted growth rate to decrease to 2.0% in FY 2016, down from the 2.3% growth forecasted in November. Property tax receipts are forecasted to grow by 2.3% in FY 2017 and 2.5% in FY 2018 and FY 2019. The decrease in the expected growth of the 2016 levy was the main cause of forecast decreases of \$24.5 million for the 2015-17 biennium and \$23.3 million for the 2017-19 biennium.

*REET was the fourth largest GF-S source in FY 2014*

The real estate excise tax (REET) was the fourth largest DOR source of GF-S revenue in FY 2014, accounting for 3.8% of total

revenue. The state portion of REET is 1.28% of the sales price. The tax is divided between the GF-S (92.3%), a fund for local public works (2.0%), a fund for assistance of cities and counties (1.6%) and, as of July 1, 2013, the Education Legacy Trust Account (4.1%). The tax is applied to both residential and commercial real estate, including purchases of vacant land.

*REET growth forecast:*

*FY15: 3.2%*  
*FY16: -1.3%*  
*FY17: 5.1%*  
*FY18: 3.4%*  
*FY19: 3.4%*

Due to a high number of large sales of commercial property, REET receipts grew by 34.0% in FY 2013. FY 2014 receipts were also boosted by large commercial sales, resulting in growth of 15.2%. Somewhat lower commercial sales coupled with strengthening in residential sales are forecasted to boost FY 2015 receipts by 3.2% above FY 2014 levels, but lower commercial sales are then forecasted to bring a decrease of 1.3% in FY 2016 despite further strengthening in residential sales. Residential sales growth brings forecasted growth of 5.1% in FY 2017, slowing to 3.4% growth in both 2018 and 2019.

*Use tax was the fifth largest GF-S source in FY 2014*

The state use tax was the fifth largest GF-S revenue source in FY 2014 at 3.4% of total receipts. The state portion of the tax is 6.5% of the purchase price for items used in the state that were not subject to the state retail sales tax. Examples of items subject to the state use tax are goods purchased out-of-state; online and mail-order purchases, where sales tax was not collected; or purchases of used vehicles from private individuals.

*Use tax growth forecast:*

*FY15: 11.4%*  
*FY16: -4.4%*  
*FY17: 5.2%*  
*FY18: 5.1%*  
*FY19: 4.7%*

Use tax receipts grew by 7.8% in FY 2014, boosted by strong sales of used vehicles and a temporary increase in payments from the manufacturing sector in the 4<sup>th</sup> quarter of 2013. Another temporary increase in the 3<sup>rd</sup> quarter of 2014, coupled with continued strong growth in construction and used vehicle sales is forecasted to bring growth to 11.4% in FY 2015. Due to the expected temporary nature of the FY 2015 spike in collections from the manufacturing sector, FY 2016 collections are forecasted to be 4.4% lower than FY 2015 collections. Growth is then forecasted to return to a more normal pace in FY 2017, 2018 and 2019 with rates of 5.2%, 5.1% and 4.7% respectively.

*Public utility taxes were the sixth largest GF-S source in FY 2014*

Public utility taxes were the sixth largest DOR source of GF-S revenue in FY 2014, bringing in 2.4% of total receipts. The tax applies to the gross income of sales to consumers by public and privately owned utilities and is in lieu of the B&O tax. The largest source of public utility taxes is the 3.873% tax on the distribution and generation of electrical power, followed by the 3.852% tax on the distribution of natural gas.

*Growth forecast:*

*FY15: 1.9%*  
*FY16: 2.7%*  
*FY17: 3.9%*  
*FY18: 4.7%*  
*FY19: 4.3%*

Public utility tax receipts grew by 4.5% in FY 2014. A slowdown in the rate of increases in natural gas and electricity prices is forecasted to lower growth to 1.9% in FY 2015. Larger increases in utility prices coupled with increased housing construction are



forecasted to produce growth rates of 2.7% in FY 2016, 3.9% in FY 2017, 4.7% in FY 2018 and 4.3% in FY 2019.

*The cigarette tax was the seventh largest GF-S source in FY 2014*

The state tax on cigarettes was the seventh largest DOR GF-S revenue source in FY 2014 at 2.4% of total receipts. Prior to FY 2010, the tax made up a much smaller portion of GF-S revenue because much of the tax was dedicated to non-GF-S accounts. In FY 2010, all of the tax except the portion dedicated to the Education Legacy Trust account was redirected to the GF-S, and in FY 2011 all of the cigarette tax was redirected to the GF-S. The current tax rate, which took effect May 1, 2010, is \$3.025 per pack of 20 cigarettes.

*Cigarette tax growth forecast:*

*FY15: 0.0%  
FY16: -5.2%  
FY17: -3.2%  
FY18: -3.2%  
FY19: -2.8%*

The total number of taxed cigarettes has been on a downward trend due to a continuing decline in the number of smokers. Recently, the rate of decline has been increasing further due to increased consumption of e-cigarettes, which are not subject to the cigarette tax but are subject to retail sales taxes. FY 2014 receipts decreased by 3.6%. Higher-than-expected sales since the November forecast have increased forecasted FY 2015 revenues to roughly equal to those of FY 2014. The long-term decline in sales is then expected to resume, with decreases of 5.2% in FY 2016, 3.2% in FY 2017 and FY 2018 and 2.8% in FY 2019.

## **Forecasted Revenue from Cannabis-Related Sales**

*Sales of cannabis products in state-licensed stores began in July 2014*

Initiative 502, approved by voters in the November 2012 election, legalized the sale and use of recreational cannabis and cannabis products in Washington. The first legal sales of cannabis products in state-licensed stores occurred in July 2014. Under the initiative, a cannabis excise tax of 25% is levied at each stage of growing, processing, and selling cannabis products. These taxes, along with annual license fees, will be collected by the Liquor Control Board and placed into a dedicated fund from which revenue will be distributed quarterly after required allotments are satisfied.

*Change in GF-S forecast of total cannabis-related revenue by biennium (millions):*

*13-15: +\$3.0  
15-17: +\$5.9  
17-19: +\$1.5*

Revenue from fourth quarter 2014 cannabis sales came in above the November forecast. Due to the small number of licensed retail establishments that have opened so far, however, forecasted FY 2015 revenue is still relatively low. Distributions of cannabis excise taxes to the GF-S, which amount to 18.7% of the distributed funds, plus license fees are forecasted to total only \$6.7 million in the 2013-15 biennium, an increase of \$0.9 million from the November forecast. GF-S distributions and fees are forecasted at \$39.3 million in the 2015-17 biennium, an increase of \$3.2 million, and are forecasted at \$65.7 million in the 2017-19 biennium, an increase of \$0.8 million. Details of the forecasted distributions from the account can be found in Table 3.18. In addition to this revenue, growers, processors and sellers

will pay business and occupation (B&O) taxes and sellers will collect and remit retail sales taxes. These taxes, detailed in Table 3.19, are expected to total \$7.3 million in the 2013-15 biennium, an increase of \$2.1 million from the November forecast. The taxes are forecasted to total \$34.7 million in the 2015-17 biennium, an increase of \$2.7 million, and \$57.3 million in the 2017-19 biennium, an increase of \$0.7 million. The total forecasted GF-S impact of cannabis-related sales is therefore \$14.0 million in the 2013-15 biennium, \$74.0 million in the 2015-17 biennium and \$123.0 million in the 2017-19 biennium.

## Department of Licensing

*Forecast  
change by  
biennium  
(millions):*

13-15: \$0.2  
15-17: \$0.2  
17-19: \$0.1

The majority of GF-S revenue collected by the Department of Licensing is from firearm and event licenses, watercraft excise tax, and boat registration fees. The forecast of GF-S revenue for the 2013-15 biennium has been increased \$0.2 million to \$35.5 million. The department's forecast for the 2015-17 biennium has been increased \$0.2 million to \$35.6 million and the forecast of revenue for the 2017-19 biennium has been increased \$0.1 million to \$36.2 million.

## The Office of Financial Management (Other Agencies)

*Forecast  
change by  
biennium  
(millions):*

13-15: \$20.2  
15-17: -\$0.5  
17-19: -\$16.9

The Office of Financial Management (OFM) is responsible for preparing General Fund-State revenue and transfer forecasts for all agencies excluding the Department of Revenue, the Department of Licensing, the Liquor Control Board, the Insurance Commissioner, the Washington State Lottery, and the State Treasurer. The office's forecast of revenue for the 2013-15 biennium was increased \$20.2 million to \$217.2 million due primarily to a settlement payment from Standard and Poor's Financial Services to the state Attorney General's office. The GF-S portion of the payment was \$18.0 million. The office's forecast for the 2015-17 biennium was decreased \$0.5 million to \$167.8 million. The forecast for the 2017-19 biennium was decreased \$16.9 million to \$178.0 million, due mainly to the correction of a past error regarding future transfers from the GF-S to the Criminal Justice Treatment Account.

## State Treasurer

*Forecast  
change by  
biennium  
(millions):*

13-15: \$1.1  
15-17: \$2.8  
17-19: \$5.9

The Office of the State Treasurer generates GF-S revenue by investing state short-term cash reserves. The office's forecast for the 2013-15 biennium has been increased \$1.1 million to negative \$3.1 million. The forecasted revenue is negative because the average daily balance of accounts that earn interest that goes into the GF-S is forecasted to be negative. When this occurs, the GF-S effectively pays interest to the other funds

managed by the office. The forecast for the 2015-17 biennium has been increased \$2.8 million to \$8.5 million and the forecast of revenue for the 2017-19 biennium has been increased \$5.9 million to \$36.2 million. All of the above forecast increases were the result of increases in expected and realized interest rates.

## Insurance Commissioner

*Forecast  
change by  
biennium  
(millions):*

13-15: \$1.8  
15-17: \$16.0  
17-19: \$35.9

The Office of the Insurance Commissioner collects premium taxes on most classes of insurance sold in Washington State. These taxes are distributed to the GF-S and various accounts in support of fire services. The office's forecast of GF-S revenue for the 2013-15 biennium has been increased \$1.8 million to \$945.5 million. The forecast for the 2015-17 biennium has been increased \$16.0 million to \$1,032.6 million and the forecast for the 2017-19 biennium has been increased \$35.9 million to \$1,121.5 million. The forecast increases for the 2015-17 and 2017-19 were the result of changes to the forecasted distribution of health insurance premiums between the GF-S and the state Health Benefit Exchange.

## Liquor Control Board

*Forecast  
change by  
biennium  
(millions):*

13-15: \$4.1  
15-17: \$6.5  
17-19: \$7.1

The Liquor Control Board (LCB) collects fees from distributors and retailers on sales of spirits and surtaxes on sales of beer and wine (sales and liter taxes on sprits are collected by the DOR). The LCB is also responsible for the collection of excise taxes and fees associated with the legalized sale and use of recreational cannabis. The forecast of total GF-S revenue collected by the LCB for the 2013-15 biennium has been increased \$4.1 million to \$262.6 million. The forecast of LCB GF-S revenue for the 2015-17 biennium has been increased \$6.5 million to \$252.8 million and the forecast of revenue for the 2017-19 biennium has been increased \$7.1 million to \$300.5 million.

## Lottery Commission

*The Lottery  
Commission  
now transfers  
funds to the  
GF-S only  
when the  
revenue from  
certain  
games  
exceeds a  
\$102 million  
threshold*

The disposition of proceeds from the state lottery was substantially changed by E2SSB 6409 in the 2010 legislative session. Prior to the passage of the bill, the Lottery Commission transferred the bulk of its net proceeds to the School Construction Account, and any proceeds remaining after that account and several smaller accounts received their allotments was transferred to the GF-S. Under the 2010 legislation, existing obligations to the Stadium/Exhibition Center, Problem Gambling and Economic Development accounts were maintained, but the remaining revenue, which represents the bulk of the proceeds, are transferred almost entirely to the Washington Opportunity Pathways Account (OPA). The exception is that when total profits

*GF-S forecast change by biennium (millions):*

13-15: \$0.0  
15-17: -\$1.8  
17-19: -\$1.9

from all Washington-only games plus the Powerball game exceed \$102 million per year, the amount above \$102 million gets transferred to the GF-S. In FY 2013, large Powerball jackpots pushed sales above the threshold, resulting in a \$9.3 million payment to the GF-S in FY 2014. Profits just exceeded the threshold again in FY 2014, resulting in a total GF-S transfer of \$9.9 million for the 2013-15 biennium. GF-S transfers totaling \$3.4 million are forecasted for the 2015-17 biennium, a decrease of \$1.8 million from the November forecast, and \$12.7 million for the 2017-19 biennium, a decrease of \$1.9 million.

*Washington Opportunities Pathways Account forecast change by biennium (millions):*

13-15: -\$0.1  
15-17: -\$0.3  
17-19: -\$0.3

The OPA receives all profits (excluding statutory transfers) from Washington-only lottery games plus all profits from the Mega Millions game. The forecast of transfers for the 2013-15 biennium has been decreased \$0.1 million to \$232.1 million, and the forecast for the 2015-17 biennium has been decreased \$0.3 million to \$237.1 million. The forecast for the 2017-19 biennium has been decreased \$0.3 million to \$237.2 million. In addition to the transfers described above, legislation from the 2013 second special session and 2014 regular session also require the transfer of \$16.1 million in Lottery proceeds to the Education Legacy Trust Account in the 2013-15 biennium. Details of the forecast of the distribution of Lottery earnings can be found in Table 3.15 on a cash basis and Table 3.16 on a GAAP basis.

## **Administrative Office of the Courts**

*Forecast change by biennium (millions):*

13-15: \$1.2  
15-17: -\$1.4  
17-19: -\$2.3

The Administrative Office of the Courts collects surcharges on certain filing fees, fines, and infraction penalties and transfers this revenue to the GF-S on a monthly basis. The forecast of transfers to the GF-S for the 2013-15 biennium has been increased \$1.2 million to \$168.6 million. The forecast for the 2015-17 biennium has been decreased \$1.4 million to \$167.9 million and the forecast of transfers for the 2017-19 biennium has been decreased \$2.3 million to \$178.7 million.

## **Track Record for the 2013-15 Biennium**

*The February 2015 forecast is \$1.1 billion (3.4%) higher than the initial February 2012 forecast*

Table 3.10 summarizes the historical changes to the GF-S revenue forecast for the 2013-15 biennium. The February 2012 forecast was the initial forecast for the biennium. The February 2015 forecast for the biennium is \$1.118 billion (3.4%) higher than the initial forecast. Non-economic changes have increased the forecast by \$400 million (1.2%). Excluding non-economic changes, the current forecast is \$718 million (2.2%) higher than the initial forecast. The current forecast is \$761 million (2.3%) higher than the sum of the June 2013 forecast and the \$123 million in legislated revenue increases from the June 2013 second special session that were the basis of the initial budget for the 2013-15 biennium.

## Track Record for the 2015-17 Biennium

*The February forecast is \$931 million (2.6%) higher than the initial September 2012 forecast*

Table 3.11 summarizes the historical changes to the GF-S revenue forecast for the 2015-17 biennium. The September 2012 forecast was the initial forecast for the biennium. The February 2015 forecast for the biennium is \$931 million (2.6%) higher than the initial forecast. Non-economic changes have increased the forecast by \$257 million (0.7%). Excluding non-economic changes, the current forecast is \$674 million (1.9%) higher than the initial forecast.

## The Relationship between the Cash and GAAP General Fund-State Revenue Forecasts

*GAAP forecasts are based on the period in which the revenue is earned rather than received*

Legislation enacted in 1987 requires that the state's biennial budget be in conformance with Generally Accepted Accounting Principles (GAAP). It also requires a GF-S revenue forecast on both a cash and GAAP basis. The GAAP forecasts of GF-S revenue for the 2013-15 and 2015-17 biennia are presented in Tables 3.6 and 3.8 and the GAAP forecast of Lottery revenue transfers for both biennia is in Table 3.15. The primary difference between the cash and GAAP forecasts is the timing of the receipt of revenue. On a GAAP basis, revenue is credited to the biennium in which it is earned even though it may not have been received. The cash forecast, on the other hand, reflects expected cash receipts during a fiscal period. The forecast on a GAAP, or accrual, basis is primarily used for financial reporting. The cash forecast is used for cash flow management and revenue tracking. The cash forecast is also the forecast used in the state's budgetary balance sheet, which is the principal tool for assessing the General Fund's current surplus or deficit position. References to the GF-S forecast in the text of this chapter refer to the cash forecast unless otherwise noted. Likewise, figures from revenue tables other than Tables 3.6, 3.8 and 3.16 are projected on a cash basis.

## Budgetary Balance Sheet for the 2013-15 Biennium

*The forecast implies GF-S reserves of \$1.27 billion at the end of the 2013-15 biennium and \$1.28 billion in reserves for GF-S, ELTA and OPA*

Table 3.12 shows the budgetary balance sheet for the 2013-15 biennium as prepared by the Office of Financial Management and the House and Senate fiscal committees. The balance sheet shows not only projected GF-S spending and resources but also total projected spending and resources for the GF-S plus the other main non-transportation state-funded accounts: the Education Legacy Trust Account (ELTA) and the Washington Opportunity Pathways Account (OPA). As shown in the table, there was a beginning fund balance of \$167.5 million for the GF-S at the end of the 2011-13 biennium and the total balance for GF-S, ELTA and OPA stood at \$156.4 million. Based on the February 2015 revenue forecast and currently enacted budgets,

total GF-S reserves are projected to be \$1,271.0 million at the end of the 2013-15 biennium. The projected total GF-S reserves are comprised of a GF-S ending balance of \$760.7 million and a balance of \$510.2 million in the Budget Stabilization Account. Projected combined reserves for the ELTA and OPA are \$11.3 million, for total projected reserves of \$1,282.2 million for GF-S, ELTA and OPA at the end of the 2013-15 biennium.

## Alternative Forecasts for the 2013-15 and 2015-17 Biennia

*Optimistic scenario (billions):*

13-15: +\$0.4  
15-17: +\$2.8

*Pessimistic scenario:*

13-15: -\$0.5  
15-17: -\$3.1

Chapter 2 outlines optimistic and pessimistic economic scenarios relative to the baseline economic forecast. The forecast assigns a probability of 60% to the baseline forecast, 20% to a scenario based on the upside risks and 20% to a scenario based on the downside risks. The revenue implications of these alternative scenarios for the 2013-15 biennium are shown in Table 3.13 and those of the 2015-17 biennium are shown in Table 3.14. For the 2013-15 biennium, the optimistic forecast generates \$33,964.6 million in GF-S revenue, \$418.0 million (1.2%) more than the baseline scenario, while the pessimistic forecast produces \$33,049.4 million in revenue, \$497.2 million (0.2%) less than the baseline. For the 2015-17 biennium, the optimistic forecast generates \$39,215.1 million in GF-S revenue, \$2,766.2 million (7.6%) more than the baseline scenario, while the pessimistic forecast produces \$33,392.0 million in revenue, \$3,056.9 million (8.4%) less than the baseline.

## Near General Fund Forecasts for the 2013-15 - 2017-19 Biennia

*Near General Fund Forecast (millions):*

2013-15:  
\$33,969.0

2015-17:  
\$36,887.4

2017-19:  
\$40,239.3

“Near General Fund” accounts are those included in the GF-S plus the Education Legacy Trust Account (ELTA). The ELTA was previously funded by a portion of the state tax on cigarettes and a tax on estates of over \$2 million. Legislation from the 2011 session, however, requires the cigarette taxes that formerly went into the account to instead be deposited into the GF-S. The Near General Fund forecast for the 2013-15 biennium is \$33,969.0 million, \$134.4 million more than the November forecast, and the forecast for the 2015-17 biennium is \$36,887.4 million, \$139.9 million more than the November forecast. The forecast of Near General Fund revenue for the 2017-19 biennium is \$40,239.3 million, \$161.6 million more than the November forecast. The Near General Fund forecast and recent history by fiscal year are presented in Table 3.17. The table also includes projected revenue for the OPA and the sum of Near General Fund plus OPA revenues by fiscal year.

Table 3.3  
**General Fund-State collections\***  
(millions of dollars, cash basis)

<b>Biennium</b>	<b>Current Dollars</b>	<b>Percent Change</b>	<b>2009 Chained Dollars</b>	<b>Percent Change</b>
1961-63	\$817.1		\$4,300.0	
1963-65	866.2	6.0%	4,439.3	3.2%
1965-67	1,128.6	30.3%	5,565.5	25.4%
1967-69	1,440.5	27.6%	6,658.6	19.6%
1969-71	1,732.7	20.3%	7,767.2	16.6%
1971-73	1,922.1	10.9%	7,971.8	2.6%
1973-75	2,372.4	23.4%	8,500.2	6.6%
1975-77	3,395.0	43.1%	10,580.8	24.5%
1977-79	4,490.0	32.3%	12,284.4	16.1%
1979-81	5,356.4	19.3%	12,197.3	-0.7%
1981-83	6,801.4	27.0%	13,492.7	10.6%
1983-85	8,202.4	20.6%	15,008.4	11.2%
1985-87	9,574.6	16.7%	16,528.2	10.1%
1987-89	10,934.1	14.2%	17,618.6	6.6%
1989-91	13,309.0	21.7%	19,772.8	12.2%
1991-93	14,862.2	11.7%	20,789.0	5.1%
1993-95	16,564.6	11.5%	22,140.3	6.5%
1995-97	17,637.7	6.5%	22,629.9	2.2%
1997-99	19,620.1	11.2%	24,520.3	8.4%
1999-01	21,262.1	8.4%	25,587.4	4.4%
2001-03	21,140.7	-0.6%	24,595.4	-3.9%
2003-05	23,388.5	10.6%	26,077.7	6.0%
2005-07	27,772.0	18.7%	29,316.2	12.4%
2007-09	27,703.0	-0.2%	27,888.3	-4.9%
2009-11	28,218.1	1.9%	27,704.7	-0.7%
2011-13	30,657.0	8.6%	28,928.3	4.4%
2013-15 <sup>F</sup>	33,546.6	9.4%	30,926.9	6.9%
2015-17 <sup>F</sup>	36,448.9	8.7%	32,794.1	6.0%
2017-19 <sup>F</sup>	39,756.9	9.1%	34,570.4	5.4%

<sup>F</sup> February 2015 Forecast.

\*Total General Fund-State revenue and transfers. Cash basis; includes rate base and administrative changes. Modified cash basis: 1985-87 and prior; pure cash basis: 1987-89 and after. May not be comparable because the collection totals include the impact of rate, base and administrative changes.

Source: Department of Revenue, the Office of Financial Management and the Economic and Revenue Forecast Council 's February 2015 forecast.

Table 3.4  
**Taxable retail sales\***  
(millions of dollars)

<b>Fiscal Year</b>	<b>Amount</b>	<b>Percent Change</b>
1979	22,309	5.6%
1980	24,057	7.8%
1981	25,197	4.7%
1982	26,097	3.6%
1983	29,368	12.5%
1984	29,156	-0.7%
1985	30,687	5.3%
1986	32,158	4.8%
1987	34,647	7.7%
1988	37,452	8.1%
1989	41,429	10.6%
1990	47,183	13.9%
1991	49,812	5.6%
1992	53,189	6.8%
1993	55,319	4.0%
1994	59,009	6.7%
1995	61,927	4.9%
1996	62,817	1.4%
1997	66,748	6.3%
1998	72,059	8.0%
1999	77,197	7.1%
2000	83,335	8.0%
2001	85,633	2.8%
2002	84,418	-1.4%
2003	86,165	2.1%
2004	90,139	4.6%
2005	97,253	7.9%
2006	107,071	10.1%
2007	115,527	7.9%
2008	118,676	2.7%
2009	106,379	-10.4%
2010	99,983	-6.0%
2011	101,825	1.8%
2012	106,036	4.1%
2013	113,173	6.7%
2014	120,453	6.4%
2015 <sup>F</sup>	128,323	6.5%
2016 <sup>F</sup>	135,165	5.3%
2017 <sup>F</sup>	142,564	5.5%
2018 <sup>F</sup>	149,528	4.9%
2019 <sup>F</sup>	155,950	4.3%

F February 2015 forecast

Source: ERFC

\* Actual Base. Includes statutory and administrative changes to the tax base. Historical fiscal year data are from quarterly taxable sales reported by taxpayers on the state's Combined Excise tax return. Reported totals affected by enacted legislation. Major base changes include: exemption of off-premises food, beginning 1978:3 (fiscal 1979); extension of the sales tax base to off premises food (1982:2 to 1983:2); food again exempt 1983:3 (fiscal 1984); extension of the sales tax base to candy, gum and bottled water (June 1 - December 2, 2010); elimination of sales tax exemption for residential phone service (July 1, 2013).



Table 3.5

**Comparison of the General Fund-State forecast by agency**

2013-15 biennium; cash basis

(millions of dollars)

<b>Forecast by Agency</b>	<b>Nov. 2014 Forecast<sup>1</sup></b>	<b>Non- Economic Changes</b>	<b>Forecast Revision</b>	<b>Feb. 2015 Forecast<sup>2</sup></b>	<b>Total Change</b>
<b>Department of Revenue</b>					
Retail Sales	\$15,828.1	\$12.4	\$14.9	\$15,855.4	\$27.3
Business & Occupation Use	6,657.8	0.9	(3.8)	6,654.9	(2.9)
Public Utility	1,151.2	0.0	28.7	1,179.9	28.7
Liquor Sales/Liter	796.7	0.0	2.9	799.6	2.9
Cigarette	495.2	0.0	3.3	498.5	3.3
Property (State Levy)	777.3	0.0	7.2	784.4	7.2
Real Estate Excise	3,962.4	0.0	(6.1)	3,956.3	(6.1)
Timber Excise	1,234.8	0.0	15.9	1,250.6	15.9
Other	5.7	0.0	(0.6)	5.2	(0.6)
Subtotal	922.9	0.0	2.6	925.5	2.6
	31,832.1	13.3	65.0	31,910.4	78.3
<b>Department of Licensing</b>					
Boat excise, licenses, fees & other	35.3	0.0	0.2	35.5	0.2
<b>Insurance Commissioner</b>					
Insurance Premiums	943.7	0.0	1.8	945.5	1.8
<b>Liquor Control Board</b>					
Liquor Profits and Fees	203.5	0.0	3.7	207.2	3.7
Beer & Wine Surtax	55.1	0.0	0.3	55.4	0.3
<b>Lottery Commission</b>					
Lottery Revenue	9.9	0.0	0.0	9.9	0.0
<b>State Treasurer</b>					
Interest Earnings	(4.2)	0.0	1.1	(3.1)	1.1
<b>Office of Financial Management</b>					
Other	197.0	18.0	2.1	217.2	20.2
<b>Administrative Office of the Courts</b>					
Fines and Forfeitures	167.4	0.0	1.2	168.6	1.2
<b>Total General Fund-State *</b>	<b>\$33,439.8</b>	<b>\$31.3</b>	<b>\$75.5</b>	<b>\$33,546.6</b>	<b>\$106.8</b>

<sup>1</sup> Forecast for the 2013-15 biennium adopted by the Economic and Revenue Forecast Council November 2014.<sup>2</sup> Forecast for the 2013-15 biennium, adopted February 20, 2015.

\*Detail may not add to totals because of rounding.

Source: ERFC, Department of Licensing, Insurance Commissioner, Lottery Commission, Office of the State Treasurer, Liquor Control Board, Office of Financial Management

Table 3.6

**Comparison of the General Fund-State forecast by agency**

2013-15 biennium; GAAP basis

(millions of dollars)

<b>Forecast by Agency</b>	<b>Nov. 2014 Forecast<sup>1</sup></b>	<b>Non- Economic Changes</b>	<b>Forecast Revision</b>	<b>Feb. 2015 Forecast<sup>2</sup></b>	<b>Total Change</b>
<b>Department of Revenue</b>					
Retail Sales	\$15,930.5	\$12.4	(\$8.9)	\$15,934.0	\$3.5
Business & Occupation Use	6,665.6	0.9	(18.7)	6,647.8	(17.8)
Public Utility	1,159.1	0.0	27.7	1,186.9	27.7
Liquor Sales/Liter	799.4	0.0	1.5	800.9	1.5
Cigarette	494.8	0.0	3.3	498.1	3.3
Property (State Levy)	774.3	0.0	7.2	781.5	7.2
Real Estate Excise	4,031.9	0.0	(59.9)	3,971.9	(59.9)
Timber Excise	1,228.6	0.0	15.6	1,244.3	15.6
Other	5.8	0.0	(0.6)	5.3	(0.6)
Subtotal	921.2	0.0	(0.8)	920.4	(0.8)
	32,011.4	13.3	(33.6)	31,991.1	(20.3)
<b>Department of Licensing</b>					
Boat excise, licenses, fees & other	35.3	0.0	0.2	35.5	0.2
<b>Insurance Commissioner</b>					
Insurance Premiums	943.7	0.0	1.8	945.5	1.8
<b>Liquor Control Board</b>					
Liquor Profits and Fees	203.5	0.0	3.7	207.2	3.7
Beer & Wine Surtax	55.1	0.0	0.3	55.4	0.3
<b>Lottery Commission</b>					
Lottery Revenue	1.5	0.0	(0.9)	0.6	(0.9)
<b>State Treasurer</b>					
Interest Earnings	(4.3)	0.0	1.1	(3.2)	1.1
<b>Office of Financial Management</b>					
Other	195.0	18.0	2.1	215.2	20.2
<b>Administrative Office of the Courts</b>					
Fines and Forfeitures	167.4	0.0	1.2	168.6	1.2
<b>Total General Fund-State *</b>	<b>\$33,608.5</b>	<b>\$31.3</b>	<b>(\$24.0)</b>	<b>\$33,615.9</b>	<b>\$7.4</b>

<sup>1</sup> Forecast for the 2013-15 biennium adopted by the Economic and Revenue Forecast Council November 2014.<sup>2</sup> Forecast for the 2013-15 biennium, adopted February 20, 2015.

\*Detail may not add to totals because of rounding.

Source: ERFC, Department of Licensing, Insurance Commissioner, Lottery Commission, Office of the State Treasurer, Liquor Control Board, Office of Financial Management

Table 3.7

**Comparison of the General Fund-State forecast by agency**

2015-17 biennium; cash basis

(millions of dollars)

<b>Forecast by Agency</b>	<b>Nov. 2014 Forecast<sup>1</sup></b>	<b>Non- Economic Changes</b>	<b>Forecast Revision</b>	<b>Feb. 2015 Forecast<sup>2</sup></b>	<b>Total Change</b>
<b>Department of Revenue</b>					
Retail Sales	\$17,632.7	\$0.0	\$96.3	\$17,729.0	\$96.3
Business & Occupation	7,406.9	0.0	20.7	7,427.6	20.7
Use	1,225.0	0.0	(5.6)	1,219.4	(5.6)
Public Utility	845.2	0.0	(0.2)	845.0	(0.2)
Liquor Sales/Liter	497.0	0.0	1.4	498.4	1.4
Cigarette	733.6	0.0	(1.7)	731.9	(1.7)
Property (State Levy)	4,146.2	0.0	(24.5)	4,121.7	(24.5)
Real Estate Excise	1,259.2	0.0	25.9	1,285.1	25.9
Timber Excise	6.8	0.0	(0.1)	6.7	(0.1)
Other	920.0	0.0	(4.5)	915.4	(4.5)
Subtotal	34,672.6	0.0	107.6	34,780.2	107.6
<b>Department of Licensing</b>					
Boat excise, licenses, fees & other	35.4	0.0	0.2	35.6	0.2
<b>Insurance Commissioner</b>					
Insurance Premiums	1,016.6	0.0	16.0	1,032.6	16.0
<b>Liquor Control Board</b>					
Liquor Profits and Fees	192.4	0.0	5.9	198.3	5.9
Beer & Wine Surtax	54.0	0.0	0.6	54.6	0.6
<b>Lottery Commission</b>					
Lottery Revenue	5.3	0.0	(1.8)	3.4	(1.8)
<b>State Treasurer</b>					
Interest Earnings	5.7	0.0	2.8	8.5	2.8
<b>Office of Financial Management</b>					
Other Agencies	168.3	0.0	(0.5)	167.8	(0.5)
<b>Administrative Office of the Courts</b>					
Fines and Forfeitures	169.3	0.0	(1.4)	167.9	(1.4)
<b>Total General Fund-State *</b>	<b>\$36,319.5</b>	<b>\$0.0</b>	<b>\$129.4</b>	<b>\$36,448.9</b>	<b>\$129.4</b>

<sup>1</sup> Forecast for the 2015-17 biennium adopted by the Economic and Revenue Forecast Council November 2014.<sup>2</sup> Forecast for the 2015-17 biennium, adopted February 20, 2015.

\*Detail may not add to totals because of rounding.

Source: ERFC, Department of Licensing, Insurance Commissioner, Lottery Commission, Office of the State Treasurer, Liquor Control Board, Office of Financial Management

Table 3.8

**Comparison of the General Fund-State forecast by agency**

2015-17 biennium; GAAP basis

(millions of dollars)

<b>Forecast by Agency</b>	<b>Nov. 2014 Forecast<sup>1</sup></b>	<b>Non- Economic Changes</b>	<b>Forecast Revision</b>	<b>Feb. 2015 Forecast<sup>2</sup></b>	<b>Total Change</b>
<b>Department of Revenue</b>					
Retail Sales	\$17,632.7	\$0.0	\$96.3	\$17,729.0	\$96.3
Business & Occupation Use	7,406.9	0.0	20.7	7,427.6	20.7
Public Utility	1,225.0	0.0	(5.6)	1,219.4	(5.6)
Liquor Sales/Liter	845.2	0.0	(0.2)	845.0	(0.2)
Cigarette	497.0	0.0	1.4	498.4	1.4
Property (State Levy)	733.6	0.0	(1.7)	731.9	(1.7)
Real Estate Excise	4,146.2	0.0	(24.5)	4,121.7	(24.5)
Timber Excise	1,259.2	0.0	25.9	1,285.1	25.9
Other	6.9	0.0	(0.1)	6.8	(0.1)
Subtotal	920.0	0.0	(4.5)	915.4	(4.5)
	34,672.6	0.0	107.7	34,780.3	107.7
<b>Department of Licensing</b>					
Boat excise, licenses, fees & other	35.4	0.0	0.2	35.6	0.2
<b>Insurance Commissioner</b>					
Insurance Premiums	1,016.6	0.0	16.0	1,032.6	16.0
<b>Liquor Control Board</b>					
Liquor Profits and Fees	192.4	0.0	5.9	198.3	5.9
Beer & Wine Surtax	54.0	0.0	0.6	54.6	0.6
<b>Lottery Commission</b>					
Lottery Revenue	10.0	0.0	(1.8)	8.2	(1.8)
<b>State Treasurer</b>					
Interest Earnings	6.5	0.0	2.9	9.4	2.9
<b>Office of Financial Management</b>					
Other	168.3	0.0	(0.5)	167.8	(0.5)
<b>Administrative Office of the Courts</b>					
Fines and Forfeitures	169.3	0.0	(1.4)	167.9	(1.4)
<b>Total General Fund-State *</b>	<b>\$36,325.1</b>	<b>\$0.0</b>	<b>\$129.5</b>	<b>\$36,454.6</b>	<b>\$129.5</b>

<sup>1</sup> Forecast for the 2015-17 biennium adopted by the Economic and Revenue Forecast Council November 2014.<sup>2</sup> Forecast for the 2015-17 biennium, adopted February 20, 2015.

\*Detail may not add to totals because of rounding.

Source: ERFC, Department of Licensing, Insurance Commissioner, Lottery Commission, Office of the State Treasurer, Liquor Control Board, Office of Financial Management

Table 3.9

**February 2015 General Fund-State forecast  
2013-15 to 2017-19 biennia; cash basis**  
(Millions of Dollars)

<b>Forecast by Source</b>	<b>Fiscal 2014</b>	<b>Fiscal 2015</b>	<b>2013-15 Biennium</b>	<b>Fiscal 2016</b>	<b>Fiscal 2017</b>	<b>2015-17 Biennium</b>	<b>Fiscal 2018</b>	<b>Fiscal 2019</b>	<b>2017-19 Biennium</b>
<b>State Taxes</b>									
Retail sales**	\$7,678.6	\$8,176.8	\$15,855.4	\$8,624.8	\$9,104.2	\$17,729.0	\$9,555.8	\$9,968.2	\$19,524.0
Business & occupation	3,246.4	3,408.5	6,654.9	3,605.8	3,821.9	7,427.6	4,019.5	4,215.8	8,235.2
Use**	558.3	621.6	1,179.9	594.4	625.0	1,219.4	657.2	688.1	1,345.3
Public Utility	395.9	403.7	799.6	414.5	430.5	845.0	450.7	470.1	920.8
Liquor sales/liter	246.3	252.2	498.5	246.0	252.4	498.4	259.6	266.6	526.1
Beer & wine surtax	27.7	27.7	55.4	27.3	27.3	54.6	27.2	27.1	54.3
Cigarette	400.5	400.2	800.6	379.9	368.1	747.9	356.7	346.8	703.5
Tobacco products	46.5	48.9	95.4	48.5	48.9	97.4	49.4	49.8	99.2
Cannabis Excise Taxes	0.0	6.4	6.4	15.7	22.8	38.4	29.7	35.1	64.8
Property (state school levy)	1,958.9	1,997.5	3,956.3	2,037.9	2,083.8	4,121.7	2,135.2	2,187.5	4,322.6
Leasehold Excise Tax	27.7	27.1	54.8	27.3	27.9	55.2	28.6	29.3	57.9
Public utility district	49.3	50.3	99.6	51.1	51.9	103.0	53.1	54.3	107.4
Brokered Natural Gas	34.4	33.2	67.6	33.0	33.9	66.9	34.9	36.1	71.0
Real estate excise***	615.6	635.0	1,250.6	626.5	658.6	1,285.1	681.3	704.2	1,385.5
Timber excise	2.7	2.5	5.2	3.2	3.5	6.7	3.6	3.7	7.4
Estate/inheritance	0.4	(1.0)	(0.6)	0.0	0.0	0.0	0.0	0.0	0.0
Boat excise	13.0	12.8	25.8	12.8	12.8	25.5	12.8	12.8	25.5
Insurance premiums	456.7	488.7	945.5	507.6	525.0	1,032.6	548.5	573.1	1,121.5
Penalties and interest on past due taxes	133.8	131.5	265.3	138.3	143.5	281.7	148.8	154.4	303.2
Other	72.3	74.4	146.8	55.9	57.0	112.9	58.0	38.0	96.0
<b>Total Taxes</b>	<b>15,965.1</b>	<b>16,798.0</b>	<b>32,763.1</b>	<b>17,450.2</b>	<b>18,298.9</b>	<b>35,749.2</b>	<b>19,110.4</b>	<b>19,860.9</b>	<b>38,971.3</b>
<b>State Non-Tax Sources</b>									
Licenses, permits, fees	127.9	130.7	258.6	130.9	132.6	263.5	135.8	136.3	272.1
Liquor profits & fees****	123.0	77.8	200.8	76.5	83.3	159.8	88.2	93.2	181.3
Earnings on investments	(3.0)	(0.1)	(3.1)	(0.1)	8.6	8.5	16.9	19.3	36.2
Administrative Office of the Courts	85.6	83.0	168.6	82.8	85.1	167.9	87.9	90.8	178.7
Transfers of unclaimed property	60.5	61.4	121.9	59.5	59.9	119.5	60.8	61.7	122.6
Other revenue & transfers	23.5	13.3	36.8	(9.2)	(10.3)	(19.5)	(2.7)	(2.6)	(5.3)
<b>Total Non-Tax</b>	<b>417.4</b>	<b>366.1</b>	<b>783.5</b>	<b>340.4</b>	<b>359.3</b>	<b>699.7</b>	<b>386.9</b>	<b>398.7</b>	<b>785.6</b>
<b>Total General Fund-State *</b>	<b>\$16,382.5</b>	<b>\$17,164.1</b>	<b>\$33,546.6</b>	<b>\$17,790.6</b>	<b>\$18,658.3</b>	<b>\$36,448.9</b>	<b>\$19,497.3</b>	<b>\$20,259.6</b>	<b>\$39,756.9</b>

\* Detail may not add to totals due to rounding

\*\*GFS portion after Initiative 900 transfer

\*\*\*Includes penalties and interest

\*\*\*\*Includes cannabis license fees after FY 2014

Table 3.10

**Track Record for the 2013-15 General Fund-State Cash Forecast**

February 2012 through February 2015

Cash Basis - Millions of Dollars

<b><u>Date of Forecast</u></b>	<b><u>Department of Revenue*</u></b>	<b><u>Other Agencies</u></b>	<b><u>Subtotal*</u></b>	<b><u>Non-Economic Changes**</u></b>	<b><u>Total Change</u></b>	<b><u>Total General Fund-State Cash Basis#</u></b>
<b>February 2012 #</b>	\$31,110	\$1,319				\$32,428
<b>Changes to Forecast</b>						
June 2012	(120)	(13)	(133)	330 #1	197	32,626
September 2012	39	(15)	23	0	23	32,649
November 2012	(113)	25	(88)	0	(88)	32,561
March 2013	(38)	18	(19)	0	(19)	32,541
June 2013	156	20	176	(55) #2	121	32,662
September 2013	224	(2)	222	123 #3	345	33,007
November 2013	(22)	27	6	(30) #4	(25)	32,982
February 2014	21	10	30	0	30	33,013
June 2014	160	(5)	156	1 #5	157	33,169
September 2014	144	19	163	0	163	33,332
November 2014	111	(3)	108	0	108	33,440
February 2015	65	10	75	31 #6	107	33,547
<b>Total change***:</b>						
From February 2012	626	91	718	400	1,118	
Percent change	2.0	6.9	2.2	1.2	3.4	

\* Excludes legislative, judicial, statutorily required or other major non-economic changes.

\*\* Includes legislative, judicial, statutorily required or other major non-economic changes.

\*\*\* Detail may not add to total due to rounding.

# First official forecast for the 2011-13 biennium.

#1 Effects of legislation from 2012 special sessions subsequent to February forecast

#2 Expected refunds: -\$55 million; effects of legislation from 2013 regular and first special sessions: -\$29,000

#3 Legislative and budget-driven revenue changes from 2013 second special session

#4 Reclassification of biennial recoveries of prior expenditures from revenue to non-revenue resources, MSA arbitration payment

#5 Sum of legislative and budget-driven revenue changes from the 2014 regular legislative session

#6 Payment from legal settlement plus expected large audit payment

Table 3.11

**Track Record for the 2015-17 General Fund-State Cash Forecast**

September 2012 through February 2015

Cash Basis - Millions of Dollars

<b><u>Date of Forecast</u></b>	<b><u>Department of Revenue*</u></b>	<b><u>Other Agencies</u></b>	<b><u>Subtotal*</u></b>	<b><u>Non-Economic Changes**</u></b>	<b><u>Total Change</u></b>	<b><u>Total General Fund-State Cash Basis</u></b>
<b>September 2012<sup>#</sup></b>	\$34,102	\$1,416				\$35,518
<b>Changes to Forecast</b>						
November 2012	(196)	33	(163)	0	(163)	35,355
March 2013	(92)	44	(49)	0	(49)	35,306
June 2013	56	2	58	(7) <sup>#1</sup>	51	35,357
September 2013	95	(2)	93	249 <sup>#2</sup>	342	35,699
November 2013	(47)	3	(44)	(41) <sup>#3</sup>	(85)	35,615
February 2014	5	26	31	51 <sup>#4</sup>	82	35,697
June 2014	194	40	233	5 <sup>#5</sup>	238	35,935
September 2014	168	(25)	143	0	143	36,078
November 2014	239	3	241	0	241	36,319
February 2015	108	22	129	0	129	36,449
<b>Total change***:</b>						
From September 2012	529	145	674	257	931	
Percent change	1.6	10.2	1.9	0.7	2.6	

\* Excludes legislative, judicial, statutorily required or other major non-economic changes.

\*\* Includes legislative, judicial, statutorily required or other major non-economic changes.

\*\*\* Detail may not add to total due to rounding.

<sup>#</sup> First official forecast for the 2015-17 biennium.<sup>#1</sup> Transfer of GF-S funds to Child and Family Reinvestment Account<sup>#2</sup> Legislative and budget-driven revenue changes from 2013 second special session<sup>#3</sup> Re-classification of prior period adjustments as non-revenue resources<sup>#4</sup> Cannabis excise taxes and fees plus retail sales and B&O taxes on cannabis production and sales resulting from Initiative 502<sup>#5</sup> Sum of legislative and budget-driven revenue changes from the 2014 regular legislative session

Table 3.12

**2013-15 Enacted Budget Balance Sheet**  
**Including 2014 Supplemental Budget and 2015 Early Supplemental**  
**General Fund-State (GFS), Education Legacy Trust Account (ELTA),**  
**Washington Opportunity Pathways Account (OPA) and Budget Stabilization Account**  
**Dollars in Millions**

	<b>GFS</b>	<b>ELTA and OPA</b>	<b>TOTAL</b>
<b>RESOURCES</b>			
<b>Beginning Fund Balance</b>	<b>167.5</b>	<b>(11.1)</b>	<b>156.4</b>
November 2014 Forecast	33,439.8	627.1	34,066.9
February 2015 Update			
Non-economic Changes (Standard & Poor's Settlement, Audit Payment)	31.3	-	31.3
Revenue Update (Economic Changes)	75.5	27.5	102.9
<b>Current Revenue Totals</b>	<b>33,546.6</b>	<b>654.5</b>	<b>34,201.2</b>
Transfer to Budget Stabilization Account	(316.1)	-	(316.1)
Other Enacted Fund Transfers	135.0	293.3	428.3
Prior Period Adjustments	15.7	-	15.7
Alignment to the Comprehensive Financial Statements	(2.9)	-	(2.9)
<b>Total Resources (including beginning fund balance)</b>	<b>33,545.9</b>	<b>936.8</b>	<b>34,482.7</b>
<b>EXPENDITURES</b>			
<b>2013-15 Enacted Budget</b>			
Enacted 2013-15 Budgets and Legislation (pre 2015 Session)	32,868.6	925.5	33,794.1
Enacted 2015 Early Supplemental	66.2	-	66.2
Actual Reversions in Fiscal Year 2014	(79.7)		(79.7)
Assumed Reversions for Fiscal Year 2015	(70.0)		(70.0)
<b>Total Expenditures</b>	<b>32,785.1</b>	<b>925.5</b>	<b>33,710.6</b>
<b>RESERVES</b>			
<b>Projected Ending GFS, ELTA &amp; OPA Balances</b>	<b>760.7</b>	<b>11.3</b>	<b>772.0</b>
<b>Budget Stabilization Account</b>			
Budget Stabilization Account Beginning Balance	269.7		269.7
Transfer from General Fund and Interest Earnings	317.8		317.8
Less Expenditures in Enacted 2015 Early Supplemental	(77.2)		(77.2)
<b>Projected Budget Stabilization Account Ending Balance</b>	<b>510.2</b>		<b>510.2</b>
<b>Total Reserves (Including Budget Stabilization)</b>	<b>1,271.0</b>	<b>11.3</b>	<b>1,282.2</b>



Table 3.13

**Alternative forecasts compared to the baseline forecast  
2013-15 biennium**

(cash basis, millions of dollars)

<b>Forecast by Source</b>	<b>Optimistic Forecast</b>	<b>Baseline Forecast</b>	<b>Pessimistic Forecast</b>
<b>Department of Revenue</b>			
Retail Sales	\$16,099.2	\$15,855.4	\$15,569.7
Business & Occupation Use	6,747.3	6,654.9	6,536.1
Public Utility	1,198.2	1,179.9	1,159.4
Property (school levy)	810.8	799.6	786.2
Real Estate Excise	3,967.0	3,956.3	3,945.6
Other	1,333.3	1,250.6	1,243.0
Subtotal	2,148.0	2,213.6	2,201.2
	32,303.9	31,910.4	31,441.2
<b>Department of Licensing</b>			
	35.9	35.5	35.2
<b>Insurance Commissioner<sup>1</sup></b>			
	957.7	945.5	933.2
<b>Lottery Commission</b>			
	10.0	9.9	9.9
<b>State Treasurer - Interest earnings</b>			
	0.7	(3.1)	(3.5)
<b>Liquor Surtaxes &amp; Fees<sup>2</sup></b>			
	267.8	262.6	250.7
<b>Office of Financial Management</b>			
Other agencies	219.4	217.2	215.1
<b>Administrative Office of the Courts</b>			
Fines and Forfeitures	169.3	168.6	167.7
<b>Total General Fund - State*</b>	<b>\$33,964.6</b>	<b>\$33,546.6</b>	<b>\$33,049.4</b>
<b>Difference from February 2015 Baseline</b>	<b>\$418.0</b>		<b>(\$497.2)</b>

1 Insurance premiums, General Fund-State portion.

2 Includes beer and wine surtax, distributor fees, retailer fees, licensing fees.

\* Detail may not add to total due to rounding.

Source: ERFC, Department of Licensing, Insurance Commissioner, Lottery Commission, Office of the State Treasurer, Liquor Control Board, Office of Financial Management

Table 3.14

**Alternative forecasts compared to the baseline forecast  
2015-17 biennium**

(cash basis, millions of dollars)

<b>Forecast by Source</b>	<b>Optimistic Forecast</b>	<b>Baseline Forecast</b>	<b>Pessimistic Forecast</b>
<b>Department of Revenue</b>			
Retail Sales	\$19,438.2	\$17,729.0	\$16,037.7
Business & Occupation Use	8,099.2	7,427.6	6,736.6
Public Utility	1,318.9	1,219.4	1,112.6
Property (school levy)	901.2	845.0	783.6
Real Estate Excise	4,162.2	4,121.7	4,080.2
Other	1,376.4	1,285.1	1,069.7
Subtotal	2,172.6	2,152.4	2,013.0
	37,468.7	34,780.2	31,833.5
<b>Department of Licensing</b>			
	36.3	35.6	34.9
<b>Insurance Commissioner<sup>1</sup></b>			
	1,058.5	1,032.6	1,006.8
<b>Lottery Commission</b>			
	3.6	3.4	3.3
<b>State Treasurer - Interest earnings</b>			
	33.0	8.5	(5.6)
<b>Liquor Surtaxes &amp; Fees<sup>2</sup></b>			
	263.5	252.8	202.8
<b>Office of Financial Management</b>			
Other agencies	176.2	167.8	159.4
<b>Administrative Office of the Courts</b>			
Fines and Forfeitures	175.3	167.9	157.0
<b>Total General Fund - State*</b>	<b>\$39,215.1</b>	<b>\$36,448.9</b>	<b>\$33,392.0</b>
<b>Difference from February 2015 Baseline</b>	<b>\$2,766.2</b>		<b>(\$3,056.9)</b>

1 Insurance premiums, General Fund-State portion.

2 Includes beer and wine surtax, distributor fees, retailer fees, licensing fees.

\* Detail may not add to total due to rounding.

Source: ERFC, Department of Licensing, Insurance Commissioner, Lottery Commission, Office of the State Treasurer, Liquor Control Board, Office of Financial Management

Table 3.15

**Lottery transfers by fund**

February 2015 Forecast

(cash basis, millions of dollars)

	<b>Lottery: Total Transfers:*</b>	<b>General Fund</b>	<b>Mariners Stadium</b>	<b>Exhibition Center &amp; Stadium</b>	<b>Student Achievement Account</b>	<b>School Construction Account</b>	<b>Problem Gambling Account</b>	<b>Economic Development Account</b>	<b>Opportunity Pathways Account</b>	<b>Veteran's VIP Account</b>	<b>Education Legacy Trust Account</b>
2008	124.1	0.0	4.7	8.5	0.0	106.9	0.3	3.7	0.0	0.0	0.0
2009	122.2	11.1	4.9	8.9	0.0	94.4	0.2	2.7	0.0	0.0	0.0
2007-09 Biennium	246.4	11.1	9.6	17.4	0.0	201.3	0.5	6.4	0.0	0.0	0.0
2010	126.4	12.9	5.1	9.2	0.0	95.6	0.3	3.3	0.0	0.0	0.0
2011	137.2	8.6	5.3	9.6	0.0	9.4	0.3	4.5	99.5	0.0	0.0
2009-11 Biennium	263.6	21.5	10.4	18.8	0.0	105.0	0.5	7.9	99.5	0.0	0.0
2012	135.1	0.0	2.7	10.0	0.0	0.0	0.3	3.3	118.5	0.2	0.0
2013	139.7	0.0	0.0	10.4	0.0	0.0	0.3	3.5	125.5	0.0	0.0
2011-13 Biennium	274.8	0.0	2.7	20.4	0.0	0.0	0.6	6.9	244.0	0.2	0.0
2014	147.9	9.3	0.0	10.8	0.0	0.0	0.3	3.7	113.7	0.0	10.1
2015	140.1	0.6	0.0	11.2	0.0	0.0	0.3	3.5	118.4	0.0	6.1
2013-15 Biennium	288.0	9.9	0.0	22.0	0.0	0.0	0.6	7.2	232.1	0.0	16.1
2016	134.3	0.0	0.0	11.7	0.0	0.0	0.3	3.8	118.5	0.0	0.0
2017	138.2	3.4	0.0	12.2	0.0	0.0	0.3	3.8	118.5	0.0	0.0
2015-17 Biennium	272.5	3.4	0.0	23.8	0.0	0.0	0.6	7.6	237.1	0.0	0.0
2018	139.1	4.8	0.0	11.7	0.0	0.0	0.3	3.8	118.6	0.0	0.0
2019	142.8	7.9	0.0	12.2	0.0	0.0	0.3	3.8	118.6	0.0	0.0
2017-19 Biennium	281.9	12.7	0.0	23.8	0.0	0.0	0.6	7.6	237.2	0.0	0.0

Table 3.16

**Lottery transfers by fund**

February 2015 Forecast

(GAAP basis, millions of dollars)

	<b>Lottery: Total Transfers:*</b>	<b>General Fund</b>	<b>Mariners Stadium</b>	<b>Exhibition Center &amp; Stadium</b>	<b>Student Achievement Account</b>	<b>School Construction Account</b>	<b>Problem Gambling Account</b>	<b>Economic Development Account</b>	<b>Opportunity Pathways Account</b>	<b>Veteran's VIP Account</b>	<b>Education Legacy Trust Account</b>
2008	124.1	0.0	4.7	8.5	0.0	106.9	0.3	3.7	0.0	0.0	0.0
2009	122.2	11.1	4.9	8.9	0.0	94.4	0.2	2.7	0.0	0.0	0.0
2007-09 Biennium	246.4	11.1	9.6	17.4	0.0	201.3	0.5	6.4	0.0	0.0	0.0
2010	129.4	12.9	5.1	9.2	0.0	97.4	0.3	4.6	0.0	0.0	0.0
2011	138.2	7.0	5.3	9.6	0.0	0.0	0.3	3.7	112.3	0.0	0.0
2009-11 Biennium	267.6	19.9	10.4	18.8	0.0	97.4	0.5	8.3	112.3	0.0	0.0
2012	138.0	0.0	2.7	10.0	0.0	0.0	0.3	3.0	121.8	0.2	0.0
2013	139.2	9.3	0.0	10.4	0.0	0.0	0.3	3.6	115.5	0.0	0.0
2011-13 Biennium	277.2	9.3	2.7	20.4	0.0	0.0	0.6	6.6	237.4	0.2	0.0
2014	147.7	0.6	0.0	10.8	0.0	0.0	0.3	4.0	121.9	0.0	10.1
2015	139.4	0.0	0.0	11.2	0.0	0.0	0.3	3.8	118.0	0.0	6.1
2013-15 Biennium	287.1	0.6	0.0	22.0	0.0	0.0	0.6	7.8	239.9	0.0	16.1
2016	137.8	3.4	0.0	11.7	0.0	0.0	0.3	3.8	118.6	0.0	0.0
2017	139.5	4.8	0.0	12.2	0.0	0.0	0.3	3.8	118.5	0.0	0.0
2015-17 Biennium	277.3	8.2	0.0	23.8	0.0	0.0	0.6	7.6	237.1	0.0	0.0
2018	142.3	7.9	0.0	11.7	0.0	0.0	0.3	3.8	118.6	0.0	0.0
2019	144.3	9.4	0.0	12.2	0.0	0.0	0.3	3.8	118.6	0.0	0.0
2017-19 Biennium	286.6	17.4	0.0	23.8	0.0	0.0	0.6	7.6	237.2	0.0	0.0

\* Total Transfers are equal to total sales less total expenses (prizes, cost of sales, administration etc.)

Source: Lottery Commission, ERFC

Table 3.17

**General Fund-State, Education Legacy Trust Account and Opportunity Pathways Account**

History and Forecast by Fiscal Year (Cash basis)

February 2015 - Millions of Dollars

	General Fund-State (GF-S) (current definition)		Education Legacy Trust Fund* (ELTA)		Total GF-S plus ELTA		WA Opportunity Pathways Account (OPA)		Total GF-S plus ELTA and OPA	
	Level	% Chg.	Level	% Chg.	Level	% Chg.	Level	% Chg.	Level	% Chg.
History:										
FY 1995	\$8,799				\$8,799				\$8,799	
FY 1996	\$8,934	1.5%			\$8,934	1.5%			\$8,934	1.5%
FY 1997	\$9,449	5.8%			\$9,449	5.8%			\$9,449	5.8%
FY 1998	\$10,057	6.4%			\$10,057	6.4%			\$10,057	6.4%
FY 1999	\$10,414	3.6%			\$10,414	3.6%			\$10,414	3.6%
FY 2000	\$11,068	6.3%			\$11,068	6.3%			\$11,068	6.3%
FY 2001	\$11,560	4.4%			\$11,560	4.4%			\$11,560	4.4%
FY 2002	\$11,632	0.6%			\$11,632	0.6%			\$11,632	0.6%
FY 2003	\$11,721	0.8%			\$11,721	0.8%			\$11,721	0.8%
FY 2004	\$12,358	5.4%			\$12,358	5.4%			\$12,358	5.4%
FY 2005	\$13,036	5.5%			\$13,036	5.5%			\$13,036	5.5%
FY 2006	\$14,318	9.8%	\$115		\$14,432	10.7%			\$14,432	10.7%
FY 2007	\$15,467	8.0%	\$266	132.2%	\$15,734	9.0%			\$15,734	9.0%
FY 2008	\$15,659	1.2%	\$213	-20.1%	\$15,872	0.9%			\$15,872	0.9%
FY 2009	\$14,158	-9.6%	\$224	5.4%	\$14,382	-9.4%			\$14,382	-9.4%
FY 2010	\$13,571	-4.1%	\$157	-29.9%	\$13,728	-4.6%			\$13,728	-4.6%
FY 2011	\$14,648	7.9%	\$112	-29.0%	\$14,759	7.5%	\$99		\$14,859	8.2%
FY 2012	\$14,874	1.5%	\$114	2.3%	\$14,988	1.6%	\$118	19.1%	\$15,107	1.7%
FY 2013	\$15,783	6.1%	\$101	-11.5%	\$15,884	6.0%	\$126	5.9%	\$16,009	6.0%
FY 2014	\$16,383	3.8%	\$197	95.3%	\$16,580	4.4%	\$114	-9.4%	\$16,694	4.3%
Forecast:										
FY 2015	\$17,164	4.8%	\$225	14.0%	\$17,389	4.9%	\$118	4.1%	\$17,507	4.9%
FY 2016	\$17,791	3.7%	\$216	-3.8%	\$18,007	3.6%	\$119	0.1%	\$18,125	3.5%
FY 2017	\$18,658	4.9%	\$222	2.7%	\$18,880	4.9%	\$119	0.0%	\$18,999	4.8%
FY 2018	\$19,497	4.5%	\$228	2.5%	\$19,725	4.5%	\$119	0.0%	\$19,844	4.4%
FY 2019	\$20,260	3.9%	\$255	11.8%	\$20,514	4.0%	\$119	0.0%	\$20,633	4.0%
<b>Biennial Totals</b>										
<b>03-05 Biennium</b>	<b>\$25,395</b>	<b>8.7%</b>	<b>\$0</b>	<b>NA</b>	<b>\$25,395</b>	<b>8.7%</b>	<b>\$0</b>	<b>NA</b>	<b>\$25,395</b>	<b>8.7%</b>
<b>05-07 Biennium</b>	<b>\$29,785</b>	<b>17.3%</b>	<b>\$381</b>	<b>NA</b>	<b>\$30,166</b>	<b>18.8%</b>	<b>\$0</b>	<b>NA</b>	<b>\$30,166</b>	<b>18.8%</b>
<b>07-09 Biennium</b>	<b>\$29,817</b>	<b>0.1%</b>	<b>\$437</b>	<b>14.8%</b>	<b>\$30,254</b>	<b>0.3%</b>	<b>\$0</b>	<b>NA</b>	<b>\$30,254</b>	<b>0.3%</b>
<b>09-11 Biennium</b>	<b>\$28,218</b>	<b>-5.4%</b>	<b>\$269</b>	<b>-38.5%</b>	<b>\$28,487</b>	<b>-5.8%</b>	<b>\$99</b>	<b>NA</b>	<b>\$28,586</b>	<b>-5.5%</b>
<b>11-13 Biennium</b>	<b>\$30,657</b>	<b>8.6%</b>	<b>\$215</b>	<b>-19.9%</b>	<b>\$30,872</b>	<b>8.4%</b>	<b>\$244</b>	<b>145.2%</b>	<b>\$31,116</b>	<b>8.8%</b>
<b>13-15 Biennium</b>	<b>\$33,547</b>	<b>9.4%</b>	<b>\$422</b>	<b>96.2%</b>	<b>\$33,969</b>	<b>10.0%</b>	<b>\$232</b>	<b>-4.9%</b>	<b>\$34,201</b>	<b>9.9%</b>
<b>15-17 Biennium</b>	<b>\$36,449</b>	<b>8.7%</b>	<b>\$438</b>	<b>3.8%</b>	<b>\$36,887</b>	<b>8.6%</b>	<b>\$237</b>	<b>2.1%</b>	<b>\$37,124</b>	<b>8.5%</b>
<b>17-19 Biennium</b>	<b>\$39,757</b>	<b>9.1%</b>	<b>\$482</b>	<b>10.0%</b>	<b>\$40,239</b>	<b>9.1%</b>	<b>\$237</b>	<b>0.0%</b>	<b>\$40,476</b>	<b>9.0%</b>

\*Education legacy trust fund excluding FY 14 and FY 15 lottery fund transfers. Includes pension stabilization fund interest in FY 08 and FY 09.

Table 3.18

**Forecasted Distribution of Excise Tax and License Fees from Cannabis Sales**

Thousands of Dollars

Biennium	Total of Cannabis Excise Taxes plus License Fees	Pre-distribution Allotments				Distribution of Remaining Funds						
		DSHS State Healthy Youth Survey	Washington State Institute for Public Policy Study	UW Alcohol and Drug Abuse Institute	LCB for Administration	DSHS Substance Abuse Program (15%)	Dept. of Health Cannabis Education Program (10%)	UW/WSU Research (1%)	Basic Health Plan Trust Account (50%)	Health Care Authority Community Health Centers (5%)	OSPI Dropout Prevention (0.3%)	General Fund-State (18.7%)
2013-15	\$43,478	\$375	\$150	\$15	\$7,350	\$5,338	\$3,559	\$356	\$17,794	\$1,779	\$107	\$6,655
2015-17	\$221,606	\$1,000	\$400	\$40	\$10,000	\$31,525	\$21,017	\$2,102	\$105,083	\$10,508	\$630	\$39,301
2017-19	\$362,792	\$1,000	\$400	\$40	\$10,000	\$52,703	\$35,135	\$3,514	\$175,676	\$17,568	\$1,054	\$65,703

Table 3.19

**Forecasted Retail Sales and B&O Taxes from Cannabis Sales**

Thousands of Dollars

	Retail Sales Tax from Cannabis Sales	B&O Tax from Cannabis Sales	Total GF-S B&O and Retail Sales Tax
2013-15	\$6,597	\$705	\$7,302
2015-17	\$31,628	\$3,103	\$34,732
2017-19	\$52,206	\$5,123	\$57,329

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## Chapter 4: State Coincident Indexes and Recessions

- **The Federal Reserve Bank of Philadelphia produces a monthly coincident index for each of the 50 states.**
- **Existing research, using data through February 2008, suggests the state coincident indexes can be used to identify recession start dates four to six months in advance of official recession announcements.**
- **This chapter uses data through December 2014 to extend the existing research on the use of state coincident indexes to identify recessions.**
- **Our updated findings support the view that state coincident index data can be used to successfully identify recessions prior to their official announcement.**

### State Coincident Indexes and Recessions

*Combines four state-level indicators to summarize current economic conditions*

The Federal Reserve Bank of Philadelphia produces a monthly coincident index for each of the 50 states. The coincident indexes combine four state-level indicators to summarize current economic conditions in a single statistic. The four variables in each coincident index are nonfarm payroll employment, average hours worked in manufacturing, the unemployment rate, and wage and salary disbursements deflated by the consumer price index (U.S. city average). The trend for each state's index is set to the trend of its gross domestic product (GDP), so long-term growth in the state's index matches long-term growth in its GDP.

*The model and the input variables are consistent across the 50 states, so the state indexes are comparable to one another.*

A dynamic single-factor model is used to create the state indexes. James Stock and Mark Watson developed the basic model for constructing a coincident index for the United States. Theodore Crone and Alan Clayton-Matthews adapted the basic model for the states. The method involves a system of five major equations: one equation for each input variable and one equation for an underlying (latent) factor that is reflected in each of the indicator (input) variables. The underlying factor represents the state coincident index. The model and the input variables are consistent across the 50 states, so the state indexes are comparable to one another.

*Previous research investigated the use of the state coincident indexes for identifying the start and end of*

Jason Novak investigated the use of the state coincident indexes for identifying the start and end of recessions. As he noted, the most widely used recession dates are those published by the National Bureau of Economic Research (NBER), which are typically announced well after the start of a recession. The state coincident indexes are released 3 to 4 weeks after the end of the index month. If the state coincident indexes could be used to correctly identify recession start dates, this could provide policymakers with such information four to six months before an NBER announcement.

*Diffusion indexes were used to summarize national economic conditions*

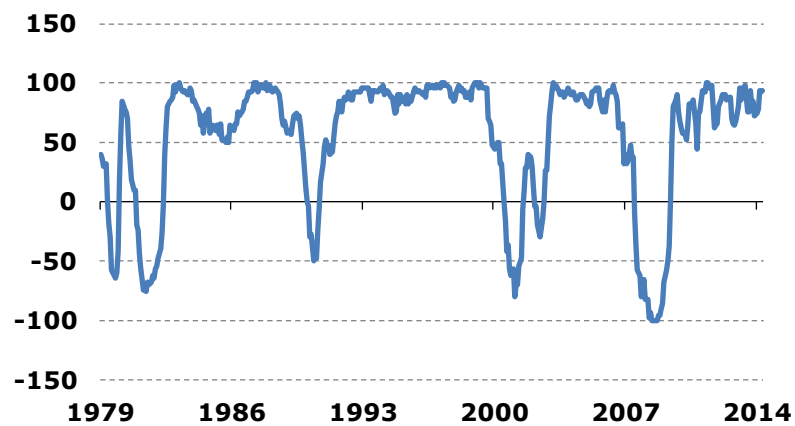
Novak calculated one-month and three-month diffusion indexes (the percentage of state coincident indexes growing minus the percentage declining over either a one-month or three-month period). The diffusion indexes range from 100 (all 50 states have expanding economic activity marked by increasing coincident indexes) to -100 (all 50 states have decreasing coincident indexes).

*When the U.S. economy is not in recession, we would expect 25 or more states to have increasing economic activity.*

Figures 4.1 and 4.2 show the one-month and three-month diffusion indexes from October 1979 to December 2014. When the economy is not in recession, we would expect the diffusion index to be zero or above. In other words, when the U.S. economy is not in recession, we would expect 25 or more states to have increasing economic activity. The indexes fall entering a recession and are negative at some point during each of the five recessions included in the data analyzed here. Note that both indexes have a brief period in 2003 where values are negative despite the fact that the economy was not in an NBER-defined recession.

*One-month diffusion index from August 1979 to December 2014*

**Figure 4.1: One-month Diffusion Index**

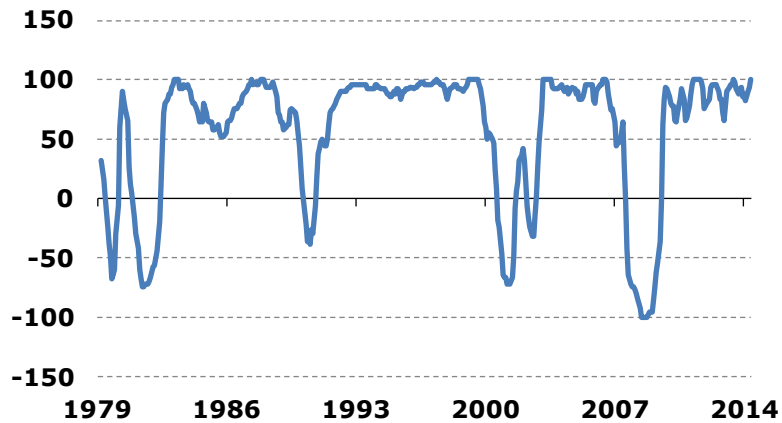


Source: Philadelphia Federal Reserve Bank, data through December 2014



Three-month diffusion index from October 1979 to December 2014

**Figure 4.2: Three-month Diffusion Index**



Source: Philadelphia Federal Reserve Bank, data through December 2014

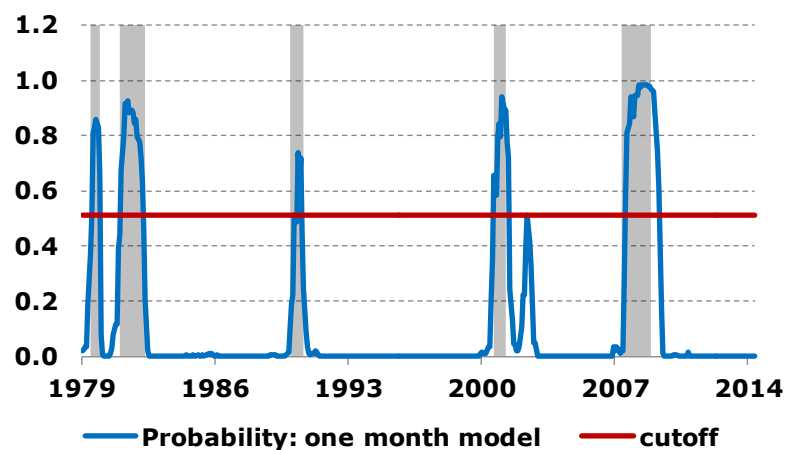
The probit model attempts to identify the probability of the economy being in recession.

To see if the diffusion indexes could identify recession start and end dates, Novak employed a probit framework<sup>1</sup> which is typically used to model yes-no events. In this case, the probit model attempts to identify the probability of the economy being in recession or not.

Because Novak published his research in April 2008, additional data are now available as is the NBER announcement regarding the start and end date for the Great Recession. The following analysis simply extends Novak's research by adding data through December 2014. The recession probabilities from the one-month and three-month diffusion index models are displayed in Figures 4.3 and 4.4.

Estimated recession probabilities, one-month diffusion index model

**Figure 4.3: Estimated Recession Probabilities, One-Month Model**

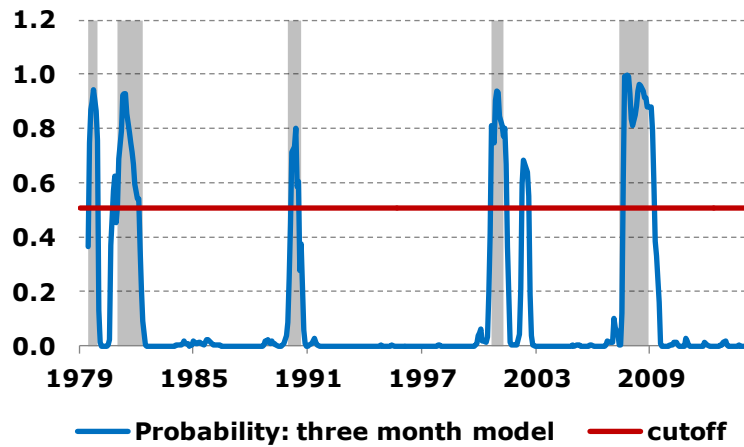


Source: Philadelphia Federal Reserve Bank, ERFC; data through December 2014

<sup>1</sup> See the appendix in Novak for a description of his models.

*Estimated recession probabilities, three-month diffusion index model*

**Figure 4.4: Estimated Recession Probabilities, Three-Month Model**



Source: Philadelphia Federal Reserve Bank, ERFC; data through December 2014

*Choosing a probability of 51% or more as a cutoff for identifying a recession minimizes prediction errors*

The recession probabilities generated by the probit models are generally highest during NBER-defined recessions. However, we need to identify a threshold probability that minimizes both false positives (high probabilities during periods when the economy was not in recession) and false negatives (low probabilities when the economy was in recession). Choosing a probability of 51% or higher as a cutoff for identifying a recession minimizes both types of prediction errors<sup>2</sup>.

*Most of these prediction errors occur either at the start or end of a recession*

Most of these prediction errors occur either at the start or end of a recession. However, as can be seen in Figures 4.3 and 4.4, both models did predict a recession that included January 2003, a month which was not contiguous with an NBER-defined recession. Of the five recessions analyzed, predicted start dates were correct in two cases but off by one to three months in the remaining three cases as indicated in Table 4.1.

**Table 4.1: Predicting Recession Start Dates**

<u>Recession</u>	<u>NBER start date</u>	<u>One-Month Model</u>	<u>Three-Month Model</u>	<u>NBER Announcement</u>
I	Feb. 1980	Feb. 1980	Feb. 1980	Jun. 1980
II	Aug. 1981	Sept. 1981	May 1981	Jan. 1982
III	Aug. 1990	Oct. 1990	Oct. 1990	Apr. 1991
IV	Apr. 2001	Apr. 2001	Apr. 2001	Nov. 2001
V	Jan. 2008	Mar. 2008	Mar. 2008	Dec. 2008

Note: the NBER recession start date is one month following the peak of a business cycle

<sup>2</sup> This cutoff is slightly below the 55% value that Novak identified as minimizing prediction errors.

*Both models consistently identified when the economy was in recession...*

Predicted recession end dates, shown in Table 4.2, ranged from being correct for one recession to being off by as much as six months in the case of the one-month model prediction of the end of the Great Recession. However, even with these errors, both the one-month and three-month models consistently identified when the economy was in recession and when that recession had ended before the date of the NBER announcement.

*...and when that recession had ended*

**Table 4.2: Predicting Recession End Dates**

<u>Recession</u>	<u>NBER end date</u>	<u>One-Month Model</u>	<u>Three-Month Model</u>	<u>NBER Announcement</u>
I	Jul. 1980	Jul. 1980	Jul. 1980	Jul. 1981
II	Nov. 1982	Oct. 1982	Sep. 1982	Jul. 1983
III	Mar. 1991	Feb. 1991	Feb. 1991	Dec. 1992
IV	Nov. 2001	Jan. 2002	Jan. 2002	Jul. 2003
V	Jun. 2009	Dec. 2009	Oct. 2009	Sep. 2010

## Conclusion

*Models presented here provided four to nine months' advance warning of the start of a recession relative to the official NBER announcements*

The models presented here provided four to nine months' advance warning of the start of a recession relative to the official NBER announcements; in only one case was a non-recession period identified as a recession. Knowing that the economy is or is not in recession does not provide enough detailed information to indicate specific changes to an economic or revenue forecast. However, that knowledge does provide an additional layer of risk assessment that could be used in assigning probabilities to a pessimistic forecast scenario or for policymakers to use when considering fiscal policy decisions.

*Two qualifiers should be added*

Following the conclusions arrived at by Novak in his original research in this area, two qualifiers should be added. First, the relationship between the one- and three-month diffusion indexes and recession periods modeled above could strictly be the result of the time period analyzed; this statistical relationship may not hold up in the future. One positive note in this regard is that the results above suggest the statistical relationship continued to hold after incorporating 82 more months of data than were available to Novak. A second qualifier is that revisions to data used in constructing the state coincident indexes and the diffusion indexes could help the models in identifying NBER recessions. Because the coincident indexes and diffusion indexes are based on data that have been revised over time, it is possible that identifying the next recession, based partly on more recent and unrevised data, could be less successful.

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## Detail Components of the Washington State Economic and Revenue Forecast

Calendar Years

*Note: The economic data discussed in these tables were current at the time the forecast was prepared. Many concepts have changed since then due to new releases and data revisions.*

Table A1.1  
**U.S. Economic Forecast Summary**  
Forecast 2015 to 2019

	2012	2013	2014	2015	2016	2017	2018	2019
<b>Real National Income Accounts (Billions of Chained 2009 Dollars)</b>								
Real Gross Domestic Product	15,369.2	15,710.3	16,089.8	16,602.3	17,077.6	17,538.7	17,977.1	18,408.6
% Ch	2.3	2.2	2.4	3.2	2.9	2.7	2.5	2.4
Real Consumption	10,449.7	10,699.7	10,967.8	11,330.1	11,647.3	11,949.8	12,248.0	12,541.3
% Ch	1.8	2.4	2.5	3.3	2.8	2.6	2.5	2.4
Real Nonresidential Fixed Investment	1,931.8	1,990.6	2,112.7	2,236.0	2,371.9	2,532.9	2,679.7	2,783.6
% Ch	7.2	3.0	6.1	5.8	6.1	6.8	5.8	3.9
Real Residential Fixed Investment	436.5	488.4	496.3	551.7	613.7	675.9	704.0	725.5
% Ch	13.5	11.9	1.6	11.2	11.2	10.1	4.2	3.1
Real Personal Income	13,093.3	13,198.7	13,531.3	14,047.4	14,528.5	15,115.3	15,603.7	16,043.4
% Ch	3.3	0.8	2.5	3.8	3.4	4.0	3.2	2.8
Real Per Capita Income (\$/Person)	41,628	41,669	42,411	43,672	44,801	46,235	47,349	48,298
% Ch	2.6	0.1	1.8	3.0	2.6	3.2	2.4	2.0
<b>Price and Wage Indexes</b>								
U.S. Implicit Price Deflator, PCE (2009=1.0)	1.061	1.073	1.088	1.092	1.112	1.130	1.150	1.170
% Ch	1.8	1.2	1.3	0.4	1.8	1.7	1.8	1.8
U.S. Consumer Price Index (1982-84=1.0)	2.296	2.330	2.367	2.368	2.421	2.470	2.521	2.573
% Ch	2.1	1.5	1.6	0.0	2.2	2.0	2.1	2.1
Employment Cost Index (Dec. 2005=1.0)	1.161	1.182	1.206	1.238	1.275	1.314	1.355	1.398
% Ch	1.8	1.9	2.0	2.7	3.0	3.0	3.2	3.2
<b>Current Dollar National Income (Billions of Dollars)</b>								
Gross Domestic Product	16,163.2	16,768.1	17,420.7	18,282.7	19,194.1	20,153.8	21,044.8	21,937.2
% Ch	4.2	3.7	3.9	4.9	5.0	5.0	4.4	4.2
Personal Income	13,887.7	14,166.9	14,716.6	15,340.7	16,153.0	17,084.2	17,944.9	18,775.7
% Ch	5.2	2.0	3.9	4.2	5.3	5.8	5.0	4.6
<b>Employment (Millions)</b>								
U.S. Civilian Labor Force	155.0	155.4	155.9	158.7	160.9	162.9	165.0	166.7
Total U.S. Employment	142.5	143.9	146.3	149.9	152.4	154.6	156.5	158.2
Unemployment Rate (%)	8.07	7.37	6.15	5.50	5.26	5.14	5.13	5.14
Nonfarm Payroll Employment	134.10	136.39	139.02	142.21	145.00	147.12	148.45	149.64
% Ch	1.7	1.7	1.9	2.3	2.0	1.5	0.9	0.8
Manufacturing	11.93	12.02	12.19	12.46	12.75	12.85	12.79	12.67
% Ch	1.7	0.8	1.4	2.3	2.3	0.8	-0.4	-1.0
Durable Manufacturing	7.47	7.55	7.69	7.93	8.19	8.28	8.25	8.15
% Ch	2.7	1.0	1.9	3.2	3.2	1.2	-0.4	-1.2
Nondurable Manufacturing	4.46	4.47	4.50	4.54	4.56	4.56	4.55	4.51
% Ch	0.1	0.3	0.7	0.7	0.5	0.1	-0.4	-0.7
Construction	5.65	5.86	6.14	6.50	6.92	7.45	7.92	8.25
% Ch	2.1	3.7	4.8	5.9	6.5	7.6	6.3	4.2
Service-Providing	115.68	117.66	119.80	122.38	124.48	125.94	126.83	127.79
% Ch	1.7	1.7	1.8	2.2	1.7	1.2	0.7	0.8
<b>Miscellaneous Indicators</b>								
Oil-WTI (\$ per barrel)	94.2	98.0	93.0	53.9	61.9	64.9	66.7	68.3
Personal Saving/Disposable Income (%)	7.2	4.9	4.8	4.8	4.9	6.1	6.8	7.4
Auto Sales (Millions)	7.2	7.6	7.7	7.7	8.0	8.3	8.5	8.6
% Ch	19.0	4.7	1.2	0.9	3.1	4.5	1.2	1.9
Housing Starts (Millions)	0.784	0.930	1.004	1.160	1.328	1.487	1.540	1.597
% Ch	28.1	18.6	8.0	15.5	14.5	12.0	3.5	3.7
Federal Budget Surplus (Billions)	-1,079.1	-649.1	-595.6	-552.5	-452.3	-460.1	-499.6	-559.9
Net Exports (Billions)	-568.3	-508.2	-538.1	-421.3	-424.2	-474.0	-531.5	-552.1
3-Month Treasury Bill Rate (%)	0.09	0.06	0.03	0.39	1.59	3.23	3.54	3.51
10-Year Treasury Note Yield (%)	1.80	2.35	2.54	2.36	3.51	3.83	3.79	3.75
Bond Index of 20 G.O. Munis. (%)	3.73	4.26	4.25	4.09	5.07	5.28	5.23	5.21
30-Year Fixed Mortgage Rate (%)	3.66	3.98	4.17	4.07	5.36	5.75	5.71	5.67

Table A1.2  
**U.S. Economic Forecast Summary**  
Forecast 2015 to 2019

	2014:1	2014:2	2014:3	2014:4	2015:1	2015:2	2015:3	2015:4
<b>Real National Income Accounts (Billions of Chained 2009 Dollars)</b>								
Real Gross Domestic Product	15,831.7	16,010.4	16,205.6	16,311.6	16,420.7	16,540.7	16,664.3	16,783.4
% Ch , Annual Rate	-2.1	4.6	5.0	2.6	2.7	3.0	3.0	2.9
Real Consumption	10,844.3	10,912.6	10,999.5	11,114.9	11,199.8	11,289.1	11,374.1	11,457.4
% Ch , Annual Rate	1.2	2.5	3.2	4.3	3.1	3.2	3.0	3.0
Real Nonresidential Fixed Investment	2,051.5	2,099.6	2,144.8	2,154.8	2,188.1	2,211.8	2,253.0	2,291.0
% Ch , Annual Rate	1.6	9.7	8.9	1.9	6.3	4.4	7.7	6.9
Real Residential Fixed Investment	485.3	495.6	499.6	504.6	526.5	545.4	558.8	576.1
% Ch , Annual Rate	-5.3	8.8	3.3	4.1	18.5	15.2	10.2	13.0
Real Personal Income	13,392.4	13,477.0	13,556.3	13,699.4	13,918.0	13,999.9	14,083.4	14,188.3
% Ch , Annual Rate	3.5	2.5	2.4	4.3	6.5	2.4	2.4	3.0
Real Per Capita Income (\$/Person)	42,102	42,286	42,448	42,808	43,402	43,569	43,740	43,976
% Ch , Annual Rate	2.9	1.8	1.5	3.4	5.7	1.5	1.6	2.2
<b>Price and Wage Indexes</b>								
U.S. Implicit Price Deflator, PCE (2009=1.0)	1.082	1.088	1.091	1.090	1.085	1.089	1.094	1.099
% Ch , Annual Rate	1.4	2.3	1.2	-0.5	-1.7	1.6	1.8	1.9
U.S. Consumer Price Index (1982-84=1.0)	2.352	2.370	2.377	2.369	2.349	2.361	2.375	2.388
% Ch , Annual Rate	1.9	3.0	1.1	-1.2	-3.4	2.0	2.3	2.3
Employment Cost Index (Dec. 2005=1.0)	1.193	1.202	1.211	1.218	1.225	1.234	1.243	1.252
% Ch , Annual Rate	0.7	3.1	3.0	2.3	2.4	2.8	3.0	3.0
<b>Current Dollar National Income (Billions of Dollars)</b>								
Gross Domestic Product	17,044.0	17,328.2	17,599.8	17,710.7	17,933.4	18,175.0	18,408.2	18,614.1
% Ch , Annual Rate	-0.8	6.8	6.4	2.5	5.1	5.5	5.2	4.5
Personal Income	14,484.7	14,660.5	14,792.1	14,928.9	15,102.7	15,250.1	15,411.6	15,598.3
% Ch , Annual Rate	4.9	4.9	3.6	3.8	4.7	4.0	4.3	4.9
<b>Employment (Millions)</b>								
U.S. Civilian Labor Force	155.8	155.6	156.0	156.3	157.8	158.4	159.0	159.5
Total U.S. Employment	145.4	145.9	146.5	147.3	149.0	149.6	150.3	150.9
Unemployment Rate (%)	6.63	6.20	6.07	5.70	5.60	5.53	5.46	5.40
Nonfarm Payroll Employment	137.84	138.64	139.38	140.23	141.12	141.89	142.58	143.26
% Ch , Annual Rate	1.6	2.3	2.2	2.5	2.6	2.2	1.9	1.9
Manufacturing	12.12	12.16	12.20	12.28	12.36	12.44	12.48	12.58
% Ch , Annual Rate	1.7	1.3	1.5	2.4	2.7	2.7	1.2	3.3
Durable Manufacturing	7.61	7.66	7.71	7.77	7.83	7.90	7.95	8.03
% Ch , Annual Rate	1.6	2.4	2.5	3.1	3.5	3.6	2.5	4.4
Nondurable Manufacturing	4.51	4.50	4.50	4.51	4.53	4.54	4.53	4.54
% Ch , Annual Rate	2.0	-0.6	-0.2	1.2	1.5	1.2	-1.0	1.4
Construction	6.03	6.11	6.17	6.24	6.35	6.45	6.54	6.65
% Ch , Annual Rate	6.7	5.4	3.8	4.3	7.5	6.2	6.3	6.8
Service-Providing	118.81	119.48	120.10	120.81	121.51	122.14	122.70	123.18
% Ch , Annual Rate	1.3	2.3	2.1	2.4	2.4	2.1	1.9	1.6
<b>Miscellaneous Indicators</b>								
Oil-WTI (\$ per barrel)	98.7	103.0	97.1	73.2	49.2	52.2	55.8	58.4
Personal Saving/Disposable Income (%)	4.9	5.1	4.7	4.6	5.2	4.9	4.6	4.5
Auto Sales (Millions)	7.3	7.8	7.8	7.8	7.7	7.8	7.8	7.8
% Ch , Annual Rate	-16.8	30.5	3.8	0.2	-9.2	5.3	2.3	-0.5
Housing Starts (Millions)	0.925	0.985	1.030	1.075	1.103	1.143	1.176	1.216
% Ch , Annual Rate	-33.7	28.8	19.2	18.7	11.2	15.2	12.1	14.0
Federal Budget Surplus (Billions)	-560.1	-598.6	-622.1	-601.8	-635.3	-574.2	-525.9	-474.6
Net Exports (Billions)	-538.0	-549.2	-516.5	-548.5	-450.4	-404.6	-404.2	-426.0
3-Month Treasury Bill Rate (%)	0.05	0.03	0.03	0.02	0.05	0.25	0.51	0.75
10-Year Treasury Note Yield (%)	2.76	2.62	2.50	2.28	1.86	2.24	2.52	2.81
Bond Index of 20 G.O. Munis. (%)	4.49	4.33	4.24	3.95	3.46	3.99	4.34	4.57
30-Year Fixed Mortgage Rate (%)	4.36	4.23	4.14	3.97	3.73	3.91	4.15	4.49

Table A1.2 (continued)  
**U.S. Economic Forecast Summary**  
 Forecast 2015 to 2019

	2016:1	2016:2	2016:3	2016:4	2017:1	2017:2	2017:3	2017:4
<b>Real National Income Accounts (Billions of Chained 2009 Dollars)</b>								
Real Gross Domestic Product	16,898.0	17,016.1	17,137.7	17,258.6	17,374.0	17,483.0	17,593.8	17,704.0
% Ch , Annual Rate	2.8	2.8	2.9	2.9	2.7	2.5	2.6	2.5
Real Consumption	11,536.1	11,612.9	11,685.0	11,755.2	11,828.4	11,906.8	11,990.8	12,073.1
% Ch , Annual Rate	2.8	2.7	2.5	2.4	2.5	2.7	2.8	2.8
Real Nonresidential Fixed Investment	2,323.2	2,354.6	2,385.7	2,424.2	2,470.9	2,513.9	2,554.3	2,592.4
% Ch , Annual Rate	5.7	5.5	5.4	6.6	7.9	7.1	6.6	6.1
Real Residential Fixed Investment	590.3	605.3	619.3	640.0	660.5	672.2	681.8	689.1
% Ch , Annual Rate	10.2	10.5	9.6	14.1	13.5	7.3	5.9	4.3
Real Personal Income	14,335.6	14,456.5	14,587.9	14,734.1	14,911.5	15,054.3	15,184.6	15,310.7
% Ch , Annual Rate	4.2	3.4	3.7	4.1	4.9	3.9	3.5	3.4
Real Per Capita Income (\$/Person)	44,342	44,625	44,940	45,298	45,751	46,096	46,402	46,693
% Ch , Annual Rate	3.4	2.6	2.8	3.2	4.1	3.1	2.7	2.5
<b>Price and Wage Indexes</b>								
U.S. Implicit Price Deflator, PCE (2009=1.0)	1.105	1.109	1.114	1.119	1.123	1.128	1.133	1.137
% Ch , Annual Rate	2.0	1.7	1.7	1.7	1.6	1.7	1.7	1.7
U.S. Consumer Price Index (1982-84=1.0)	2.402	2.414	2.427	2.440	2.451	2.463	2.476	2.489
% Ch , Annual Rate	2.4	2.0	2.1	2.1	1.8	2.1	2.1	2.1
Employment Cost Index (Dec. 2005=1.0)	1.261	1.271	1.280	1.289	1.299	1.309	1.319	1.329
% Ch , Annual Rate	3.0	3.0	3.0	2.9	3.0	3.1	3.1	3.1
<b>Current Dollar National Income (Billions of Dollars)</b>								
Gross Domestic Product	18,831.5	19,055.9	19,311.5	19,577.5	19,824.6	20,043.8	20,264.1	20,482.8
% Ch , Annual Rate	4.8	4.9	5.5	5.6	5.1	4.5	4.5	4.4
Personal Income	15,837.3	16,038.1	16,252.8	16,484.0	16,746.9	16,977.6	17,197.5	17,414.6
% Ch , Annual Rate	6.3	5.2	5.5	5.8	6.5	5.6	5.3	5.1
<b>Employment (Millions)</b>								
U.S. Civilian Labor Force	160.0	160.6	161.2	161.7	162.2	162.7	163.2	163.7
Total U.S. Employment	151.4	152.1	152.7	153.3	153.8	154.3	154.8	155.3
Unemployment Rate (%)	5.34	5.28	5.24	5.20	5.16	5.14	5.13	5.13
Nonfarm Payroll Employment	143.95	144.68	145.37	146.01	146.51	146.95	147.34	147.69
% Ch , Annual Rate	2.0	2.0	1.9	1.8	1.4	1.2	1.1	0.9
Manufacturing	12.68	12.74	12.78	12.79	12.82	12.86	12.87	12.84
% Ch , Annual Rate	3.1	2.1	1.2	0.3	1.2	1.1	0.2	-0.8
Durable Manufacturing	8.12	8.18	8.22	8.23	8.26	8.29	8.30	8.28
% Ch , Annual Rate	4.3	3.1	1.9	0.4	1.7	1.6	0.4	-1.1
Nondurable Manufacturing	4.56	4.56	4.56	4.56	4.56	4.57	4.56	4.56
% Ch , Annual Rate	1.0	0.4	0.0	0.1	0.2	0.3	-0.2	-0.3
Construction	6.75	6.86	6.97	7.10	7.24	7.38	7.52	7.65
% Ch , Annual Rate	6.0	6.4	6.8	7.6	8.3	8.1	7.5	7.0
Service-Providing	123.69	124.23	124.76	125.25	125.56	125.82	126.06	126.30
% Ch , Annual Rate	1.6	1.8	1.7	1.6	1.0	0.8	0.8	0.8
<b>Miscellaneous Indicators</b>								
Oil-WTI (\$ per barrel)	60.2	61.6	62.5	63.4	64.1	64.7	65.2	65.7
Personal Saving/Disposable Income (%)	4.6	4.6	4.9	5.3	5.6	6.0	6.2	6.4
Auto Sales (Millions)	7.8	7.9	8.0	8.1	8.2	8.3	8.4	8.4
% Ch , Annual Rate	3.1	5.2	4.9	3.7	4.8	4.8	5.5	0.5
Housing Starts (Millions)	1.242	1.301	1.336	1.432	1.474	1.479	1.495	1.501
% Ch , Annual Rate	8.8	20.5	11.2	32.1	12.3	1.3	4.4	1.6
Federal Budget Surplus (Billions)	-481.0	-453.5	-437.8	-436.9	-430.9	-452.2	-464.0	-493.3
Net Exports (Billions)	-429.2	-431.2	-415.1	-421.1	-442.8	-462.8	-483.6	-506.9
3-Month Treasury Bill Rate (%)	1.01	1.34	1.78	2.24	2.71	3.17	3.50	3.54
10-Year Treasury Note Yield (%)	3.15	3.48	3.66	3.77	3.82	3.82	3.84	3.84
Bond Index of 20 G.O. Munis. (%)	4.80	5.03	5.18	5.25	5.27	5.28	5.28	5.27
30-Year Fixed Mortgage Rate (%)	4.88	5.32	5.56	5.66	5.71	5.74	5.76	5.76



Table A1.2 (continued)  
**U.S. Economic Forecast Summary**  
 Forecast 2015 to 2019

	2018:1	2018:2	2018:3	2018:4	2019:1	2019:2	2019:3	2019:4
<b>Real National Income Accounts (Billions of Chained 2009 Dollars)</b>								
Real Gross Domestic Product	17,811.6	17,920.7	18,034.9	18,141.4	18,247.2	18,351.4	18,461.2	18,574.6
% Ch , Annual Rate	2.5	2.5	2.6	2.4	2.4	2.3	2.4	2.5
Real Consumption	12,141.5	12,213.1	12,285.0	12,352.2	12,429.6	12,504.1	12,578.2	12,653.1
% Ch , Annual Rate	2.3	2.4	2.4	2.2	2.5	2.4	2.4	2.4
Real Nonresidential Fixed Investment	2,631.2	2,662.7	2,696.7	2,728.2	2,751.0	2,772.2	2,793.8	2,817.3
% Ch , Annual Rate	6.1	4.9	5.2	4.8	3.4	3.1	3.1	3.4
Real Residential Fixed Investment	694.7	700.2	707.8	713.3	716.5	721.3	728.9	735.4
% Ch , Annual Rate	3.3	3.2	4.4	3.1	1.8	2.7	4.3	3.6
Real Personal Income	15,442.6	15,552.8	15,657.3	15,762.1	15,891.8	15,995.7	16,093.0	16,193.1
% Ch , Annual Rate	3.5	2.9	2.7	2.7	3.3	2.6	2.5	2.5
Real Per Capita Income (\$/Person)	47,001	47,242	47,465	47,687	47,985	48,203	48,400	48,605
% Ch , Annual Rate	2.7	2.1	1.9	1.9	2.5	1.8	1.6	1.7
<b>Price and Wage Indexes</b>								
U.S. Implicit Price Deflator, PCE (2009=1.0)	1.142	1.147	1.153	1.158	1.163	1.168	1.173	1.178
% Ch , Annual Rate	1.8	1.8	1.8	1.8	1.7	1.7	1.8	1.7
U.S. Consumer Price Index (1982-84=1.0)	2.502	2.515	2.528	2.541	2.554	2.566	2.580	2.592
% Ch , Annual Rate	2.1	2.1	2.1	2.0	2.1	2.0	2.1	2.0
Employment Cost Index (Dec. 2005=1.0)	1.339	1.350	1.361	1.371	1.382	1.393	1.403	1.414
% Ch , Annual Rate	3.1	3.2	3.2	3.2	3.2	3.1	3.1	3.0
<b>Current Dollar National Income (Billions of Dollars)</b>								
Gross Domestic Product	20,706.6	20,930.1	21,160.7	21,381.8	21,606.5	21,822.2	22,045.5	22,274.5
% Ch , Annual Rate	4.4	4.4	4.5	4.2	4.3	4.1	4.2	4.2
Personal Income	17,641.4	17,845.4	18,046.3	18,246.4	18,476.1	18,677.5	18,874.8	19,074.7
% Ch , Annual Rate	5.3	4.7	4.6	4.5	5.1	4.4	4.3	4.3
<b>Employment (Millions)</b>								
U.S. Civilian Labor Force	164.2	164.7	165.3	165.7	166.2	166.6	166.9	167.2
Total U.S. Employment	155.8	156.3	156.9	157.2	157.6	158.1	158.4	158.6
Unemployment Rate (%)	5.12	5.13	5.13	5.14	5.14	5.14	5.15	5.14
Nonfarm Payroll Employment	148.01	148.31	148.61	148.88	149.19	149.49	149.79	150.07
% Ch, Annual Rate	0.9	0.8	0.8	0.7	0.8	0.8	0.8	0.8
Manufacturing	12.82	12.80	12.79	12.77	12.73	12.69	12.65	12.60
% Ch, Annual Rate	-0.8	-0.4	-0.5	-0.5	-1.3	-1.2	-1.5	-1.4
Durable Manufacturing	8.26	8.25	8.25	8.24	8.21	8.17	8.14	8.10
% Ch, Annual Rate	-1.0	-0.2	-0.3	-0.5	-1.6	-1.5	-1.9	-1.8
Nondurable Manufacturing	4.56	4.55	4.54	4.53	4.53	4.52	4.51	4.50
% Ch, Annual Rate	-0.4	-0.6	-0.9	-0.5	-0.8	-0.6	-0.7	-0.7
Construction	7.77	7.87	7.97	8.06	8.14	8.21	8.29	8.36
% Ch, Annual Rate	6.4	5.6	5.2	4.6	3.9	3.6	3.6	3.7
Service-Providing	126.52	126.72	126.94	127.12	127.39	127.66	127.93	128.18
% Ch, Annual Rate	0.7	0.6	0.7	0.6	0.9	0.8	0.8	0.8
<b>Miscellaneous Indicators</b>								
Oil-WTI (\$ per barrel)	66.1	66.5	66.9	67.4	67.8	68.1	68.4	68.9
Personal Saving/Disposable Income (%)	6.5	6.7	6.8	7.0	7.2	7.3	7.4	7.5
Auto Sales (Millions)	8.4	8.4	8.5	8.5	8.6	8.6	8.6	8.6
% Ch, Annual Rate	-0.4	-1.4	3.9	1.1	3.3	1.8	1.0	0.6
Housing Starts (Millions)	1.514	1.530	1.550	1.564	1.580	1.589	1.601	1.617
% Ch, Annual Rate	3.6	4.2	5.3	3.6	4.1	2.4	3.1	4.0
Federal Budget Surplus (Billions)	-473.5	-497.2	-506.8	-520.8	-540.4	-557.5	-562.5	-579.1
Net Exports (Billions)	-518.9	-530.0	-536.3	-540.9	-543.3	-550.8	-554.7	-559.4
3-Month Treasury Bill Rate (%)	3.54	3.54	3.54	3.53	3.52	3.52	3.51	3.50
10-Year Treasury Note Yield (%)	3.83	3.81	3.78	3.76	3.75	3.75	3.75	3.76
Bond Index of 20 G.O. Munis. (%)	5.25	5.24	5.22	5.21	5.21	5.21	5.21	5.22
30-Year Fixed Mortgage Rate (%)	5.75	5.73	5.70	5.68	5.67	5.67	5.67	5.68

Table A1.3  
**Washington Economic Forecast Summary**  
Forecast 2015 to 2019

	2012	2013	2014	2015	2016	2017	2018	2019
<b>Real Income (Billions of Chained 2009 Dollars)</b>								
Real Personal Income	305.902	309.927	319.829	333.654	346.757	362.506	375.972	388.503
% Ch	4.8	1.3	3.2	4.3	3.9	4.5	3.7	3.3
Real Wage and Salary Disb.	154.512	159.121	165.396	173.240	180.074	186.964	193.698	200.738
% Ch	3.9	3.0	3.9	4.7	3.9	3.8	3.6	3.6
Real Nonwage Income	151.390	150.807	154.433	160.414	166.683	175.543	182.274	187.765
% Ch	5.8	-0.4	2.4	3.9	3.9	5.3	3.8	3.0
Real Per Capita Income (\$/Person)	44,292	44,368	45,196	46,508	47,688	49,212	50,405	51,435
% Ch	3.7	0.2	1.9	2.9	2.5	3.2	2.4	2.0
<b>Price and Wage Indexes</b>								
U.S. Implicit Price Deflator, PCE (2009=1.0)	1.061	1.073	1.088	1.092	1.112	1.130	1.150	1.170
% Ch	1.8	1.2	1.3	0.4	1.8	1.7	1.8	1.8
Seattle Cons. Price Index (1982-84=1.0)	2.387	2.416	2.460	2.490	2.550	2.603	2.659	2.716
% Ch	2.5	1.2	1.8	1.2	2.4	2.1	2.1	2.1
Average Nonfarm Annual Wage	53,696	54,744	56,264	57,564	59,634	61,934	64,531	67,234
% Ch	3.8	2.0	2.8	2.3	3.6	3.9	4.2	4.2
Avg. Hourly Earnings-Mfg. (\$/Hour)	24.14	24.34	25.17	25.77	26.45	27.16	27.93	28.72
% Ch	0.7	0.8	3.4	2.4	2.6	2.7	2.8	2.8
<b>Current Dollar Income (Billions of Dollars)</b>								
Personal Income	324.458	332.655	347.837	364.374	385.531	409.727	432.384	454.670
% Ch	6.7	2.5	4.6	4.8	5.8	6.3	5.5	5.2
Disposable Personal Income	289.327	293.635	306.813	319.954	336.697	357.444	377.701	398.512
% Ch	6.5	1.5	4.5	4.3	5.2	6.2	5.7	5.5
Per Capita Income (\$/Person)	46,979	47,621	49,154	50,789	53,020	55,621	57,966	60,194
% Ch	5.6	1.4	3.2	3.3	4.4	4.9	4.2	3.8
<b>Employment (Thousands)</b>								
Washington Civilian Labor Force	3,483.8	3,461.4	3,476.5	3,555.8	3,622.7	3,686.5	3,750.1	3,810.7
Total Washington Employment	3,202.1	3,219.0	3,266.7	3,338.1	3,410.3	3,475.9	3,538.3	3,598.2
Unemployment Rate (%)	8.08	7.00	6.03	6.12	5.86	5.71	5.65	5.58
Nonfarm Payroll Employment	2,921.5	2,990.2	3,071.1	3,160.7	3,231.6	3,286.6	3,327.1	3,369.7
% Ch	1.7	2.4	2.7	2.9	2.2	1.7	1.2	1.3
Manufacturing	280.3	286.6	288.7	295.0	301.0	303.6	304.4	304.2
% Ch	4.3	2.3	0.7	2.2	2.1	0.8	0.3	-0.1
Durable Manufacturing	204.5	209.6	209.8	213.6	217.9	219.1	219.1	218.5
% Ch	5.8	2.5	0.1	1.8	2.0	0.5	0.0	-0.3
Aerospace	94.2	96.3	93.8	91.5	89.2	87.0	85.1	83.4
% Ch	8.8	2.2	-2.6	-2.4	-2.5	-2.5	-2.2	-2.0
Nondurable Manufacturing	75.7	77.0	78.9	81.4	83.1	84.5	85.2	85.6
% Ch	0.6	1.7	2.5	3.2	2.1	1.7	0.9	0.5
Construction	139.0	148.8	158.1	169.8	178.2	187.1	195.1	201.9
% Ch	1.9	7.0	6.2	7.4	5.0	5.0	4.3	3.5
Service-Providing	2,496.3	2,548.7	2,618.1	2,689.8	2,746.2	2,789.5	2,821.2	2,857.0
% Ch	1.4	2.1	2.7	2.7	2.1	1.6	1.1	1.3
Software Publishers	52.4	53.9	55.6	54.9	55.3	56.1	56.9	57.7
% Ch	1.4	3.0	3.1	-1.3	0.8	1.4	1.4	1.4
<b>Housing Indicators (Thousands)</b>								
Housing Units Authorized by Bldg. Permit	28.118	32.962	33.320	35.611	38.705	41.931	43.199	43.959
% Ch	34.8	17.2	1.1	6.9	8.7	8.3	3.0	1.8
Single-Family	16.508	18.396	17.623	19.286	21.869	25.496	26.878	27.398
% Ch	25.5	11.4	-4.2	9.4	13.4	16.6	5.4	1.9
Multi-Family	11.610	14.566	15.697	16.325	16.835	16.435	16.322	16.561
% Ch	50.7	25.5	7.8	4.0	3.1	-2.4	-0.7	1.5
30-Year Fixed Mortgage Rate (%)	3.66	3.98	4.17	4.07	5.36	5.75	5.71	5.67

Table A1.4  
**Washington Economic Forecast Summary**  
Forecast 2015 to 2019

	2014:1	2014:2	2014:3	2014:4	2015:1	2015:2	2015:3	2015:4
<b>Real Income (Billions of Chained 2009 Dollars)</b>								
Real Personal Income	316.560	318.160	320.948	323.646	329.995	332.568	335.064	336.990
% Ch, Annual Rate	5.9	2.0	3.6	3.4	8.1	3.2	3.0	2.3
Real Wage and Salary Disb.	164.408	164.243	165.836	167.096	170.726	172.716	174.402	175.117
% Ch, Annual Rate	8.9	-0.4	3.9	3.1	9.0	4.7	4.0	1.7
Real Nonwage Income	152.152	153.917	155.112	156.550	159.269	159.852	160.662	161.873
% Ch, Annual Rate	2.7	4.7	3.1	3.8	7.1	1.5	2.0	3.0
Real Per Capita Income (\$/Person)	44,975	45,044	45,268	45,498	46,234	46,436	46,626	46,736
% Ch, Annual Rate	4.6	0.6	2.0	2.1	6.6	1.8	1.6	0.9
<b>Price and Wage Indexes</b>								
U.S. Implicit Price Deflator, PCE (2009=1.0)	1.082	1.088	1.091	1.090	1.085	1.089	1.094	1.099
% Ch, Annual Rate	1.4	2.3	1.2	-0.5	-1.7	1.6	1.8	1.9
Seattle Cons. Price Index (1982-84=1.0)	2.440	2.463	2.465	2.472	2.465	2.481	2.498	2.514
% Ch, Annual Rate	2.4	3.8	0.3	1.1	-1.1	2.7	2.8	2.5
Average Nonfarm Annual Wage	56,128	56,219	56,359	56,352	56,811	57,394	57,929	58,122
% Ch, Annual Rate	7.1	0.7	1.0	0.0	3.3	4.2	3.8	1.3
Avg. Hourly Earnings-Mfg. (\$/Hour)	24.82	25.13	25.33	25.38	25.53	25.68	25.85	26.02
% Ch, Annual Rate	0.5	5.2	3.2	0.7	2.4	2.4	2.6	2.7
<b>Current Dollar Income (Billions of Dollars)</b>								
Personal Income	342.370	346.095	350.197	352.687	358.085	362.269	366.663	370.479
% Ch, Annual Rate	7.3	4.4	4.8	2.9	6.3	4.8	4.9	4.2
Disposable Personal Income	301.909	305.602	308.960	310.782	315.155	318.316	321.831	324.516
% Ch, Annual Rate	7.2	5.0	4.5	2.4	5.7	4.1	4.5	3.4
Per Capita Income (\$/Person)	48,642	48,999	49,393	49,581	50,170	50,583	51,023	51,380
% Ch, Annual Rate	6.0	3.0	3.3	1.5	4.8	3.3	3.5	2.8
<b>Employment (Thousands)</b>								
Washington Civilian Labor Force	3,459.0	3,475.4	3,472.1	3,499.5	3,530.5	3,547.4	3,564.7	3,580.7
Total Washington Employment	3,238.8	3,267.8	3,275.7	3,284.6	3,310.5	3,328.7	3,347.8	3,365.3
Unemployment Rate (%)	6.37	5.97	5.66	6.14	6.23	6.16	6.09	6.01
Nonfarm Payroll Employment	3,041.8	3,051.9	3,084.9	3,105.6	3,134.1	3,152.1	3,169.3	3,187.1
% Ch, Annual Rate	3.4	1.3	4.4	2.7	3.7	2.3	2.2	2.3
Manufacturing	287.4	288.3	289.0	290.0	292.8	294.2	295.3	297.7
% Ch, Annual Rate	1.2	1.3	0.9	1.3	4.0	1.9	1.5	3.3
Durable Manufacturing	209.1	209.2	210.3	210.6	212.0	212.8	213.9	215.6
% Ch, Annual Rate	-0.3	0.2	2.1	0.7	2.6	1.5	2.0	3.3
Aerospace	94.0	93.8	94.3	93.1	92.4	91.8	91.2	90.6
% Ch, Annual Rate	-4.7	-1.1	2.4	-5.0	-3.1	-2.5	-2.5	-2.5
Nondurable Manufacturing	78.4	79.2	78.7	79.3	80.8	81.4	81.4	82.1
% Ch, Annual Rate	5.1	4.1	-2.1	3.0	7.7	3.0	0.1	3.3
Construction	155.6	155.5	159.0	162.2	167.5	168.6	170.4	172.7
% Ch, Annual Rate	10.8	-0.2	9.4	8.3	13.6	2.7	4.5	5.4
Service-Providing	2,592.5	2,601.9	2,630.8	2,647.3	2,667.7	2,683.3	2,697.6	2,710.7
% Ch, Annual Rate	3.2	1.5	4.5	2.5	3.1	2.4	2.2	2.0
Software Publishers	55.4	55.8	56.1	55.2	54.7	54.9	55.0	54.9
% Ch, Annual Rate	3.8	2.8	2.3	-6.3	-3.3	1.6	0.2	-0.2
<b>Housing Indicators (Thousands)</b>								
Housing Units Authorized by Bldg. Permit	31.238	34.463	32.557	35.022	34.400	35.390	36.058	36.595
% Ch, Annual Rate	-39.7	48.1	-20.4	33.9	-6.9	12.0	7.8	6.1
Single-Family	17.184	16.839	17.691	18.779	18.400	19.175	19.684	19.885
% Ch, Annual Rate	-12.8	-7.8	21.8	27.0	-7.8	17.9	11.0	4.2
Multi-Family	14.055	17.624	14.866	16.243	16.000	16.215	16.374	16.709
% Ch, Annual Rate	-59.9	147.3	-49.4	42.5	-5.8	5.5	4.0	8.4
30-Year Fixed Mortgage Rate (%)	4.36	4.23	4.14	3.97	3.73	3.91	4.15	4.49

Table A1.4 (continued)  
**Washington Economic Forecast Summary**  
Forecast 2015 to 2019

	2016:1	2016:2	2016:3	2016:4	2017:1	2017:2	2017:3	2017:4
<b>Real Income (Billions of Chained 2009 Dollars)</b>								
Real Personal Income	341.444	345.174	348.443	351.969	357.152	361.345	364.147	367.382
% Ch, Annual Rate	5.4	4.4	3.8	4.1	6.0	4.8	3.1	3.6
Real Wage and Salary Disb.	177.402	179.549	181.027	182.319	184.703	186.661	187.531	188.960
% Ch, Annual Rate	5.3	4.9	3.3	2.9	5.3	4.3	1.9	3.1
Real Nonwage Income	164.042	165.624	167.415	169.650	172.449	174.685	176.616	178.422
% Ch, Annual Rate	5.5	3.9	4.4	5.4	6.8	5.3	4.5	4.2
Real Per Capita Income (\$/Person)	47,194	47,550	47,841	48,167	48,718	49,133	49,356	49,639
% Ch, Annual Rate	4.0	3.1	2.5	2.8	4.7	3.4	1.8	2.3
<b>Price and Wage Indexes</b>								
U.S. Implicit Price Deflator, PCE (2009=1.0)	1.105	1.109	1.114	1.119	1.123	1.128	1.133	1.137
% Ch, Annual Rate	2.0	1.7	1.7	1.7	1.6	1.7	1.7	1.7
Seattle Cons. Price Index (1982-84=1.0)	2.529	2.543	2.557	2.570	2.583	2.596	2.610	2.624
% Ch, Annual Rate	2.5	2.2	2.2	2.1	2.0	2.1	2.2	2.1
Average Nonfarm Annual Wage	58,829	59,487	59,918	60,303	61,078	61,784	62,153	62,721
% Ch, Annual Rate	5.0	4.5	2.9	2.6	5.2	4.7	2.4	3.7
Avg. Hourly Earnings-Mfg. (\$/Hour)	26.19	26.37	26.54	26.71	26.88	27.06	27.25	27.44
% Ch, Annual Rate	2.7	2.7	2.6	2.6	2.6	2.7	2.8	2.8
<b>Current Dollar Income (Billions of Dollars)</b>								
Personal Income	377.212	382.936	388.210	393.768	401.113	407.510	412.420	417.865
% Ch, Annual Rate	7.5	6.2	5.6	5.9	7.7	6.5	4.9	5.4
Disposable Personal Income	329.874	334.298	338.927	343.687	349.469	355.239	359.921	365.145
% Ch, Annual Rate	6.8	5.5	5.7	5.7	6.9	6.8	5.4	5.9
Per Capita Income (\$/Person)	52,138	52,752	53,301	53,887	54,715	55,410	55,899	56,460
% Ch, Annual Rate	6.0	4.8	4.2	4.5	6.3	5.2	3.6	4.1
<b>Employment (Thousands)</b>								
Washington Civilian Labor Force	3,596.8	3,614.6	3,631.8	3,647.6	3,662.9	3,678.9	3,694.6	3,709.5
Total Washington Employment	3,383.0	3,401.8	3,419.9	3,436.6	3,452.5	3,468.6	3,483.9	3,498.5
Unemployment Rate (%)	5.95	5.89	5.83	5.78	5.75	5.72	5.70	5.69
Nonfarm Payroll Employment	3,205.2	3,223.0	3,240.7	3,257.4	3,270.3	3,281.9	3,291.9	3,302.1
% Ch, Annual Rate	2.3	2.2	2.2	2.1	1.6	1.4	1.2	1.2
Manufacturing	299.6	300.8	301.6	302.0	302.8	303.6	304.0	303.9
% Ch, Annual Rate	2.7	1.6	1.1	0.5	1.0	1.0	0.5	0.0
Durable Manufacturing	217.0	217.8	218.4	218.4	218.8	219.2	219.3	219.0
% Ch, Annual Rate	2.7	1.5	1.0	0.1	0.7	0.7	0.2	-0.5
Aerospace	90.1	89.5	88.9	88.4	87.8	87.3	86.7	86.2
% Ch, Annual Rate	-2.5	-2.5	-2.5	-2.5	-2.5	-2.5	-2.5	-2.5
Nondurable Manufacturing	82.6	83.0	83.3	83.6	84.0	84.4	84.7	84.9
% Ch, Annual Rate	2.7	1.8	1.2	1.8	1.9	1.9	1.2	1.1
Construction	174.9	176.7	179.2	182.0	184.2	186.3	187.9	190.1
% Ch, Annual Rate	5.3	4.0	5.8	6.5	4.9	4.6	3.5	4.8
Service-Providing	2,724.5	2,739.4	2,753.8	2,767.2	2,777.1	2,785.7	2,793.7	2,801.6
% Ch, Annual Rate	2.1	2.2	2.1	2.0	1.4	1.3	1.2	1.1
Software Publishers	55.0	55.2	55.4	55.6	55.8	56.0	56.2	56.4
% Ch, Annual Rate	0.7	1.4	1.4	1.3	1.3	1.5	1.7	1.6
<b>Housing Indicators (Thousands)</b>								
Housing Units Authorized by Bldg. Permit	37.182	38.229	38.852	40.556	41.469	41.710	42.114	42.431
% Ch, Annual Rate	6.6	11.7	6.7	18.7	9.3	2.3	3.9	3.0
Single-Family	20.536	21.193	22.061	23.687	24.728	25.381	25.774	26.100
% Ch, Annual Rate	13.7	13.4	17.4	32.9	18.8	11.0	6.3	5.2
Multi-Family	16.646	17.035	16.792	16.869	16.741	16.330	16.340	16.331
% Ch, Annual Rate	-1.5	9.7	-5.6	1.9	-3.0	-9.5	0.2	-0.2
30-Year Fixed Mortgage Rate (%)	4.88	5.32	5.56	5.66	5.71	5.74	5.76	5.76

Table A1.4 (continued)  
**Washington Economic Forecast Summary**  
Forecast 2015 to 2019

	2018:1	2018:2	2018:3	2018:4	2019:1	2019:2	2019:3	2019:4
<b>Real Income (Billions of Chained 2009 Dollars)</b>								
Real Personal Income	371.549	374.998	377.208	380.134	384.277	387.636	389.614	392.485
% Ch, Annual Rate	4.6	3.8	2.4	3.1	4.4	3.5	2.1	3.0
Real Wage and Salary Disb.	191.294	193.319	194.252	195.927	198.382	200.454	201.240	202.877
% Ch, Annual Rate	5.0	4.3	1.9	3.5	5.1	4.2	1.6	3.3
Real Nonwage Income	180.255	181.678	182.957	184.207	185.895	187.181	188.374	189.609
% Ch, Annual Rate	4.2	3.2	2.8	2.8	3.7	2.8	2.6	2.6
Real Per Capita Income (\$/Person)	50,046	50,354	50,493	50,726	51,119	51,403	51,502	51,717
% Ch, Annual Rate	3.3	2.5	1.1	1.9	3.1	2.2	0.8	1.7
<b>Price and Wage Indexes</b>								
U.S. Implicit Price Deflator, PCE (2009=1.0)	1.142	1.147	1.153	1.158	1.163	1.168	1.173	1.178
% Ch, Annual Rate	1.8	1.8	1.8	1.8	1.7	1.7	1.8	1.7
Seattle Cons. Price Index (1982-84=1.0)	2.638	2.652	2.666	2.680	2.694	2.708	2.723	2.737
% Ch, Annual Rate	2.1	2.1	2.2	2.1	2.1	2.1	2.2	2.1
Average Nonfarm Annual Wage	63,573	64,358	64,761	65,432	66,308	67,089	67,442	68,096
% Ch, Annual Rate	5.5	5.0	2.5	4.2	5.5	4.8	2.1	3.9
Avg. Hourly Earnings-Mfg. (\$/Hour)	27.63	27.83	28.03	28.23	28.43	28.62	28.82	29.01
% Ch, Annual Rate	2.8	2.9	2.9	2.9	2.9	2.8	2.7	2.7
<b>Current Dollar Income (Billions of Dollars)</b>								
Personal Income	424.451	430.275	434.761	440.048	446.765	452.623	456.962	462.330
% Ch, Annual Rate	6.5	5.6	4.2	5.0	6.2	5.3	3.9	4.8
Disposable Personal Income	370.200	375.689	379.994	384.920	391.010	396.499	400.689	405.849
% Ch, Annual Rate	5.7	6.1	4.7	5.3	6.5	5.7	4.3	5.3
Per Capita Income (\$/Person)	57,172	57,776	58,197	58,721	59,431	60,021	60,405	60,920
% Ch, Annual Rate	5.1	4.3	2.9	3.7	4.9	4.0	2.6	3.5
<b>Employment (Thousands)</b>								
Washington Civilian Labor Force	3,725.4	3,741.9	3,759.3	3,773.9	3,789.0	3,804.7	3,818.3	3,830.9
Total Washington Employment	3,514.1	3,530.2	3,547.4	3,561.6	3,576.7	3,592.1	3,605.6	3,618.5
Unemployment Rate (%)	5.67	5.66	5.64	5.62	5.60	5.59	5.57	5.54
Nonfarm Payroll Employment	3,312.0	3,321.8	3,332.3	3,342.2	3,353.4	3,364.5	3,375.2	3,385.7
% Ch, Annual Rate	1.2	1.2	1.3	1.2	1.3	1.3	1.3	1.2
Manufacturing	304.0	304.3	304.5	304.8	304.5	304.3	304.0	303.9
% Ch, Annual Rate	0.1	0.3	0.3	0.4	-0.4	-0.2	-0.4	-0.2
Durable Manufacturing	218.9	219.0	219.2	219.4	219.0	218.7	218.3	218.0
% Ch, Annual Rate	-0.2	0.2	0.3	0.3	-0.6	-0.6	-0.7	-0.6
Aerospace	85.7	85.3	84.9	84.4	84.0	83.6	83.2	82.8
% Ch, Annual Rate	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0
Nondurable Manufacturing	85.1	85.2	85.3	85.4	85.4	85.6	85.7	85.8
% Ch, Annual Rate	0.8	0.7	0.2	0.7	0.2	0.6	0.5	0.6
Construction	192.1	194.0	196.2	198.1	199.9	201.4	202.6	203.8
% Ch, Annual Rate	4.3	3.9	4.5	4.1	3.6	3.1	2.5	2.2
Service-Providing	2,809.4	2,817.1	2,825.2	2,832.8	2,842.5	2,852.2	2,861.9	2,871.4
% Ch, Annual Rate	1.1	1.1	1.2	1.1	1.4	1.4	1.4	1.3
Software Publishers	56.6	56.8	57.0	57.2	57.4	57.6	57.8	58.0
% Ch, Annual Rate	1.4	1.3	1.4	1.5	1.5	1.4	1.4	1.3
<b>Housing Indicators (Thousands)</b>								
Housing Units Authorized by Bldg. Permit	42.681	43.032	43.466	43.619	43.866	43.882	43.969	44.118
% Ch, Annual Rate	2.4	3.3	4.1	1.4	2.3	0.2	0.8	1.4
Single-Family	26.432	26.813	27.064	27.203	27.223	27.337	27.473	27.559
% Ch, Annual Rate	5.2	5.9	3.8	2.1	0.3	1.7	2.0	1.3
Multi-Family	16.250	16.219	16.402	16.416	16.643	16.546	16.497	16.559
% Ch, Annual Rate	-2.0	-0.8	4.6	0.3	5.6	-2.3	-1.2	1.5
30-Year Fixed Mortgage Rate (%)	5.75	5.73	5.70	5.68	5.67	5.67	5.67	5.68

Table A2.1

**U.S. Nonagricultural Employment by Industry (Millions)**

Forecast 2015 to 2019

	2012	2013	2014	2015	2016	2017	2018	2019
Nonfarm Payroll Employment	134.10	136.39	139.02	142.21	145.00	147.12	148.45	149.64
% Ch	1.7	1.7	1.9	2.3	2.0	1.5	0.9	0.8
Manufacturing	11.93	12.02	12.19	12.46	12.75	12.85	12.79	12.67
% Ch	1.7	0.8	1.4	2.3	2.3	0.8	-0.4	-1.0
Durable Manufacturing	7.47	7.55	7.69	7.93	8.19	8.28	8.25	8.15
% Ch	2.7	1.0	1.9	3.2	3.2	1.2	-0.4	-1.2
Wood Products	0.34	0.35	0.37	0.40	0.44	0.46	0.47	0.48
% Ch	0.7	4.2	5.3	6.4	10.3	4.6	2.2	1.9
Primary and Fabricated Metals	1.81	1.83	1.86	1.92	2.02	2.06	2.06	2.04
% Ch	4.3	0.8	1.6	3.6	5.2	2.1	-0.2	-0.9
Computer and Electronic Products	1.09	1.07	1.05	1.07	1.10	1.09	1.08	1.08
% Ch	-1.3	-2.2	-1.4	2.2	2.6	-1.2	-0.4	-0.9
Machinery and Electrical Equipment	1.47	1.48	1.50	1.55	1.58	1.59	1.59	1.57
% Ch	3.5	0.5	1.7	2.8	2.0	0.7	-0.1	-0.8
Transportation Equipment	1.46	1.51	1.56	1.60	1.61	1.63	1.61	1.58
% Ch	5.8	3.3	3.6	2.2	0.5	1.7	-1.1	-2.2
Other Durables	1.30	1.31	1.34	1.39	1.44	1.45	1.44	1.41
% Ch	0.3	1.3	2.1	3.8	3.6	0.6	-1.1	-2.1
Nondurable Manufacturing	4.46	4.47	4.50	4.54	4.56	4.56	4.55	4.51
% Ch	0.1	0.3	0.7	0.7	0.5	0.1	-0.4	-0.7
Food Manufacturing	1.47	1.47	1.48	1.50	1.52	1.55	1.56	1.56
% Ch	0.7	0.3	0.5	1.1	1.8	1.5	0.6	0.0
Paper and Paper Products	0.38	0.38	0.37	0.37	0.37	0.37	0.37	0.37
% Ch	-1.9	-0.5	-1.7	-0.4	0.8	0.4	-0.7	-1.2
Other Nondurables	2.61	2.62	2.65	2.67	2.66	2.64	2.62	2.59
% Ch	0.0	0.5	1.1	0.7	-0.2	-0.7	-1.0	-1.0
Natural Resources and Mining	0.85	0.86	0.90	0.87	0.86	0.89	0.91	0.93
% Ch	7.6	1.8	3.8	-3.4	-1.0	4.0	2.5	1.5
Construction	5.65	5.86	6.14	6.50	6.92	7.45	7.92	8.25
% Ch	2.1	3.7	4.8	5.9	6.5	7.6	6.3	4.2
Trade, Transportation, and Utilities	25.47	25.86	26.38	26.96	27.36	27.67	27.79	27.87
% Ch	1.6	1.5	2.0	2.2	1.5	1.1	0.5	0.3
Wholesale Trade	5.67	5.73	5.83	5.95	6.09	6.22	6.31	6.39
% Ch	2.2	1.2	1.6	2.0	2.4	2.2	1.5	1.2
Retail Trade	14.84	15.07	15.36	15.66	15.72	15.73	15.65	15.61
% Ch	1.1	1.6	1.9	1.9	0.4	0.1	-0.5	-0.2
Trans., Warehousing, and Utilities	4.97	5.05	5.19	5.36	5.55	5.71	5.83	5.87
% Ch	2.3	1.6	2.7	3.2	3.6	3.0	2.0	0.8
Information	2.68	2.71	2.74	2.78	2.82	2.83	2.86	2.91
% Ch	0.1	1.2	1.3	1.6	1.2	0.7	0.8	1.7
Publishing Industries	0.74	0.73	0.72	0.71	0.69	0.68	0.68	0.68
% Ch	-1.3	-0.9	-1.1	-1.6	-3.3	-0.7	-0.3	-0.4
Other Information	1.94	1.97	2.02	2.07	2.13	2.15	2.17	2.23
% Ch	0.6	1.9	2.1	2.7	2.8	1.1	1.1	2.4
Financial Activities	7.78	7.89	7.98	8.08	8.07	7.98	7.89	7.86
% Ch	1.1	1.3	1.2	1.3	-0.1	-1.1	-1.2	-0.3
Professional and Business Services	17.93	18.52	19.10	19.99	21.10	21.71	21.92	22.19
% Ch	3.5	3.3	3.1	4.7	5.6	2.9	0.9	1.2
Education and Health Services	20.70	21.10	21.47	21.96	22.38	22.58	22.71	22.86
% Ch	2.3	1.9	1.8	2.3	1.9	0.9	0.6	0.7
Leisure and Hospitality	13.77	14.26	14.71	15.10	15.24	15.45	15.69	15.83
% Ch	3.2	3.5	3.2	2.7	0.9	1.4	1.6	0.9
Other Services	5.43	5.48	5.57	5.62	5.59	5.55	5.55	5.56
% Ch	1.3	1.0	1.6	0.8	-0.4	-0.8	0.0	0.1
Federal Government	2.82	2.77	2.73	2.72	2.68	2.65	2.61	2.58
% Ch	-1.3	-1.8	-1.6	-0.3	-1.3	-1.4	-1.5	-1.1
State and Local Government	19.10	19.08	19.13	19.18	19.24	19.51	19.82	20.13
% Ch	-0.7	-0.1	0.3	0.2	0.3	1.4	1.6	1.6

Table A2.2

**U.S. Nonagricultural Employment by Industry (Millions)**

Forecast 2015 to 2019

	2014:1	2014:2	2014:3	2014:4	2015:1	2015:2	2015:3	2015:4
Nonfarm Payroll Employment	137.84	138.64	139.38	140.23	141.12	141.89	142.58	143.26
% Ch, Annual Rate	1.6	2.3	2.2	2.5	2.6	2.2	1.9	1.9
Manufacturing	12.12	12.16	12.20	12.28	12.36	12.44	12.48	12.58
% Ch, Annual Rate	1.7	1.3	1.5	2.4	2.7	2.7	1.2	3.3
Durable Manufacturing	7.61	7.66	7.71	7.77	7.83	7.90	7.95	8.03
% Ch, Annual Rate	1.6	2.4	2.5	3.1	3.5	3.6	2.5	4.4
Wood Products	0.37	0.37	0.37	0.38	0.38	0.39	0.40	0.41
% Ch, Annual Rate	6.6	5.7	4.0	2.8	5.3	7.7	12.0	12.6
Primary and Fabricated Metals	1.84	1.85	1.86	1.87	1.88	1.91	1.94	1.97
% Ch, Annual Rate	1.5	1.4	1.9	3.5	2.3	5.0	6.2	6.3
Computer and Electronic Products	1.05	1.05	1.05	1.05	1.06	1.07	1.08	1.09
% Ch, Annual Rate	-2.3	-1.3	0.6	1.6	3.4	2.0	3.7	3.8
Machinery and Electrical Equipment	1.49	1.50	1.51	1.52	1.52	1.54	1.55	1.57
% Ch, Annual Rate	2.1	2.9	1.9	2.0	2.4	3.5	3.5	5.3
Transportation Equipment	1.54	1.55	1.57	1.59	1.61	1.62	1.58	1.58
% Ch, Annual Rate	2.8	4.7	4.7	3.9	6.1	1.3	-8.1	-0.6
Other Durables	1.33	1.34	1.35	1.36	1.37	1.38	1.40	1.42
% Ch, Annual Rate	1.4	2.7	2.8	4.1	2.8	4.5	5.6	4.5
Nondurable Manufacturing	4.51	4.50	4.50	4.51	4.53	4.54	4.53	4.54
% Ch, Annual Rate	2.0	-0.6	-0.2	1.2	1.5	1.2	-1.0	1.4
Food Manufacturing	1.49	1.48	1.47	1.48	1.49	1.50	1.49	1.51
% Ch, Annual Rate	2.9	-2.9	-1.5	1.2	3.1	1.5	-0.6	3.5
Paper and Paper Products	0.37	0.37	0.37	0.37	0.37	0.37	0.37	0.37
% Ch, Annual Rate	-1.2	-1.4	-4.0	-1.6	-0.1	4.2	-2.2	0.9
Other Nondurables	2.64	2.65	2.65	2.66	2.67	2.67	2.67	2.67
% Ch, Annual Rate	2.0	0.8	1.1	1.6	0.8	0.7	-1.1	0.3
Natural Resources and Mining	0.88	0.89	0.90	0.91	0.90	0.87	0.85	0.84
% Ch, Annual Rate	3.4	5.1	7.2	3.7	-7.3	-11.8	-6.4	-4.1
Construction	6.03	6.11	6.17	6.24	6.35	6.45	6.54	6.65
% Ch, Annual Rate	6.7	5.4	3.8	4.3	7.5	6.2	6.3	6.8
Trade, Transportation, and Utilities	26.16	26.31	26.44	26.60	26.76	26.91	27.03	27.13
% Ch, Annual Rate	1.3	2.2	2.0	2.5	2.5	2.1	1.9	1.5
Wholesale Trade	5.79	5.82	5.84	5.86	5.90	5.92	5.96	6.00
% Ch, Annual Rate	2.2	2.1	1.6	1.6	2.4	1.5	3.0	2.6
Retail Trade	15.25	15.33	15.39	15.48	15.57	15.66	15.69	15.70
% Ch, Annual Rate	0.7	2.0	1.6	2.3	2.4	2.3	0.9	0.2
Trans., Warehousing, and Utilities	5.12	5.16	5.21	5.26	5.29	5.33	5.37	5.43
% Ch, Annual Rate	2.2	3.2	3.5	4.1	2.8	2.4	3.6	4.2
Information	2.72	2.73	2.75	2.76	2.78	2.80	2.78	2.78
% Ch, Annual Rate	-0.3	0.9	3.2	1.5	2.9	2.3	-2.8	0.7
Publishing Industries	0.73	0.73	0.72	0.72	0.72	0.72	0.71	0.70
% Ch, Annual Rate	-1.1	-1.1	-0.7	-1.3	-1.4	-0.3	-3.1	-6.1
Other Information	1.99	2.00	2.03	2.04	2.06	2.08	2.06	2.08
% Ch, Annual Rate	0.0	1.7	4.6	2.5	4.5	3.2	-2.6	3.1
Financial Activities	7.93	7.95	8.00	8.04	8.07	8.07	8.09	8.10
% Ch, Annual Rate	0.8	1.3	2.1	2.0	1.8	0.0	1.0	0.5
Professional and Business Services	18.83	19.01	19.18	19.36	19.57	19.83	20.13	20.42
% Ch, Annual Rate	2.5	3.9	3.6	3.9	4.4	5.4	6.2	6.0
Education and Health Services	21.28	21.40	21.54	21.66	21.81	21.94	22.02	22.07
% Ch, Annual Rate	1.2	2.4	2.6	2.3	2.7	2.4	1.6	0.9
Leisure and Hospitality	14.53	14.66	14.75	14.89	15.00	15.08	15.14	15.19
% Ch, Annual Rate	2.6	3.6	2.6	3.8	2.8	2.2	1.7	1.2
Other Services	5.54	5.57	5.58	5.60	5.62	5.62	5.62	5.61
% Ch, Annual Rate	1.9	2.0	0.8	1.5	1.3	0.0	-0.1	-0.2
Federal Government	2.73	2.73	2.73	2.73	2.73	2.72	2.72	2.71
% Ch, Annual Rate	-1.9	-0.5	-0.1	0.2	0.2	-0.8	-1.0	-1.4
State and Local Government	19.09	19.12	19.14	19.17	19.17	19.18	19.18	19.17
% Ch, Annual Rate	0.0	0.6	0.5	0.5	0.2	0.1	-0.1	-0.1

Table A2.2 (continued)

**U.S. Nonagricultural Employment by Industry (Millions)**

Forecast 2015 to 2019

	2016:1	2016:2	2016:3	2016:4	2017:1	2017:2	2017:3	2017:4
Nonfarm Payroll Employment	143.95	144.68	145.37	146.01	146.51	146.95	147.34	147.69
% Ch, Annual Rate	2.0	2.0	1.9	1.8	1.4	1.2	1.1	0.9
Manufacturing	12.68	12.74	12.78	12.79	12.82	12.86	12.87	12.84
% Ch, Annual Rate	3.1	2.1	1.2	0.3	1.2	1.1	0.2	-0.8
Durable Manufacturing	8.12	8.18	8.22	8.23	8.26	8.29	8.30	8.28
% Ch, Annual Rate	4.3	3.1	1.9	0.4	1.7	1.6	0.4	-1.1
Wood Products	0.42	0.43	0.44	0.45	0.45	0.46	0.46	0.46
% Ch, Annual Rate	11.5	10.4	7.3	3.8	5.1	3.5	3.0	1.7
Primary and Fabricated Metals	1.99	2.02	2.04	2.05	2.06	2.06	2.07	2.07
% Ch, Annual Rate	5.3	5.0	4.1	2.0	1.9	1.8	0.8	-0.6
Computer and Electronic Products	1.10	1.10	1.11	1.10	1.09	1.09	1.09	1.08
% Ch, Annual Rate	4.3	1.7	0.6	-2.0	-2.1	-1.2	-1.0	-1.2
Machinery and Electrical Equipment	1.58	1.58	1.58	1.57	1.58	1.59	1.59	1.59
% Ch, Annual Rate	2.6	-1.2	0.4	-1.8	2.2	2.7	1.1	-0.9
Transportation Equipment	1.59	1.61	1.61	1.61	1.63	1.64	1.64	1.63
% Ch, Annual Rate	3.3	3.7	-0.1	2.0	3.6	2.1	-0.1	-2.0
Other Durables	1.43	1.44	1.45	1.45	1.45	1.45	1.45	1.45
% Ch, Annual Rate	3.8	3.5	2.0	-0.6	0.7	1.1	0.0	-1.6
Nondurable Manufacturing	4.56	4.56	4.56	4.56	4.56	4.57	4.56	4.56
% Ch, Annual Rate	1.0	0.4	0.0	0.1	0.2	0.3	-0.2	-0.3
Food Manufacturing	1.52	1.52	1.53	1.53	1.54	1.55	1.55	1.55
% Ch, Annual Rate	2.5	1.7	0.7	1.8	1.8	1.7	1.1	1.0
Paper and Paper Products	0.37	0.37	0.37	0.37	0.37	0.37	0.37	0.37
% Ch, Annual Rate	1.7	0.8	0.8	0.4	0.6	0.4	-0.3	-0.6
Other Nondurables	2.67	2.67	2.66	2.66	2.65	2.65	2.64	2.63
% Ch, Annual Rate	0.0	-0.3	-0.6	-0.9	-0.7	-0.5	-1.0	-0.9
Natural Resources and Mining	0.84	0.85	0.86	0.87	0.88	0.89	0.89	0.90
% Ch, Annual Rate	-0.6	2.8	5.3	6.1	3.9	2.5	3.4	2.7
Construction	6.75	6.86	6.97	7.10	7.24	7.38	7.52	7.65
% Ch, Annual Rate	6.0	6.4	6.8	7.6	8.3	8.1	7.5	7.0
Trade, Transportation, and Utilities	27.20	27.29	27.41	27.52	27.57	27.64	27.71	27.75
% Ch, Annual Rate	1.1	1.4	1.7	1.5	0.8	1.0	1.0	0.5
Wholesale Trade	6.03	6.07	6.11	6.15	6.18	6.21	6.23	6.25
% Ch, Annual Rate	1.8	2.4	2.7	2.9	2.1	1.6	1.7	1.4
Retail Trade	15.70	15.71	15.73	15.74	15.72	15.73	15.74	15.73
% Ch, Annual Rate	0.0	0.2	0.6	0.2	-0.5	0.2	0.3	-0.4
Trans., Warehousing, and Utilities	5.47	5.52	5.57	5.62	5.66	5.70	5.73	5.76
% Ch, Annual Rate	3.3	3.6	3.7	3.7	2.9	2.5	2.4	2.2
Information	2.78	2.82	2.84	2.82	2.83	2.84	2.83	2.83
% Ch, Annual Rate	0.0	5.3	3.9	-2.8	1.6	1.3	-1.5	-1.0
Publishing Industries	0.69	0.69	0.69	0.69	0.69	0.69	0.68	0.68
% Ch, Annual Rate	-5.2	-2.0	-0.3	-0.6	-0.8	-0.5	-0.3	-0.7
Other Information	2.09	2.13	2.16	2.14	2.15	2.16	2.15	2.14
% Ch, Annual Rate	1.8	7.8	5.2	-3.5	2.3	1.9	-1.8	-1.0
Financial Activities	8.10	8.09	8.06	8.04	8.03	8.00	7.97	7.94
% Ch, Annual Rate	0.0	-0.6	-1.5	-0.8	-0.5	-1.4	-1.7	-1.6
Professional and Business Services	20.70	20.95	21.24	21.51	21.65	21.70	21.73	21.77
% Ch, Annual Rate	5.5	5.0	5.6	5.2	2.7	0.7	0.6	0.8
Education and Health Services	22.20	22.36	22.44	22.51	22.52	22.56	22.59	22.65
% Ch, Annual Rate	2.3	3.0	1.3	1.3	0.2	0.7	0.6	1.0
Leisure and Hospitality	15.22	15.22	15.25	15.29	15.33	15.41	15.49	15.57
% Ch, Annual Rate	0.9	0.0	0.8	1.0	1.3	1.9	2.2	2.1
Other Services	5.61	5.60	5.59	5.58	5.56	5.55	5.55	5.54
% Ch, Annual Rate	-0.3	-0.6	-0.9	-0.8	-1.2	-0.8	-0.2	-0.1
Federal Government	2.70	2.69	2.68	2.67	2.66	2.65	2.64	2.63
% Ch, Annual Rate	-1.2	-1.7	-1.4	-1.5	-1.1	-1.2	-1.6	-1.7
State and Local Government	19.18	19.21	19.25	19.32	19.40	19.47	19.55	19.63
% Ch, Annual Rate	0.2	0.6	1.0	1.4	1.6	1.5	1.7	1.6



Table A2.2 (continued)

**U.S. Nonagricultural Employment by Industry (Millions)**

Forecast 2015 to 2019

	2018:1	2018:2	2018:3	2018:4	2019:1	2019:2	2019:3	2019:4
Nonfarm Payroll Employment	148.01	148.31	148.61	148.88	149.19	149.49	149.79	150.07
% Ch, Annual Rate	0.9	0.8	0.8	0.7	0.8	0.8	0.8	0.8
Manufacturing	12.82	12.80	12.79	12.77	12.73	12.69	12.65	12.60
% Ch, Annual Rate	-0.8	-0.4	-0.5	-0.5	-1.3	-1.2	-1.5	-1.4
Durable Manufacturing	8.26	8.25	8.25	8.24	8.21	8.17	8.14	8.10
% Ch, Annual Rate	-1.0	-0.2	-0.3	-0.5	-1.6	-1.5	-1.9	-1.8
Wood Products	0.46	0.47	0.47	0.47	0.47	0.47	0.48	0.48
% Ch, Annual Rate	1.5	2.1	3.0	3.1	1.0	0.9	2.1	3.1
Primary and Fabricated Metals	2.06	2.06	2.06	2.06	2.05	2.05	2.04	2.03
% Ch, Annual Rate	-0.7	-0.2	-0.5	-0.6	-0.9	-0.9	-1.5	-1.6
Computer and Electronic Products	1.08	1.08	1.09	1.09	1.08	1.08	1.07	1.07
% Ch, Annual Rate	-0.5	0.0	1.1	0.7	-1.9	-2.0	-1.5	-1.2
Machinery and Electrical Equipment	1.59	1.59	1.59	1.59	1.58	1.58	1.57	1.57
% Ch, Annual Rate	-0.8	-0.1	-0.1	0.0	-1.4	-1.0	-1.5	-1.1
Transportation Equipment	1.62	1.62	1.61	1.61	1.60	1.59	1.57	1.56
% Ch, Annual Rate	-2.0	-0.7	-1.1	-1.8	-2.4	-2.2	-3.3	-3.8
Other Durables	1.44	1.44	1.43	1.43	1.42	1.41	1.40	1.39
% Ch, Annual Rate	-1.7	-0.8	-1.4	-1.3	-2.3	-2.5	-3.0	-3.0
Nondurable Manufacturing	4.56	4.55	4.54	4.53	4.53	4.52	4.51	4.50
% Ch, Annual Rate	-0.4	-0.6	-0.9	-0.5	-0.8	-0.6	-0.7	-0.7
Food Manufacturing	1.56	1.56	1.56	1.56	1.56	1.56	1.56	1.56
% Ch, Annual Rate	0.6	0.3	-0.2	0.3	-0.4	0.3	0.2	0.4
Paper and Paper Products	0.37	0.37	0.37	0.37	0.37	0.37	0.37	0.37
% Ch, Annual Rate	-0.8	-0.9	-1.4	-1.0	-1.6	-1.1	-1.2	-0.9
Other Nondurables	2.63	2.62	2.61	2.61	2.60	2.59	2.59	2.58
% Ch, Annual Rate	-1.0	-1.1	-1.2	-0.8	-0.9	-1.1	-1.3	-1.3
Natural Resources and Mining	0.91	0.91	0.92	0.92	0.92	0.92	0.93	0.93
% Ch, Annual Rate	2.8	2.2	2.0	1.6	1.8	0.5	1.3	1.0
Construction	7.77	7.87	7.97	8.06	8.14	8.21	8.29	8.36
% Ch, Annual Rate	6.4	5.6	5.2	4.6	3.9	3.6	3.6	3.7
Trade, Transportation, and Utilities	27.77	27.78	27.80	27.81	27.84	27.86	27.89	27.90
% Ch, Annual Rate	0.4	0.1	0.3	0.2	0.5	0.3	0.3	0.2
Wholesale Trade	6.28	6.30	6.32	6.34	6.36	6.38	6.39	6.41
% Ch, Annual Rate	1.6	1.1	1.5	1.3	1.4	0.9	1.0	0.8
Retail Trade	15.70	15.66	15.64	15.62	15.62	15.62	15.62	15.61
% Ch, Annual Rate	-0.8	-0.9	-0.5	-0.5	-0.1	0.0	0.0	-0.1
Trans., Warehousing, and Utilities	5.80	5.83	5.84	5.85	5.86	5.87	5.88	5.88
% Ch, Annual Rate	2.4	1.9	0.9	0.8	1.0	0.4	0.4	0.3
Information	2.84	2.85	2.86	2.87	2.88	2.90	2.91	2.93
% Ch, Annual Rate	1.7	1.9	1.7	0.9	1.7	2.2	2.2	1.6
Publishing Industries	0.68	0.68	0.68	0.68	0.68	0.68	0.68	0.68
% Ch, Annual Rate	-0.1	-0.5	-0.1	0.0	-0.2	-0.8	-0.9	-1.2
Other Information	2.16	2.17	2.18	2.19	2.20	2.22	2.24	2.25
% Ch, Annual Rate	2.3	2.6	2.3	1.1	2.4	3.1	3.2	2.5
Financial Activities	7.92	7.89	7.88	7.85	7.85	7.86	7.87	7.87
% Ch, Annual Rate	-0.8	-1.3	-0.9	-1.1	-0.1	0.3	0.4	0.2
Professional and Business Services	21.84	21.89	21.94	21.98	22.08	22.14	22.22	22.31
% Ch, Annual Rate	1.3	0.9	0.8	0.8	1.7	1.2	1.4	1.7
Education and Health Services	22.66	22.70	22.73	22.75	22.80	22.85	22.88	22.92
% Ch, Annual Rate	0.1	0.7	0.5	0.4	0.9	0.9	0.6	0.6
Leisure and Hospitality	15.62	15.67	15.72	15.77	15.78	15.81	15.85	15.88
% Ch, Annual Rate	1.2	1.2	1.3	1.2	0.3	0.9	1.0	0.8
Other Services	5.55	5.55	5.55	5.55	5.56	5.56	5.56	5.56
% Ch, Annual Rate	0.4	-0.1	0.3	0.1	0.4	-0.1	0.0	-0.1
Federal Government	2.62	2.61	2.60	2.59	2.59	2.58	2.57	2.57
% Ch, Annual Rate	-1.5	-1.5	-1.4	-1.4	-0.9	-1.0	-0.8	-0.7
State and Local Government	19.70	19.78	19.86	19.94	20.01	20.10	20.17	20.25
% Ch, Annual Rate	1.4	1.6	1.6	1.6	1.6	1.6	1.6	1.4

Table A2.3

**Washington Nonagricultural Employment by Industry (Thousands)**

Forecast 2015 to 2019

	2012	2013	2014	2015	2016	2017	2018	2019
Nonfarm Payroll Employment	2,921.5	2,990.2	3,071.1	3,160.7	3,231.6	3,286.6	3,327.1	3,369.7
% Ch	1.7	2.4	2.7	2.9	2.2	1.7	1.2	1.3
Manufacturing	280.3	286.6	288.7	295.0	301.0	303.6	304.4	304.2
% Ch	4.3	2.3	0.7	2.2	2.1	0.8	0.3	-0.1
Durable Manufacturing	204.5	209.6	209.8	213.6	217.9	219.1	219.1	218.5
% Ch	5.8	2.5	0.1	1.8	2.0	0.5	0.0	-0.3
Wood Products	12.4	13.0	13.4	14.3	15.5	16.0	16.2	16.3
% Ch	-1.4	4.7	2.7	7.2	8.2	3.2	1.0	0.8
Primary and Fabricated Metals	24.2	24.9	25.5	27.0	29.1	30.3	30.6	30.5
% Ch	5.9	3.0	2.4	5.6	7.9	4.0	0.9	-0.3
Computer and Electronic Products	20.2	20.1	20.2	21.1	22.2	22.2	22.5	22.6
% Ch	2.5	-0.2	0.1	4.5	5.6	0.0	1.2	0.5
Machinery and Electrical Equipment	18.4	19.7	20.9	22.5	24.0	25.2	26.1	26.9
% Ch	6.6	6.7	6.3	7.7	6.6	4.9	3.7	2.8
Aerospace	94.2	96.3	93.8	91.5	89.2	87.0	85.1	83.4
% Ch	8.8	2.2	-2.6	-2.4	-2.5	-2.5	-2.2	-2.0
Other Transportation Equip.	10.0	9.7	9.6	9.4	9.2	9.0	8.8	8.6
% Ch	8.4	-3.3	-1.0	-2.6	-1.8	-1.9	-2.6	-1.9
Other Durables	25.0	25.9	26.4	27.8	28.6	29.3	29.9	30.3
% Ch	0.1	3.2	2.1	5.2	3.0	2.5	1.9	1.3
Nondurable Manufacturing	75.7	77.0	78.9	81.4	83.1	84.5	85.2	85.6
% Ch	0.6	1.7	2.5	3.2	2.1	1.7	0.9	0.5
Food Manufacturing	34.8	35.7	36.4	37.7	38.5	39.2	39.5	39.4
% Ch	0.5	2.5	2.0	3.5	2.3	1.8	0.7	-0.1
Paper and Paper Products	8.2	8.2	8.1	8.0	8.1	8.1	8.1	8.0
% Ch	-8.8	-0.5	-0.5	-1.1	0.9	0.4	-0.8	-1.3
Other Nondurables	32.7	33.1	34.4	35.7	36.5	37.1	37.7	38.3
% Ch	3.3	1.3	3.7	4.0	2.2	1.7	1.5	1.5
Natural Resources and Mining	5.9	6.1	6.2	6.1	6.1	6.3	6.4	6.6
% Ch	-1.2	3.2	1.8	-2.0	0.6	3.1	2.1	2.3
Construction	139.0	148.8	158.1	169.8	178.2	187.1	195.1	201.9
% Ch	1.9	7.0	6.2	7.4	5.0	5.0	4.3	3.5
Trade, Transportation, and Utilities	536.0	550.8	568.9	585.8	595.5	603.0	607.1	611.3
% Ch	2.1	2.8	3.3	3.0	1.6	1.3	0.7	0.7
Wholesale Trade	124.0	127.1	130.8	134.4	137.6	140.3	142.4	144.4
% Ch	1.9	2.5	2.9	2.7	2.4	2.0	1.5	1.5
Retail Trade	319.3	329.7	341.0	352.9	356.5	358.9	359.1	360.3
% Ch	2.1	3.3	3.4	3.5	1.0	0.7	0.1	0.3
Trans., Warehousing, and Utilities	92.7	94.0	97.1	98.5	101.4	103.9	105.7	106.6
% Ch	2.2	1.4	3.2	1.5	2.9	2.5	1.7	0.9
Information	104.7	106.5	110.1	112.2	114.2	115.9	117.7	120.4
% Ch	0.5	1.7	3.4	1.9	1.7	1.5	1.6	2.2
Software Publishers	52.4	53.9	55.6	54.9	55.3	56.1	56.9	57.7
% Ch	1.4	3.0	3.1	-1.3	0.8	1.4	1.4	1.4
Other Publishing Industries	7.5	7.0	6.6	6.5	5.9	5.7	5.5	5.3
% Ch	-4.4	-6.7	-5.0	-2.6	-7.9	-4.0	-3.6	-3.8
Other Information	44.8	45.5	47.8	50.9	52.9	54.1	55.3	57.3
% Ch	0.3	1.6	5.0	6.3	4.0	2.2	2.3	3.6
Financial Activities	144.1	150.1	152.9	155.2	154.5	152.0	149.3	148.5
% Ch	2.4	4.1	1.8	1.5	-0.4	-1.7	-1.8	-0.5
Professional and Business Services	349.9	360.3	371.8	391.3	414.7	429.2	436.4	445.0
% Ch	3.1	2.9	3.2	5.3	6.0	3.5	1.7	2.0
Education and Health Services	432.3	438.9	452.0	466.8	478.8	486.8	493.1	500.1
% Ch	0.5	1.5	3.0	3.3	2.6	1.7	1.3	1.4
Leisure and Hospitality	277.2	287.4	296.6	302.8	307.2	312.2	317.5	321.7
% Ch	2.4	3.7	3.2	2.1	1.5	1.6	1.7	1.3
Other Services	110.9	111.3	114.0	115.6	116.7	117.5	118.7	119.9
% Ch	2.2	0.4	2.4	1.5	0.9	0.7	1.0	1.0
Federal Government	73.1	71.6	71.4	72.2	71.7	71.2	70.5	70.2
% Ch	-1.1	-2.1	-0.3	1.1	-0.7	-0.7	-0.9	-0.5
State and Local Government	468.0	471.6	480.5	487.9	492.9	501.6	510.7	520.0
% Ch	-0.3	0.8	1.9	1.5	1.0	1.8	1.8	1.8

Table A2.4

**Washington Nonagricultural Employment by Industry (Thousands)**

Forecast 2015 to 2019

	2014:1	2014:2	2014:3	2014:4	2015:1	2015:2	2015:3	2015:4
Nonfarm Payroll Employment	3,041.8	3,051.9	3,084.9	3,105.6	3,134.1	3,152.1	3,169.3	3,187.1
% Ch, Annual Rate	3.4	1.3	4.4	2.7	3.7	2.3	2.2	2.3
Manufacturing	287.4	288.3	289.0	290.0	292.8	294.2	295.3	297.7
% Ch, Annual Rate	1.2	1.3	0.9	1.3	4.0	1.9	1.5	3.3
Durable Manufacturing	209.1	209.2	210.3	210.6	212.0	212.8	213.9	215.6
% Ch, Annual Rate	-0.3	0.2	2.1	0.7	2.6	1.5	2.0	3.3
Wood Products	13.3	13.4	13.4	13.5	13.9	14.1	14.5	14.8
% Ch, Annual Rate	4.7	1.6	0.4	3.9	13.8	5.9	9.7	10.3
Primary and Fabricated Metals	25.4	25.4	25.5	25.9	26.2	26.6	27.3	27.9
% Ch, Annual Rate	4.9	0.3	0.3	6.5	4.6	7.6	9.8	9.3
Computer and Electronic Products	20.1	20.0	20.2	20.3	20.6	20.9	21.2	21.6
% Ch, Annual Rate	-0.5	-1.4	4.6	2.5	5.5	4.6	7.2	7.3
Machinery and Electrical Equipment	20.4	20.7	21.1	21.4	21.8	22.2	22.7	23.3
% Ch, Annual Rate	9.2	6.1	6.7	6.6	7.3	8.7	8.7	11.2
Aerospace	94.0	93.8	94.3	93.1	92.4	91.8	91.2	90.6
% Ch, Annual Rate	-4.7	-1.1	2.4	-5.0	-3.1	-2.5	-2.5	-2.5
Other Transportation Equip.	9.8	9.6	9.4	9.6	9.7	9.5	9.1	9.2
% Ch, Annual Rate	9.9	-6.9	-7.4	7.7	5.8	-10.9	-15.8	4.9
Other Durables	26.0	26.3	26.4	26.8	27.4	27.6	27.9	28.2
% Ch, Annual Rate	-1.6	3.9	1.7	6.4	8.3	4.3	3.9	3.4
Nondurable Manufacturing	78.4	79.2	78.7	79.3	80.8	81.4	81.4	82.1
% Ch, Annual Rate	5.1	4.1	-2.1	3.0	7.7	3.0	0.1	3.3
Food Manufacturing	36.1	36.9	36.2	36.5	37.5	37.6	37.6	38.0
% Ch, Annual Rate	2.6	8.8	-7.0	3.4	11.3	1.8	-1.0	4.5
Paper and Paper Products	8.1	8.2	8.1	8.0	8.0	8.1	8.0	8.0
% Ch, Annual Rate	-0.2	3.5	-4.2	-2.9	-3.2	4.5	-2.4	1.0
Other Nondurables	34.2	34.1	34.4	34.8	35.3	35.7	35.8	36.1
% Ch, Annual Rate	9.2	-0.5	3.9	3.9	6.6	4.0	1.8	2.5
Natural Resources and Mining	6.4	6.2	6.2	6.1	6.2	6.1	6.0	6.0
% Ch, Annual Rate	10.4	-10.2	-2.2	-2.2	6.3	-7.3	-5.6	0.2
Construction	155.6	155.5	159.0	162.2	167.5	168.6	170.4	172.7
% Ch, Annual Rate	10.8	-0.2	9.4	8.3	13.6	2.7	4.5	5.4
Trade, Transportation, and Utilities	562.5	565.5	571.6	575.8	581.3	584.6	587.5	589.9
% Ch, Annual Rate	3.4	2.1	4.4	2.9	3.9	2.3	2.0	1.6
Wholesale Trade	129.7	129.7	131.5	132.3	133.4	133.8	134.8	135.6
% Ch, Annual Rate	3.6	0.2	5.7	2.5	3.1	1.3	2.8	2.6
Retail Trade	336.7	338.8	342.4	346.0	350.3	352.7	354.0	354.6
% Ch, Annual Rate	3.1	2.5	4.4	4.2	5.1	2.7	1.4	0.8
Trans., Warehousing, and Utilities	96.2	96.9	97.7	97.5	97.6	98.1	98.8	99.6
% Ch, Annual Rate	4.1	3.2	3.0	-0.8	0.7	1.8	2.9	3.4
Information	108.6	109.6	110.9	111.2	111.7	112.5	112.1	112.5
% Ch, Annual Rate	3.3	3.7	4.9	1.1	2.0	2.6	-1.1	1.1
Software Publishers	55.4	55.8	56.1	55.2	54.7	54.9	55.0	54.9
% Ch, Annual Rate	3.8	2.8	2.3	-6.3	-3.3	1.6	0.2	-0.2
Other Publishing Industries	6.7	6.7	6.5	6.6	6.6	6.5	6.4	6.2
% Ch, Annual Rate	-9.9	-3.1	-7.4	1.4	2.4	-3.0	-7.2	-11.9
Other Information	46.5	47.1	48.3	49.4	50.4	51.0	50.7	51.3
% Ch, Annual Rate	4.8	5.8	9.8	10.2	8.0	4.5	-1.7	4.4
Financial Activities	151.9	152.4	153.1	154.2	155.2	154.9	155.2	155.4
% Ch, Annual Rate	1.2	1.3	2.0	2.8	2.6	-0.6	0.8	0.4
Professional and Business Services	366.0	367.6	375.1	378.3	382.7	388.1	394.3	400.4
% Ch, Annual Rate	3.4	1.7	8.4	3.4	4.7	5.8	6.5	6.3
Education and Health Services	447.7	449.3	453.9	457.1	462.3	465.8	468.5	470.4
% Ch, Annual Rate	3.1	1.4	4.1	2.9	4.6	3.0	2.3	1.7
Leisure and Hospitality	295.5	295.5	297.2	298.3	300.6	302.2	303.6	304.8
% Ch, Annual Rate	5.8	0.0	2.3	1.5	3.1	2.1	1.9	1.6
Other Services	113.4	113.3	114.3	114.9	115.1	115.5	115.8	116.1
% Ch, Annual Rate	3.6	-0.2	3.6	2.2	0.8	1.1	1.1	1.1
Federal Government	71.1	71.3	71.6	71.8	72.3	72.3	72.2	72.1
% Ch, Annual Rate	1.0	1.3	1.8	1.3	2.6	-0.2	-0.4	-0.7
State and Local Government	475.8	477.5	483.0	485.7	486.4	487.5	488.4	489.2
% Ch, Annual Rate	2.3	1.4	4.8	2.3	0.6	0.9	0.7	0.7

Table A2.4 (continued)

**Washington Nonagricultural Employment by Industry (Thousands)**

Forecast 2015 to 2019

	2016:1	2016:2	2016:3	2016:4	2017:1	2017:2	2017:3	2017:4
Nonfarm Payroll Employment	3,205.2	3,223.0	3,240.7	3,257.4	3,270.3	3,281.9	3,291.9	3,302.1
% Ch, Annual Rate	2.3	2.2	2.2	2.1	1.6	1.4	1.2	1.2
Manufacturing	299.6	300.8	301.6	302.0	302.8	303.6	304.0	303.9
% Ch, Annual Rate	2.7	1.6	1.1	0.5	1.0	1.0	0.5	0.0
Durable Manufacturing	217.0	217.8	218.4	218.4	218.8	219.2	219.3	219.0
% Ch, Annual Rate	2.7	1.5	1.0	0.1	0.7	0.7	0.2	-0.5
Wood Products	15.2	15.5	15.7	15.8	15.9	16.0	16.1	16.1
% Ch, Annual Rate	9.3	8.3	5.6	2.4	3.6	2.1	1.8	0.5
Primary and Fabricated Metals	28.4	29.0	29.4	29.7	30.0	30.3	30.5	30.5
% Ch, Annual Rate	8.0	7.6	6.7	3.9	4.1	3.7	2.2	0.4
Computer and Electronic Products	22.0	22.2	22.4	22.3	22.2	22.2	22.3	22.3
% Ch, Annual Rate	8.0	4.2	2.6	-1.3	-1.3	-0.1	0.3	0.0
Machinery and Electrical Equipment	23.8	23.9	24.1	24.2	24.6	25.1	25.4	25.6
% Ch, Annual Rate	7.5	2.2	4.4	1.5	6.9	7.6	5.3	2.7
Aerospace	90.1	89.5	88.9	88.4	87.8	87.3	86.7	86.2
% Ch, Annual Rate	-2.5	-2.5	-2.5	-2.5	-2.5	-2.5	-2.5	-2.5
Other Transportation Equip.	9.2	9.2	9.1	9.2	9.1	9.1	9.0	8.9
% Ch, Annual Rate	3.0	0.1	-6.3	3.4	-1.6	-2.7	-4.5	-3.4
Other Durables	28.4	28.5	28.7	28.8	29.0	29.2	29.4	29.6
% Ch, Annual Rate	3.0	2.6	2.4	1.7	2.9	2.9	2.6	1.8
Nondurable Manufacturing	82.6	83.0	83.3	83.6	84.0	84.4	84.7	84.9
% Ch, Annual Rate	2.7	1.8	1.2	1.8	1.9	1.9	1.2	1.1
Food Manufacturing	38.3	38.5	38.5	38.8	39.0	39.2	39.3	39.4
% Ch, Annual Rate	3.3	2.1	0.8	2.2	2.2	2.1	1.4	1.2
Paper and Paper Products	8.1	8.1	8.1	8.1	8.1	8.1	8.1	8.1
% Ch, Annual Rate	1.8	0.9	0.8	0.5	0.7	0.4	-0.3	-0.7
Other Nondurables	36.3	36.4	36.6	36.7	36.9	37.1	37.2	37.4
% Ch, Annual Rate	2.3	1.8	1.8	1.7	1.8	2.0	1.4	1.5
Natural Resources and Mining	6.1	6.1	6.1	6.2	6.2	6.3	6.3	6.4
% Ch, Annual Rate	5.3	0.7	1.4	3.2	4.2	2.7	4.5	2.2
Construction	174.9	176.7	179.2	182.0	184.2	186.3	187.9	190.1
% Ch, Annual Rate	5.3	4.0	5.8	6.5	4.9	4.6	3.5	4.8
Trade, Transportation, and Utilities	591.8	594.0	596.8	599.3	600.7	602.3	604.0	605.1
% Ch, Annual Rate	1.3	1.5	1.9	1.7	0.9	1.1	1.1	0.7
Wholesale Trade	136.3	137.1	138.0	139.0	139.6	140.1	140.5	141.0
% Ch, Annual Rate	2.0	2.3	2.7	2.8	1.9	1.4	1.3	1.4
Retail Trade	355.2	356.0	357.1	357.8	357.9	358.6	359.4	359.5
% Ch, Annual Rate	0.7	0.8	1.2	0.8	0.2	0.8	0.8	0.1
Trans., Warehousing, and Utilities	100.3	101.0	101.7	102.5	103.1	103.6	104.1	104.6
% Ch, Annual Rate	2.7	2.9	3.0	3.0	2.4	2.1	1.9	1.8
Information	112.8	114.0	115.0	114.8	115.4	116.0	116.0	116.2
% Ch, Annual Rate	1.1	4.6	3.5	-0.8	2.1	2.0	0.2	0.5
Software Publishers	55.0	55.2	55.4	55.6	55.8	56.0	56.2	56.4
% Ch, Annual Rate	0.7	1.4	1.4	1.3	1.3	1.5	1.7	1.6
Other Publishing Industries	6.1	6.0	5.9	5.8	5.8	5.7	5.7	5.6
% Ch, Annual Rate	-10.8	-5.9	-3.4	-3.9	-4.2	-3.7	-3.4	-4.1
Other Information	51.7	52.9	53.7	53.4	53.8	54.2	54.1	54.1
% Ch, Annual Rate	3.0	9.4	6.7	-2.7	3.6	3.1	-0.9	0.0
Financial Activities	155.3	154.9	154.2	153.8	153.3	152.5	151.5	150.7
% Ch, Annual Rate	-0.1	-1.1	-1.8	-1.1	-1.2	-2.2	-2.5	-2.2
Professional and Business Services	406.2	411.6	417.7	423.4	426.9	428.5	430.0	431.6
% Ch, Annual Rate	5.9	5.5	6.0	5.6	3.3	1.5	1.4	1.5
Education and Health Services	473.9	478.0	480.5	482.9	484.2	485.9	487.6	489.6
% Ch, Annual Rate	2.9	3.6	2.1	2.1	1.0	1.5	1.3	1.6
Leisure and Hospitality	305.9	306.5	307.6	308.7	309.9	311.4	313.0	314.5
% Ch, Annual Rate	1.4	0.9	1.3	1.5	1.6	1.9	2.1	2.0
Other Services	116.4	116.6	116.8	117.0	117.2	117.4	117.7	117.9
% Ch, Annual Rate	1.0	0.9	0.7	0.7	0.5	0.7	0.9	0.9
Federal Government	72.0	71.8	71.6	71.5	71.4	71.3	71.1	70.9
% Ch, Annual Rate	-0.6	-1.0	-0.7	-0.8	-0.5	-0.6	-1.0	-1.1
State and Local Government	490.4	491.8	493.6	495.7	498.1	500.4	502.8	505.1
% Ch, Annual Rate	0.9	1.2	1.5	1.8	2.0	1.8	1.9	1.8

Table A2.4 (continued)

**Washington Nonagricultural Employment by Industry (Thousands)**

Forecast 2015 to 2019

	2018:1	2018:2	2018:3	2018:4	2019:1	2019:2	2019:3	2019:4
Nonfarm Payroll Employment	3,312.0	3,321.8	3,332.3	3,342.2	3,353.4	3,364.5	3,375.2	3,385.7
% Ch, Annual Rate	1.2	1.2	1.3	1.2	1.3	1.3	1.3	1.2
Manufacturing	304.0	304.3	304.5	304.8	304.5	304.3	304.0	303.9
% Ch, Annual Rate	0.1	0.3	0.3	0.4	-0.4	-0.2	-0.4	-0.2
Durable Manufacturing	218.9	219.0	219.2	219.4	219.0	218.7	218.3	218.0
% Ch, Annual Rate	-0.2	0.2	0.3	0.3	-0.6	-0.6	-0.7	-0.6
Wood Products	16.1	16.1	16.2	16.3	16.3	16.3	16.3	16.4
% Ch, Annual Rate	0.4	0.9	1.7	1.8	-0.1	-0.1	0.9	1.8
Primary and Fabricated Metals	30.5	30.6	30.6	30.6	30.6	30.5	30.4	30.3
% Ch, Annual Rate	0.2	0.9	0.4	0.3	-0.5	-0.5	-1.4	-1.6
Computer and Electronic Products	22.3	22.4	22.6	22.7	22.7	22.6	22.6	22.6
% Ch, Annual Rate	1.0	1.7	3.3	2.8	-1.1	-1.2	-0.5	0.0
Machinery and Electrical Equipment	25.8	26.0	26.2	26.5	26.6	26.8	26.9	27.1
% Ch, Annual Rate	2.8	3.7	3.7	3.9	2.1	2.6	2.0	2.5
Aerospace	85.7	85.3	84.9	84.4	84.0	83.6	83.2	82.8
% Ch, Annual Rate	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0	-2.0
Other Transportation Equip.	8.8	8.8	8.8	8.7	8.7	8.7	8.6	8.5
% Ch, Annual Rate	-3.2	-0.8	-1.6	-1.4	-1.6	-2.0	-3.0	-3.2
Other Durables	29.7	29.8	30.0	30.1	30.2	30.3	30.3	30.4
% Ch, Annual Rate	1.7	1.9	1.6	1.6	1.2	1.2	0.9	0.7
Nondurable Manufacturing	85.1	85.2	85.3	85.4	85.4	85.6	85.7	85.8
% Ch, Annual Rate	0.8	0.7	0.2	0.7	0.2	0.6	0.5	0.6
Food Manufacturing	39.5	39.5	39.5	39.5	39.4	39.4	39.4	39.5
% Ch, Annual Rate	0.6	0.3	-0.5	0.2	-0.8	0.2	0.1	0.3
Paper and Paper Products	8.1	8.1	8.1	8.0	8.0	8.0	8.0	7.9
% Ch, Annual Rate	-0.9	-1.0	-1.5	-1.0	-1.7	-1.2	-1.3	-0.9
Other Nondurables	37.5	37.6	37.7	37.9	38.1	38.2	38.3	38.4
% Ch, Annual Rate	1.5	1.5	1.3	1.6	1.6	1.5	1.3	1.3
Natural Resources and Mining	6.4	6.4	6.5	6.5	6.5	6.6	6.6	6.7
% Ch, Annual Rate	1.3	1.0	2.5	2.0	2.0	2.1	4.1	3.2
Construction	192.1	194.0	196.2	198.1	199.9	201.4	202.6	203.8
% Ch, Annual Rate	4.3	3.9	4.5	4.1	3.6	3.1	2.5	2.2
Trade, Transportation, and Utilities	606.0	606.6	607.5	608.4	609.7	610.8	611.9	612.9
% Ch, Annual Rate	0.6	0.4	0.6	0.6	0.9	0.7	0.7	0.6
Wholesale Trade	141.6	142.0	142.6	143.2	143.8	144.2	144.7	145.0
% Ch, Annual Rate	1.6	1.2	1.7	1.6	1.7	1.2	1.2	1.1
Retail Trade	359.3	359.0	359.1	359.1	359.5	360.0	360.6	361.0
% Ch, Annual Rate	-0.2	-0.3	0.1	0.0	0.5	0.6	0.6	0.5
Trans., Warehousing, and Utilities	105.1	105.6	105.8	106.1	106.4	106.5	106.7	106.8
% Ch, Annual Rate	2.1	1.7	1.0	0.9	1.1	0.7	0.6	0.5
Information	116.8	117.5	118.1	118.6	119.2	120.0	120.8	121.4
% Ch, Annual Rate	2.2	2.2	2.2	1.7	2.3	2.5	2.6	2.2
Software Publishers	56.6	56.8	57.0	57.2	57.4	57.6	57.8	58.0
% Ch, Annual Rate	1.4	1.3	1.4	1.5	1.5	1.4	1.4	1.3
Other Publishing Industries	5.6	5.5	5.5	5.4	5.4	5.3	5.3	5.2
% Ch, Annual Rate	-3.2	-3.8	-3.2	-3.0	-3.5	-4.5	-4.7	-5.3
Other Information	54.6	55.1	55.6	55.9	56.4	57.0	57.7	58.2
% Ch, Annual Rate	3.6	3.9	3.6	2.3	3.6	4.4	4.5	3.8
Financial Activities	150.1	149.5	149.0	148.5	148.4	148.5	148.6	148.5
% Ch, Annual Rate	-1.3	-1.8	-1.2	-1.4	-0.2	0.2	0.2	-0.1
Professional and Business Services	433.8	435.6	437.3	439.0	441.6	443.7	446.1	448.7
% Ch, Annual Rate	2.0	1.7	1.6	1.6	2.3	2.0	2.1	2.4
Education and Health Services	490.7	492.4	493.9	495.4	497.3	499.3	501.0	502.7
% Ch, Annual Rate	0.9	1.4	1.2	1.2	1.6	1.6	1.4	1.4
Leisure and Hospitality	315.7	316.9	318.1	319.3	320.1	321.1	322.2	323.2
% Ch, Annual Rate	1.5	1.5	1.6	1.5	1.0	1.3	1.4	1.3
Other Services	118.3	118.5	118.8	119.1	119.5	119.7	120.0	120.3
% Ch, Annual Rate	1.1	0.9	1.1	1.0	1.1	0.9	1.0	1.0
Federal Government	70.8	70.6	70.5	70.3	70.3	70.2	70.1	70.1
% Ch, Annual Rate	-0.9	-0.9	-0.8	-0.8	-0.4	-0.4	-0.3	-0.2
State and Local Government	507.3	509.6	511.9	514.2	516.5	518.9	521.3	523.5
% Ch, Annual Rate	1.7	1.8	1.8	1.8	1.8	1.9	1.8	1.7

Table A3.1

**U.S. Personal Income by Component (Billions of Dollars)**

Forecast 2015 to 2019

	2012	2013	2014	2015	2016	2017	2018	2019
Personal Income	13,887.7	14,166.9	14,716.6	15,340.7	16,153.0	17,084.2	17,944.9	18,775.7
% Ch	5.2	2.0	3.9	4.2	5.3	5.8	5.0	4.6
Total Wage and Salary Disbursements	6,932.1	7,124.7	7,432.4	7,781.9	8,213.8	8,654.5	9,098.8	9,550.7
% Ch	4.5	2.8	4.3	4.7	5.6	5.4	5.1	5.0
Nonwage Personal Income	6,955.6	7,042.2	7,284.2	7,558.8	7,939.3	8,429.7	8,846.1	9,225.0
% Ch	5.9	1.2	3.4	3.8	5.0	6.2	4.9	4.3
Supplements to Wages and Salaries	1,674.4	1,720.1	1,774.6	1,835.0	1,915.2	2,010.6	2,110.3	2,213.1
% Ch	2.4	2.7	3.2	3.4	4.4	5.0	5.0	4.9
Proprietor's Income	1,260.2	1,336.7	1,380.3	1,459.7	1,539.6	1,599.6	1,654.5	1,731.0
% Ch	10.2	6.1	3.3	5.8	5.5	3.9	3.4	4.6
Farm	72.3	83.2	63.7	58.1	64.8	69.8	73.0	75.6
% Ch	...	...	...	...	...	...	...	...
Nonfarm	1,187.9	1,253.5	1,316.6	1,401.6	1,474.8	1,529.8	1,581.4	1,655.5
% Ch	11.2	5.5	5.0	6.5	5.2	3.7	3.4	4.7
Less: Contribution For Govt. Soc. Ins.	951.2	1,104.5	1,159.5	1,218.1	1,295.3	1,379.7	1,465.2	1,550.8
% Ch	3.6	16.1	5.0	5.1	6.3	6.5	6.2	5.8
Dividends/Int./Rent	2,621.6	2,675.6	2,765.2	2,857.8	3,041.1	3,329.4	3,540.5	3,668.7
% Ch	9.3	2.1	3.4	3.4	6.4	9.5	6.3	3.6
Transfer Payments	2,350.7	2,414.6	2,523.5	2,624.4	2,738.8	2,869.7	3,006.1	3,163.0
% Ch	1.9	2.7	4.5	4.0	4.4	4.8	4.7	5.2

Table A3.2

**U.S. Personal Income by Component (Billions of Dollars)**

Forecast 2015 to 2019

	2014:1	2014:2	2014:3	2014:4	2015:1	2015:2	2015:3	2015:4
Personal Income	14,484.7	14,660.5	14,792.1	14,928.9	15,102.7	15,250.1	15,411.6	15,598.3
% Ch, Annual Rate	4.9	4.9	3.6	3.8	4.7	4.0	4.3	4.9
Total Wage and Salary Disbursements	7,339.8	7,391.7	7,458.4	7,539.5	7,628.9	7,730.5	7,831.1	7,936.9
% Ch, Annual Rate	7.5	2.9	3.7	4.4	4.8	5.4	5.3	5.5
Nonwage Personal Income	7,144.9	7,268.8	7,333.7	7,389.4	7,473.9	7,519.6	7,580.5	7,661.3
% Ch, Annual Rate	2.4	7.1	3.6	3.1	4.7	2.5	3.3	4.3
Supplements to Wages and Salaries	1,756.4	1,767.7	1,780.3	1,794.2	1,812.2	1,825.4	1,842.1	1,860.4
% Ch, Annual Rate	4.2	2.6	2.9	3.2	4.1	2.9	3.7	4.0
Proprietor's Income	1,351.0	1,381.0	1,386.4	1,402.9	1,421.9	1,450.7	1,472.1	1,494.3
% Ch, Annual Rate	2.5	9.2	1.6	4.8	5.5	8.3	6.0	6.2
Farm	58.1	73.4	62.2	61.2	55.6	55.4	57.4	64.0
% Ch, Annual Rate	...	...	...	...	...	...	...	...
Nonfarm	1,292.9	1,307.6	1,324.2	1,341.7	1,366.2	1,395.3	1,414.7	1,430.3
% Ch, Annual Rate	6.5	4.6	5.2	5.4	7.5	8.8	5.7	4.5
Less: Contribution For Govt. Soc. Ins.	1,146.6	1,154.2	1,163.3	1,173.9	1,196.2	1,210.7	1,224.5	1,241.2
% Ch, Annual Rate	10.8	2.7	3.2	3.7	7.8	4.9	4.7	5.5
Dividends/Int./Rent	2,713.3	2,762.4	2,785.0	2,800.1	2,830.8	2,836.3	2,860.8	2,903.5
% Ch, Annual Rate	0.9	7.4	3.3	2.2	4.5	0.8	3.5	6.1
Transfer Payments	2,470.9	2,511.8	2,545.3	2,566.1	2,605.1	2,617.9	2,630.1	2,644.4
% Ch, Annual Rate	6.5	6.8	5.4	3.3	6.2	2.0	1.9	2.2

Table A3.2 (continued)

**U.S. Personal Income by Component (Billions of Dollars)**

Forecast 2015 to 2019

	2016:1	2016:2	2016:3	2016:4	2017:1	2017:2	2017:3	2017:4
Personal Income	15,837.3	16,038.1	16,252.8	16,484.0	16,746.9	16,977.6	17,197.5	17,414.6
% Ch, Annual Rate	6.3	5.2	5.5	5.8	6.5	5.6	5.3	5.1
Total Wage and Salary Disbursements	8,048.4	8,158.0	8,269.2	8,379.4	8,491.9	8,599.9	8,708.6	8,817.3
% Ch, Annual Rate	5.7	5.6	5.6	5.4	5.5	5.2	5.2	5.1
Nonwage Personal Income	7,788.9	7,880.1	7,983.6	8,104.6	8,255.0	8,377.7	8,488.9	8,597.2
% Ch, Annual Rate	6.8	4.8	5.4	6.2	7.6	6.1	5.4	5.2
Supplements to Wages and Salaries	1,885.4	1,904.3	1,924.9	1,946.1	1,978.0	1,999.6	2,020.9	2,043.8
% Ch, Annual Rate	5.5	4.1	4.4	4.5	6.7	4.4	4.3	4.6
Proprietor's Income	1,510.2	1,530.9	1,550.2	1,567.2	1,581.5	1,596.1	1,604.0	1,617.0
% Ch, Annual Rate	4.3	5.6	5.1	4.5	3.7	3.7	2.0	3.3
Farm	63.1	62.5	66.3	67.1	68.2	68.2	70.0	72.8
% Ch, Annual Rate	...	...	...	...	...	...	...	...
Nonfarm	1,447.0	1,468.3	1,483.9	1,500.1	1,513.3	1,527.9	1,534.0	1,544.2
% Ch, Annual Rate	4.8	6.0	4.3	4.4	3.6	3.9	1.6	2.7
Less: Contribution For Govt. Soc. Ins.	1,272.0	1,287.4	1,302.6	1,319.2	1,357.3	1,372.1	1,386.5	1,402.6
% Ch, Annual Rate	10.3	4.9	4.8	5.2	12.1	4.4	4.3	4.7
Dividends/Int./Rent	2,953.6	3,003.9	3,064.8	3,142.2	3,220.7	3,298.0	3,368.2	3,430.8
% Ch, Annual Rate	7.1	7.0	8.4	10.5	10.4	9.9	8.8	7.6
Transfer Payments	2,711.8	2,728.5	2,746.3	2,768.4	2,832.1	2,856.2	2,882.4	2,908.3
% Ch, Annual Rate	10.6	2.5	2.6	3.2	9.5	3.4	3.7	3.6



Table A3.2 (continued)

**U.S. Personal Income by Component (Billions of Dollars)**

Forecast 2015 to 2019

	2018:1	2018:2	2018:3	2018:4	2019:1	2019:2	2019:3	2019:4
Personal Income	17,641.4	17,845.4	18,046.3	18,246.4	18,476.1	18,677.5	18,874.8	19,074.7
% Ch, Annual Rate	5.3	4.7	4.6	4.5	5.1	4.4	4.3	4.3
Total Wage and Salary Disbursements	8,930.8	9,041.8	9,155.0	9,267.6	9,384.3	9,495.6	9,606.0	9,716.9
% Ch, Annual Rate	5.2	5.1	5.1	5.0	5.1	4.8	4.7	4.7
Nonwage Personal Income	8,710.6	8,803.6	8,891.3	8,978.8	9,091.7	9,181.8	9,268.7	9,357.8
% Ch, Annual Rate	5.4	4.3	4.0	4.0	5.1	4.0	3.8	3.9
Supplements to Wages and Salaries	2,077.1	2,099.1	2,120.8	2,144.0	2,177.3	2,200.9	2,224.5	2,249.8
% Ch, Annual Rate	6.7	4.3	4.2	4.4	6.3	4.4	4.4	4.6
Proprietor's Income	1,627.3	1,645.5	1,662.4	1,682.6	1,702.4	1,722.7	1,739.9	1,759.2
% Ch, Annual Rate	2.6	4.6	4.1	5.0	4.8	4.9	4.0	4.5
Farm	72.9	72.5	72.7	74.0	75.4	75.6	75.5	75.8
% Ch, Annual Rate	...	...	...	...	...	...	...	...
Nonfarm	1,554.4	1,573.0	1,589.7	1,608.6	1,627.0	1,647.1	1,664.4	1,683.4
% Ch, Annual Rate	2.7	4.9	4.3	4.8	4.7	5.0	4.3	4.6
Less: Contribution For Govt. Soc. Ins.	1,441.9	1,457.2	1,472.4	1,489.2	1,527.8	1,543.2	1,557.9	1,574.5
% Ch, Annual Rate	11.7	4.3	4.2	4.7	10.8	4.1	3.9	4.3
Dividends/Int./Rent	3,481.8	3,523.5	3,561.5	3,595.1	3,625.5	3,655.3	3,683.2	3,710.6
% Ch, Annual Rate	6.1	4.9	4.4	3.8	3.4	3.3	3.1	3.0
Transfer Payments	2,966.3	2,992.7	3,018.9	3,046.3	3,114.4	3,146.1	3,178.9	3,212.6
% Ch, Annual Rate	8.2	3.6	3.6	3.7	9.3	4.1	4.2	4.3

Table A3.3

**Washington Personal Income by Component (Billions of Dollars)**

Forecast 2015 to 2019

	2012	2013	2014	2015	2016	2017	2018	2019
Personal Income	324.458	332.655	347.837	364.374	385.531	409.727	432.384	454.670
% Ch	6.7	2.5	4.6	4.8	5.8	6.3	5.5	5.2
Total Wage and Salary Disbursements	163.880	170.790	179.879	189.192	200.209	211.315	222.761	234.927
% Ch	5.8	4.2	5.3	5.2	5.8	5.5	5.4	5.5
Manufacturing	19.577	20.557	21.454	21.653	22.723	23.685	24.667	25.612
% Ch	6.3	5.0	4.4	0.9	4.9	4.2	4.1	3.8
Durable Manufacturing	15.716	16.600	17.388	17.359	18.180	18.883	19.613	20.319
% Ch	7.5	5.6	4.7	-0.2	4.7	3.9	3.9	3.6
Nondurable Manufacturing	3.861	3.958	4.066	4.294	4.544	4.803	5.054	5.293
% Ch	1.9	2.5	2.7	5.6	5.8	5.7	5.2	4.7
Nonmanufacturing	137.300	143.144	151.340	160.297	169.999	179.871	190.042	200.953
% Ch	5.5	4.3	5.7	5.9	6.1	5.8	5.7	5.7
Other Private Wages	1.070	1.083	1.134	1.208	1.259	1.309	1.358	1.409
% Ch	10.5	1.2	4.7	6.5	4.3	3.9	3.8	3.8
Farm Wages	1.568	1.691	1.756	1.836	1.933	2.029	2.127	2.231
% Ch	40.4	7.9	3.8	4.6	5.3	5.0	4.8	4.9
Military Wages	4.365	4.314	4.195	4.198	4.295	4.421	4.567	4.721
% Ch	1.9	-1.2	-2.8	0.1	2.3	2.9	3.3	3.4
Nonwage Personal Income	160.578	161.865	167.958	175.182	185.322	198.411	209.623	219.743
% Ch	7.7	0.8	3.8	4.3	5.8	7.1	5.7	4.8
Supplements to Wages and Salaries	40.184	41.638	43.278	45.174	47.674	50.506	53.480	56.633
% Ch	3.8	3.6	3.9	4.4	5.5	5.9	5.9	5.9
Proprietor's Income	24.073	25.279	26.534	28.105	29.635	30.777	31.855	33.417
% Ch	6.9	5.0	5.0	5.9	5.4	3.9	3.5	4.9
Farm	1.342	1.372	1.126	1.089	1.131	1.163	1.183	1.199
% Ch	...	...	...	...	...	...	...	...
Nonfarm	22.732	23.906	25.409	27.016	28.504	29.614	30.672	32.218
% Ch	10.2	5.2	6.3	6.3	5.5	3.9	3.6	5.0
Less: Contribution For Govt. Soc. Ins.	24.734	28.845	30.591	32.313	34.412	36.680	39.006	41.410
% Ch	3.0	16.6	6.1	5.6	6.5	6.6	6.3	6.2
Plus: Residence Adjustment	2.815	3.041	3.216	3.385	3.611	3.844	4.078	4.313
% Ch	0.4	8.0	5.7	5.3	6.7	6.4	6.1	5.7
Dividends/Int./Rent	68.242	69.758	72.280	75.154	80.402	88.458	94.492	98.370
% Ch	13.8	2.2	3.6	4.0	7.0	10.0	6.8	4.1
Transfer Payments	49.998	50.993	53.240	55.676	58.412	61.507	64.723	68.421
% Ch	1.9	2.0	4.4	4.6	4.9	5.3	5.2	5.7
State U.I. Benefits	2.374	1.720	1.088	0.911	0.768	0.681	0.639	0.592
% Ch	-23.3	-27.5	-36.7	-16.3	-15.7	-11.3	-6.1	-7.3
Other Transfers	47.625	49.273	52.152	54.765	57.644	60.827	64.084	67.829
% Ch	3.6	3.5	5.8	5.0	5.3	5.5	5.4	5.8

Table A3.4

**Washington Personal Income by Component (Billions of Dollars)**

Forecast 2015 to 2019

	2014:1	2014:2	2014:3	2014:4	2015:1	2015:2	2015:3	2015:4
Personal Income	342.370	346.095	350.197	352.687	358.085	362.269	366.663	370.479
% Ch, Annual Rate	7.3	4.4	4.8	2.9	6.3	4.8	4.9	4.2
Total Wage and Salary Disbursements	177.813	178.664	180.949	182.090	185.259	188.141	190.849	192.520
% Ch, Annual Rate	10.4	1.9	5.2	2.5	7.1	6.4	5.9	3.5
Manufacturing	22.249	21.588	20.968	21.011	21.281	21.517	21.748	22.067
% Ch, Annual Rate	34.3	-11.4	-11.0	0.8	5.2	4.5	4.4	6.0
Durable Manufacturing	18.201	17.524	16.919	16.909	17.074	17.244	17.437	17.682
% Ch, Annual Rate	39.9	-14.1	-13.1	-0.3	4.0	4.0	4.6	5.7
Nondurable Manufacturing	4.048	4.065	4.049	4.102	4.206	4.273	4.311	4.385
% Ch, Annual Rate	12.3	1.6	-1.6	5.4	10.6	6.5	3.6	7.1
Nonmanufacturing	148.481	149.987	152.894	153.996	156.772	159.396	161.847	163.172
% Ch, Annual Rate	7.6	4.1	8.0	2.9	7.4	6.9	6.3	3.3
Other Private Wages	1.077	1.116	1.168	1.177	1.190	1.202	1.213	1.226
% Ch, Annual Rate	19.3	15.1	19.9	3.2	4.7	3.8	4.0	4.2
Farm Wages	1.737	1.749	1.760	1.778	1.803	1.824	1.847	1.870
% Ch, Annual Rate	1.2	2.7	2.6	4.1	5.7	4.8	5.0	5.2
Military Wages	4.268	4.224	4.159	4.128	4.213	4.202	4.193	4.184
% Ch, Annual Rate	0.5	-4.0	-6.0	-2.9	8.5	-1.0	-0.8	-0.9
Nonwage Personal Income	164.557	167.431	169.247	170.597	172.827	174.128	175.814	177.959
% Ch, Annual Rate	4.1	7.2	4.4	3.2	5.3	3.0	3.9	5.0
Supplements to Wages and Salaries	42.788	42.960	43.499	43.866	44.433	44.877	45.404	45.983
% Ch, Annual Rate	6.1	1.6	5.1	3.4	5.3	4.1	4.8	5.2
Proprietor's Income	26.075	26.472	26.679	26.911	27.373	27.959	28.365	28.725
% Ch, Annual Rate	14.0	6.2	3.2	3.5	7.0	8.8	5.9	5.2
Farm	1.090	1.187	1.116	1.109	1.074	1.072	1.084	1.127
% Ch, Annual Rate	...	...	...	...	...	...	...	...
Nonfarm	24.985	25.285	25.564	25.802	26.299	26.887	27.281	27.598
% Ch, Annual Rate	12.3	4.9	4.5	3.8	7.9	9.2	6.0	4.7
Less: Contribution For Govt. Soc. Ins.	30.220	30.344	30.751	31.048	31.728	32.105	32.482	32.936
% Ch, Annual Rate	12.8	1.7	5.5	3.9	9.0	4.8	4.8	5.7
Plus: Residence Adjustment	3.171	3.213	3.219	3.262	3.304	3.359	3.412	3.467
% Ch, Annual Rate	9.8	5.5	0.8	5.4	5.3	6.7	6.5	6.7
Dividends/Int./Rent	70.737	72.180	72.852	73.352	74.291	74.538	75.281	76.508
% Ch, Annual Rate	0.7	8.4	3.8	2.8	5.2	1.3	4.0	6.7
Transfer Payments	52.006	52.951	53.749	54.256	55.154	55.501	55.834	56.213
% Ch, Annual Rate	7.1	7.5	6.2	3.8	6.8	2.5	2.4	2.7
State U.I. Benefits	1.231	1.128	1.016	0.978	0.967	0.932	0.891	0.852
% Ch, Annual Rate	-48.8	-29.4	-34.3	-14.0	-4.4	-13.6	-16.8	-16.2
Other Transfers	50.775	51.822	52.733	53.278	54.187	54.568	54.944	55.361
% Ch, Annual Rate	9.2	8.5	7.2	4.2	7.0	2.8	2.8	3.1

Table A3.4 (continued)

**Washington Personal Income by Component (Billions of Dollars)**

Forecast 2015 to 2019

	2016:1	2016:2	2016:3	2016:4	2017:1	2017:2	2017:3	2017:4
Personal Income	377.212	382.936	388.210	393.768	401.113	407.510	412.420	417.865
% Ch, Annual Rate	7.5	6.2	5.6	5.9	7.7	6.5	4.9	5.4
Total Wage and Salary Disbursements	195.986	199.192	201.688	203.971	207.437	210.508	212.391	214.926
% Ch, Annual Rate	7.4	6.7	5.1	4.6	7.0	6.1	3.6	4.9
Manufacturing	22.366	22.616	22.851	23.061	23.313	23.574	23.816	24.037
% Ch, Annual Rate	5.5	4.6	4.2	3.7	4.4	4.6	4.2	3.8
Durable Manufacturing	17.911	18.101	18.280	18.427	18.611	18.802	18.981	19.136
% Ch, Annual Rate	5.3	4.3	4.0	3.3	4.1	4.2	3.8	3.3
Nondurable Manufacturing	4.455	4.515	4.571	4.634	4.702	4.772	4.836	4.901
% Ch, Annual Rate	6.5	5.5	5.0	5.6	6.0	6.1	5.5	5.5
Nonmanufacturing	166.193	169.107	171.324	173.371	176.432	179.195	180.788	183.070
% Ch, Annual Rate	7.6	7.2	5.3	4.9	7.3	6.4	3.6	5.1
Other Private Wages	1.240	1.253	1.266	1.278	1.292	1.303	1.314	1.326
% Ch, Annual Rate	4.6	4.2	4.3	4.0	4.2	3.6	3.5	3.5
Farm Wages	1.896	1.921	1.946	1.970	1.995	2.018	2.041	2.064
% Ch, Annual Rate	5.6	5.2	5.3	5.1	5.2	4.7	4.5	4.6
Military Wages	4.291	4.296	4.302	4.290	4.406	4.418	4.431	4.429
% Ch, Annual Rate	10.7	0.4	0.5	-1.0	11.2	1.1	1.2	-0.2
Nonwage Personal Income	181.226	183.744	186.522	189.797	193.675	197.002	200.029	202.939
% Ch, Annual Rate	7.5	5.7	6.2	7.2	8.4	7.0	6.3	5.9
Supplements to Wages and Salaries	46.761	47.348	47.978	48.611	49.573	50.194	50.799	51.456
% Ch, Annual Rate	6.9	5.1	5.4	5.4	8.2	5.1	4.9	5.3
Proprietor's Income	29.061	29.488	29.828	30.163	30.434	30.730	30.859	31.084
% Ch, Annual Rate	4.8	6.0	4.7	4.6	3.7	3.9	1.7	2.9
Farm	1.121	1.117	1.141	1.146	1.153	1.153	1.164	1.182
% Ch, Annual Rate	...	...	...	...	...	...	...	...
Nonfarm	27.940	28.371	28.687	29.017	29.281	29.577	29.695	29.902
% Ch, Annual Rate	5.0	6.3	4.5	4.7	3.7	4.1	1.6	2.8
Less: Contribution For Govt. Soc. Ins.	33.776	34.195	34.615	35.063	36.098	36.488	36.856	37.280
% Ch, Annual Rate	10.6	5.1	5.0	5.3	12.3	4.4	4.1	4.7
Plus: Residence Adjustment	3.525	3.582	3.640	3.698	3.757	3.815	3.873	3.931
% Ch, Annual Rate	6.8	6.7	6.6	6.5	6.5	6.3	6.3	6.1
Dividends/Int./Rent	77.932	79.364	81.079	83.231	85.416	87.569	89.539	91.307
% Ch, Annual Rate	7.7	7.6	8.9	11.0	10.9	10.5	9.3	8.1
Transfer Payments	57.724	58.157	58.612	59.157	60.593	61.181	61.815	62.441
% Ch, Annual Rate	11.2	3.0	3.2	3.8	10.1	3.9	4.2	4.1
State U.I. Benefits	0.815	0.782	0.751	0.723	0.700	0.684	0.675	0.664
% Ch, Annual Rate	-16.4	-15.1	-14.8	-14.3	-12.1	-9.0	-5.3	-6.1
Other Transfers	56.909	57.375	57.861	58.434	59.893	60.497	61.140	61.777
% Ch, Annual Rate	11.7	3.3	3.4	4.0	10.4	4.1	4.3	4.2

Table A3.4 (continued)

**Washington Personal Income by Component (Billions of Dollars)**

Forecast 2015 to 2019

	2018:1	2018:2	2018:3	2018:4	2019:1	2019:2	2019:3	2019:4
Personal Income	424.451	430.275	434.761	440.048	446.765	452.623	456.962	462.330
% Ch, Annual Rate	6.5	5.6	4.2	5.0	6.2	5.3	3.9	4.8
Total Wage and Salary Disbursements	218.531	221.816	223.890	226.808	230.641	234.061	236.025	238.979
% Ch, Annual Rate	6.9	6.2	3.8	5.3	6.9	6.1	3.4	5.1
Manufacturing	24.274	24.533	24.795	25.067	25.284	25.506	25.719	25.940
% Ch, Annual Rate	4.0	4.3	4.3	4.5	3.5	3.6	3.4	3.5
Durable Manufacturing	19.311	19.508	19.713	19.920	20.081	20.243	20.396	20.555
% Ch, Annual Rate	3.7	4.1	4.3	4.3	3.3	3.3	3.1	3.2
Nondurable Manufacturing	4.963	5.025	5.082	5.146	5.202	5.263	5.323	5.385
% Ch, Annual Rate	5.2	5.1	4.6	5.2	4.4	4.8	4.6	4.7
Nonmanufacturing	186.279	189.254	191.012	193.621	197.073	200.217	201.914	204.609
% Ch, Annual Rate	7.2	6.5	3.8	5.6	7.3	6.5	3.4	5.4
Other Private Wages	1.339	1.351	1.364	1.377	1.391	1.403	1.416	1.428
% Ch, Annual Rate	4.0	3.7	3.9	3.7	4.1	3.7	3.6	3.5
Farm Wages	2.090	2.114	2.140	2.165	2.193	2.219	2.244	2.270
% Ch, Annual Rate	5.1	4.8	4.9	4.8	5.2	4.8	4.7	4.6
Military Wages	4.549	4.563	4.579	4.578	4.700	4.716	4.733	4.733
% Ch, Annual Rate	11.2	1.3	1.4	-0.1	11.1	1.4	1.5	0.0
Nonwage Personal Income	205.921	208.459	210.871	213.240	216.124	218.563	220.936	223.350
% Ch, Annual Rate	6.0	5.0	4.7	4.6	5.5	4.6	4.4	4.4
Supplements to Wages and Salaries	52.468	53.135	53.805	54.511	55.545	56.266	56.982	57.738
% Ch, Annual Rate	8.1	5.2	5.1	5.4	7.8	5.3	5.2	5.4
Proprietor's Income	31.294	31.676	32.024	32.427	32.821	33.243	33.603	34.000
% Ch, Annual Rate	2.7	5.0	4.5	5.1	5.0	5.2	4.4	4.8
Farm	1.183	1.180	1.181	1.190	1.198	1.200	1.199	1.201
% Ch, Annual Rate	...	...	...	...	...	...	...	...
Nonfarm	30.111	30.496	30.843	31.238	31.623	32.044	32.404	32.799
% Ch, Annual Rate	2.8	5.2	4.6	5.2	5.0	5.4	4.6	5.0
Less: Contribution For Govt. Soc. Ins.	38.358	38.782	39.208	39.677	40.754	41.194	41.613	42.080
% Ch, Annual Rate	12.1	4.5	4.5	4.9	11.3	4.4	4.1	4.6
Plus: Residence Adjustment	3.990	4.049	4.108	4.167	4.226	4.284	4.341	4.399
% Ch, Annual Rate	6.1	6.0	6.0	5.9	5.9	5.6	5.4	5.4
Dividends/Int./Rent	92.768	93.984	95.106	96.112	97.037	97.951	98.818	99.675
% Ch, Annual Rate	6.6	5.3	4.9	4.3	3.9	3.8	3.6	3.5
Transfer Payments	63.758	64.397	65.036	65.700	67.248	68.012	68.805	69.619
% Ch, Annual Rate	8.7	4.1	4.0	4.1	9.8	4.6	4.7	4.8
State U.I. Benefits	0.653	0.645	0.632	0.624	0.610	0.599	0.587	0.571
% Ch, Annual Rate	-6.2	-5.1	-7.7	-4.9	-8.7	-6.9	-7.9	-10.8
Other Transfers	63.105	63.752	64.403	65.076	66.637	67.412	68.218	69.048
% Ch, Annual Rate	8.9	4.2	4.1	4.2	10.0	4.7	4.9	5.0

Table A4.1  
**Selected Inflation Indicators**  
 (Deflator 2009=1; CPI 1982-84=1)

	Price Deflator*		U.S. CPI#		Seattle CPI+	
	Index	Percent Change	Index	Percent Change	Index	Percent Change
1971	0.233	4.2	0.405	4.2	0.382	2.1
1972	0.241	3.4	0.418	3.3	0.393	2.9
1973	0.254	5.4	0.444	6.3	0.418	6.4
1974	0.280	10.4	0.493	11.0	0.464	11.0
1975	0.303	8.3	0.538	9.1	0.511	10.2
1976	0.320	5.5	0.569	5.8	0.540	5.5
1977	0.341	6.5	0.606	6.5	0.583	8.0
1978	0.365	7.0	0.652	7.6	0.640	9.9
1979	0.397	8.9	0.726	11.3	0.709	10.8
1980	0.440	10.7	0.824	13.5	0.827	16.7
1981	0.478	8.8	0.909	10.4	0.916	10.8
1982	0.505	5.5	0.965	6.2	0.978	6.7
1983	0.526	4.3	0.996	3.2	0.993	1.5
1984	0.546	3.8	1.039	4.4	1.030	3.8
1985	0.566	3.5	1.076	3.5	1.056	2.5
1986	0.578	2.2	1.097	1.9	1.066	1.0
1987	0.596	3.2	1.136	3.6	1.092	2.4
1988	0.620	3.9	1.183	4.1	1.128	3.3
1989	0.646	4.3	1.239	4.8	1.181	4.7
1990	0.674	4.3	1.307	5.4	1.268	7.3
1991	0.696	3.3	1.362	4.2	1.341	5.8
1992	0.715	2.6	1.403	3.0	1.390	3.7
1993	0.733	2.5	1.445	3.0	1.429	2.8
1994	0.748	2.1	1.482	2.6	1.478	3.4
1995	0.764	2.1	1.524	2.8	1.522	3.0
1996	0.780	2.1	1.569	2.9	1.575	3.4
1997	0.793	1.7	1.605	2.3	1.630	3.5
1998	0.799	0.8	1.630	1.5	1.677	2.9
1999	0.811	1.5	1.666	2.2	1.728	3.0
2000	0.831	2.5	1.722	3.4	1.792	3.7
2001	0.847	1.9	1.770	2.8	1.857	3.6
2002	0.859	1.3	1.799	1.6	1.893	2.0
2003	0.876	2.0	1.840	2.3	1.924	1.6
2004	0.897	2.4	1.889	2.7	1.947	1.2
2005	0.923	2.9	1.953	3.4	2.002	2.8
2006	0.947	2.7	2.016	3.2	2.076	3.7
2007	0.971	2.5	2.073	2.9	2.157	3.9
2008	1.001	3.1	2.153	3.8	2.247	4.2
2009	1.000	-0.1	2.146	-0.3	2.260	0.6
2010	1.016	1.7	2.181	1.6	2.267	0.3
2011	1.041	2.5	2.249	3.1	2.328	2.7
2012	1.061	1.8	2.296	2.1	2.387	2.5
2013	1.073	1.2	2.330	1.5	2.416	1.2
2014	1.088	1.3	2.367	1.6	2.460	1.8
Forecast						
2015	1.092	0.4	2.368	0.0	2.490	1.2
2016	1.112	1.8	2.421	2.2	2.550	2.4
2017	1.130	1.7	2.470	2.0	2.603	2.1
2018	1.150	1.8	2.521	2.1	2.659	2.1
2019	1.170	1.8	2.573	2.1	2.716	2.1

\* Chain-Weight Implicit Price Deflator for Personal Consumption Expenditures  
 # Consumer Price Index for all Urban Consumers  
 + Consumer Price Index for the Seattle-Tacoma-Bremerton, WA CMSA  
 Consumer Price Index and Implicit Price Deflator values shown here are annual averages of seasonally adjusted quarterly data and may differ slightly from the annual values published by the Bureau of Labor Statistics and Bureau of Economic Analysis.

Table A4.2  
**Chain-Weighted Price Indices**  
 (2009=100)

	Services		Food		Fuels		Gasoline	
	<u>Index</u>	<u>Percent Change</u>	<u>Index</u>	<u>Percent Change</u>	<u>Index</u>	<u>Percent Change</u>	<u>Index</u>	<u>Percent Change</u>
1971	17.9	5.5	22.8	2.3	7.4	6.4	14.0	0.7
1972	18.7	4.2	23.9	4.8	7.5	0.6	14.2	1.3
1973	19.6	4.8	26.9	12.7	8.6	14.6	15.5	9.6
1974	21.3	8.5	31.0	15.2	13.6	58.9	21.0	35.1
1975	23.1	8.6	33.3	7.5	14.8	8.5	22.4	6.7
1976	24.7	6.9	34.0	1.9	15.9	7.3	23.3	4.2
1977	26.6	7.5	36.0	5.9	17.9	13.2	24.7	5.8
1978	28.6	7.8	39.4	9.6	19.0	5.7	25.8	4.3
1979	31.0	8.4	43.3	9.8	26.2	37.9	34.5	34.0
1980	34.2	10.3	46.9	8.4	36.7	40.4	47.9	38.8
1981	37.7	10.2	50.3	7.1	44.9	22.3	53.3	11.3
1982	40.6	7.8	51.6	2.6	44.1	-1.9	50.6	-5.1
1983	43.2	6.2	52.2	1.1	40.6	-7.8	48.9	-3.3
1984	45.4	5.2	53.7	3.0	41.5	2.2	48.2	-1.5
1985	47.7	5.0	54.3	1.1	39.9	-3.9	48.6	0.8
1986	49.6	4.1	55.6	2.4	31.2	-21.7	38.2	-21.5
1987	51.1	2.9	57.4	3.2	32.1	2.6	39.6	3.8
1988	53.5	4.8	59.1	3.0	32.0	0.0	40.0	0.8
1989	56.0	4.6	62.2	5.3	34.0	6.0	43.7	9.2
1990	58.5	4.5	65.2	4.9	40.9	20.4	49.7	13.8
1991	60.7	3.8	67.3	3.1	38.9	-4.8	49.1	-1.3
1992	62.8	3.5	67.8	0.8	37.3	-4.1	48.9	-0.4
1993	65.0	3.5	68.7	1.4	37.1	-0.7	48.4	-1.0
1994	66.8	2.7	69.9	1.7	36.4	-1.8	48.6	0.5
1995	68.6	2.7	71.4	2.2	36.1	-0.9	49.4	1.6
1996	70.5	2.7	73.6	3.1	40.9	13.3	52.4	6.1
1997	72.4	2.8	75.0	1.9	41.0	0.2	52.4	0.0
1998	73.9	2.1	75.9	1.3	36.3	-11.4	45.6	-12.9
1999	75.4	2.0	77.2	1.6	36.9	1.7	49.6	8.9
2000	77.5	2.8	79.0	2.3	54.1	46.6	63.4	27.8
2001	79.9	3.1	81.3	2.9	53.1	-2.0	61.2	-3.6
2002	82.0	2.6	82.5	1.5	47.3	-10.8	57.5	-6.0
2003	84.5	3.1	84.1	1.9	57.2	20.9	67.0	16.5
2004	87.1	3.0	86.7	3.1	66.6	16.4	78.8	17.6
2005	89.9	3.3	88.2	1.7	88.6	33.0	95.8	21.6
2006	93.0	3.4	89.7	1.7	100.7	13.7	108.0	12.8
2007	96.0	3.2	93.2	3.9	107.7	6.9	117.1	8.4
2008	98.9	3.1	98.9	6.1	146.0	35.6	136.6	16.6
2009	100.0	1.1	100.0	1.2	100.0	-31.5	100.0	-26.8
2010	101.7	1.7	100.3	0.3	117.0	17.0	118.2	18.2
2011	103.5	1.8	104.3	4.0	148.8	27.2	149.3	26.3
2012	105.7	2.1	106.6	2.3	150.7	1.3	154.6	3.5
2013	107.9	2.1	107.8	1.0	149.0	-1.2	150.4	-2.7
2014	110.3	2.2	109.8	1.9	148.3	-0.4	144.7	-3.8

Forecast

2015	112.4	1.9	112.2	2.3	102.9	-30.6	103.3	-28.6
2016	114.9	2.2	113.9	1.5	109.7	6.6	109.5	6.0
2017	117.5	2.3	115.3	1.2	114.1	4.1	112.1	2.3
2018	120.3	2.3	117.1	1.6	118.1	3.5	114.5	2.2
2019	123.1	2.4	119.0	1.5	122.1	3.4	116.8	2.0

Table A5.1

**Washington Resident Population and Components of Change\***  
(Thousands)

	<u>Population</u>	<u>Change</u>	<u>Percent Change</u>	<u>Births</u>	<u>Deaths</u>	<u>Net Migration</u>
1970	3413.2	16.2	0.5	59.9	30.0	-13.7
1971	3436.3	23.1	0.7	60.0	29.8	-7.1
1972	3430.3	-6.0	-0.2	53.1	30.4	-28.7
1973	3444.3	14.0	0.4	47.7	30.4	-3.3
1974	3508.7	64.4	1.9	48.2	29.9	46.1
1975	3567.9	59.2	1.7	50.1	30.3	39.4
1976	3634.9	67.0	1.9	51.4	30.2	45.8
1977	3715.4	80.5	2.2	54.2	29.1	55.4
1978	3836.2	120.8	3.3	57.3	30.4	93.9
1979	3979.2	143.0	3.7	60.2	30.2	113.0
1980	4132.2	153.0	3.8	65.4	31.3	118.9
1981	4229.3	97.1	2.4	68.2	31.8	60.8
1982	4276.5	47.3	1.1	70.1	31.7	8.9
1983	4307.2	30.7	0.7	69.5	32.5	-6.2
1984	4354.1	46.8	1.1	68.5	33.2	11.6
1985	4415.8	61.7	1.4	69.1	34.0	26.6
1986	4462.2	46.4	1.1	70.2	34.0	10.2
1987	4527.1	64.9	1.5	69.3	34.4	30.0
1988	4616.9	89.8	2.0	71.0	36.0	54.8
1989	4728.1	111.2	2.4	73.0	36.0	74.2
1990	4866.7	138.6	2.9	76.4	36.2	98.5
1991	5021.3	154.6	3.2	79.1	36.6	112.1
1992	5141.2	119.8	2.4	80.2	37.2	76.8
1993	5265.7	124.5	2.4	79.1	39.4	84.8
1994	5364.3	98.7	1.9	78.2	39.5	60.0
1995	5470.1	105.8	2.0	77.5	40.0	68.3
1996	5567.8	97.7	1.8	77.0	41.2	61.8
1997	5663.8	96.0	1.7	78.0	42.6	60.6
1998	5750.0	86.3	1.5	78.8	41.6	49.0
1999	5830.8	80.8	1.4	79.8	43.1	44.2
2000	5894.1	63.3	1.1	79.9	43.7	27.2
2001	5970.3	76.2	1.3	80.7	43.9	39.4
2002	6059.3	89.0	1.5	79.3	44.9	54.6
2003	6126.9	67.6	1.1	79.1	44.7	33.2
2004	6208.5	81.6	1.3	81.0	46.0	46.7
2005	6298.8	90.3	1.5	81.8	45.6	54.1
2006	6420.3	121.4	1.9	83.2	45.3	83.5
2007	6525.1	104.8	1.6	87.8	46.2	63.2
2008	6608.2	83.2	1.3	89.6	47.9	41.5
2009	6672.2	63.9	1.0	89.8	48.1	22.2
2010	6724.5	52.4	0.8	88.4	47.7	11.6
2011	6767.9	43.4	0.6	86.4	48.8	5.8
2012	6817.8	49.9	0.7	87.1	49.2	12.0
2013	6882.4	64.6	0.9	87.3	51.1	28.5
2014	6968.2	85.8	1.2	87.7	51.6	49.7
<b>Forecast</b>						
2015	7054.8	86.6	1.2	88.2	52.1	50.5
2016	7142.2	87.4	1.2	89.2	53.0	51.3
2017	7227.5	85.3	1.2	89.9	54.0	49.4
2018	7308.9	81.3	1.1	91.5	55.0	44.8
2019	7383.5	74.6	1.0	92.1	58.9	41.3

\* As of April 1 of Each Year

Source: Office of Financial Management



Table A5.2  
**Washington Population\***  
 (Thousands)

	<u>2010</u>	<u>2011</u>	<b>Actual</b> <u>2012</u>	<u>2013</u>	<u>2014</u>	<u>2015</u>	<u>2016</u>	<b>Forecast</b> <u>2017</u>	<u>2018</u>	<u>2019</u>
Total Population	6724.5	6767.9	6817.8	6882.4	6968.2	7054.8	7142.2	7227.5	7308.9	7383.5
Percent Change	0.8	0.6	0.7	0.9	1.2	1.2	1.2	1.2	1.1	1.0
Age 17 and Under	1581.4	1574.8	1573.6	1578.7	1591.2	1603.9	1617.1	1629.7	1641.6	1653.2
Percent of Total	23.5	23.3	23.1	22.9	22.8	22.7	22.6	22.5	22.5	22.4
Age 6-18	1149.6	1142.5	1137.4	1141.0	1150.9	1160.9	1171.0	1179.9	1188.7	1196.0
Percent of Total	17.1	16.9	16.7	16.6	16.5	16.5	16.4	16.3	16.3	16.2
Age 18 and Over	5143.2	5193.1	5244.2	5303.7	5377.0	5450.9	5525.2	5597.8	5667.3	5730.3
Percent of Total	76.5	76.7	76.9	77.1	77.2	77.3	77.4	77.5	77.5	77.6
Age 21 and Over	4860.6	4910.6	4964.3	5027.8	5104.8	5180.0	5253.8	5324.7	5391.9	5453.6
Percent of Total	72.3	72.6	72.8	73.1	73.3	73.4	73.6	73.7	73.8	73.9
Age 20-34	1395.3	1403.5	1413.2	1427.0	1446.1	1456.2	1466.0	1473.7	1479.4	1485.5
Percent of Total	20.7	20.7	20.7	20.7	20.8	20.6	20.5	20.4	20.2	20.1
Age 18-64	4315.5	4341.7	4350.5	4367.2	4398.9	4428.9	4459.5	4486.6	4506.8	4523.0
Percent of Total	64.2	64.2	63.8	63.5	63.1	62.8	62.4	62.1	61.7	61.3
Age 65 and Over	827.7	851.4	893.7	936.5	978.1	1022.0	1065.7	1111.2	1160.5	1207.3
Percent of Total	12.3	12.6	13.1	13.6	14.0	14.5	14.9	15.4	15.9	16.4

\* As of April 1 of Each Year

Source: Office of Financial Management

Table A6.1

**Summary of National and State Indicators**

<b>Indicator</b>	<b>Latest Data</b>	<b>Indication*</b>
U.S. Leading Index	January 2015	+
U.S. Real GDP Growth	4th quarter 2014	-
U.S. ISM Index	February 2015	-
U.S. Employment YoY%Δ	February 2015	+
U.S. Unemployment Rate	February 2015	+
U.S. Fed Funds Target	February 2015	unchanged
U.S. Consumer Confidence	February 2015	-
U.S. Consumer Sentiment	February 2015	-
U.S. Light Vehicle Sales	February 2015	-
U.S. CPI	January 2015	+
U.S. Home Prices	December 2014	+
S&P 500 Index	February 2015	+
WA Leading Index	January 2015	-
WA ISM-WW Index	February 2015	-
WA Employment YoY%Δ	January 2015	-
WA Aerospace Empl. YoY%Δ	January 2015	-
WA Unemployment Rate	December 2014	-
WA Business Cycle Indicator	December 2014	-
WA Initial Unemploy. Claims	February 2015	-
WA Housing Permits	January 2015	+
WA Weekly Hours in Mfg.	December 2014	unchanged
WA New Vehicle Registration	February 2015	+
WA In-Migration	January 2015	+
WA Exports-Total YoY%Δ	4th quarter 2014	+
WA Exports- w/o Trans. Equip. YoY%Δ	4th quarter 2014	-
Seattle CPI	December 2014	+
Seattle Home Prices	December 2014	+
WA Residential Const. Contracts	January 2015	-
WA Non-Residential Const. Contracts	January 2015	-

\*Change from the previous reading

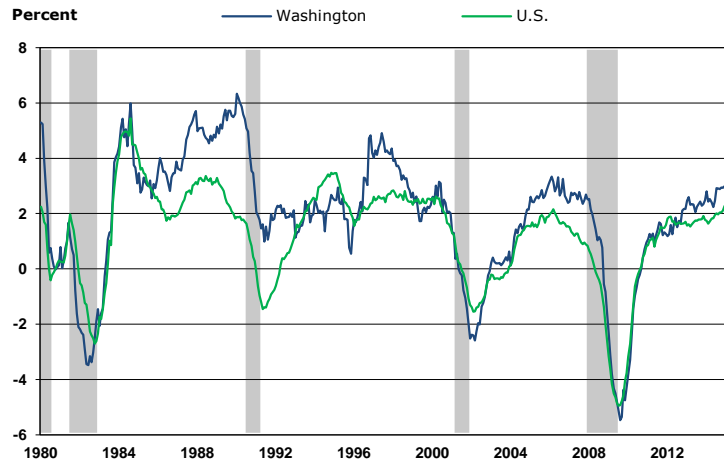
Table A6.2  
**Washington Business Indicators**  
 Historical Data

	WA Index of Leading Indicators	U.S. Index of Leading Indicators	WA State Business Cycle Indicator	WA State Construction Index	WA State Help Wanted Index	WA Purchasing Management Index	U.S. Purchasing Management Index
2012:01	108.4	106.6	24.7	81.6	107.0	68.5	52.8
2012:02	109.8	107.2	25.9	83.6	104.9	68.9	52.4
2012:03	111.0	107.7	28.0	91.0	110.0	62.9	53.0
2012:04	111.1	107.4	28.9	91.1	113.5	64.9	53.7
2012:05	110.9	107.5	29.8	91.1	111.2	58.5	53.2
2012:06	110.9	107.2	31.4	92.1	113.4	57.0	51.0
2012:07	111.3	107.5	30.9	91.3	114.8	58.8	50.6
2012:08	111.0	107.3	31.5	88.4	110.5	53.5	51.1
2012:09	112.4	107.8	33.4	92.7	116.6	56.0	52.2
2012:10	113.3	108.1	34.9	95.4	117.9	56.3	51.2
2012:11	112.8	108.1	37.5	90.6	120.6	60.1	49.5
2012:12	113.8	108.5	38.8	89.6	125.9	58.1	50.4
2013:01	114.7	109.1	39.7	95.0	128.7	60.2	52.3
2013:02	114.7	109.5	38.9	95.6	127.2	56.3	53.1
2013:03	114.0	109.2	39.3	95.7	118.8	65.4	51.5
2013:04	114.2	110.0	38.3	93.2	120.2	59.5	50.0
2013:05	114.2	110.2	39.7	92.9	120.0	53.7	50.0
2013:06	114.3	110.4	39.7	93.1	121.0	61.0	52.5
2013:07	114.4	110.8	42.2	95.8	118.6	60.3	54.9
2013:08	114.9	111.6	42.5	94.1	118.7	53.8	56.3
2013:09	115.1	112.5	41.6	91.8	116.6	52.7	56.0
2013:10	114.6	112.8	42.4	94.9	112.7	54.2	56.6
2013:11	116.2	113.8	42.0	93.6	118.2	61.1	57.0
2013:12	116.4	113.8	42.7	97.5	118.2	62.3	56.5
2014:01	116.1	113.7	43.7	96.6	118.2	63.5	51.8
2014:02	115.2	114.3	43.0	90.8	118.5	68.7	54.3
2014:03	116.3	115.4	43.8	93.9	118.6	63.6	54.4
2014:04	117.1	115.8	46.7	97.2	120.6	53.7	55.3
2014:05	117.0	116.5	47.6	93.4	118.7	59.6	55.6
2014:06	118.4	117.2	47.5	96.8	121.0	67.0	55.7
2014:07	118.5	118.4	49.5	96.2	121.3	50.1	56.4
2014:08	118.5	118.5	49.1	96.2	121.6	62.9	58.1
2014:09	118.2	119.2	49.0	96.1	114.3	60.3	56.1
2014:10	119.2	119.9	48.3	100.7	119.0	57.6	57.9
2014:11	119.8	120.3	49.0	100.6	128.0	63.1	57.6
2014:12	119.5	120.8	48.8	101.9	122.0	53.3	55.1
2015:01	119.3	121.1		98.2	127.6	66.6	53.5
2015:02					137.3	65.9	52.9

# Figure A7.1: Washington State Economic Indicators

## Year-over-Year Employment Growth

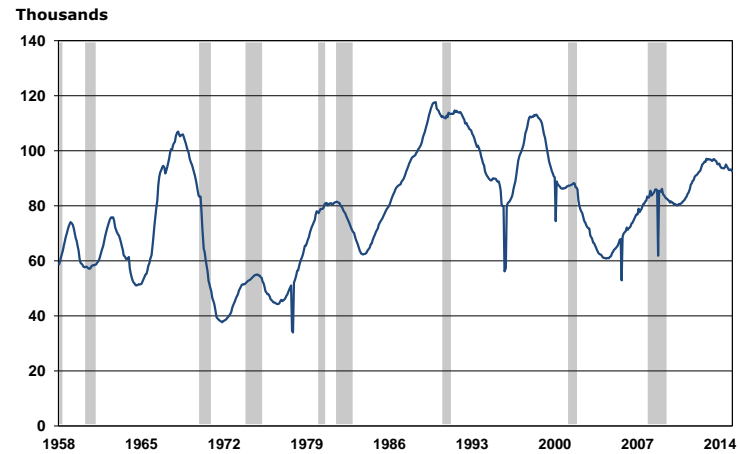
January 1980 to February 2015



\* Bureau of Labor Statistics, WA State Employment Security, ERFC Kalman Filtered Data

## Washington Aircraft and Parts Employment

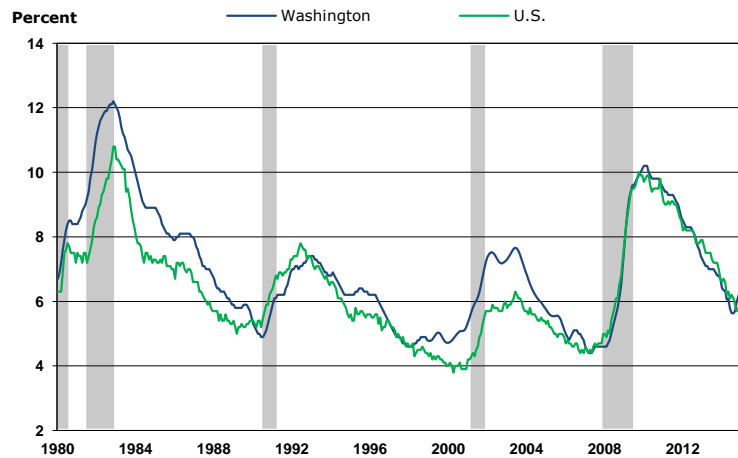
January 1958 to January 2015



\* Source: Bureau of Labor Statistics, ERFC

## Unemployment Rate, S.A.

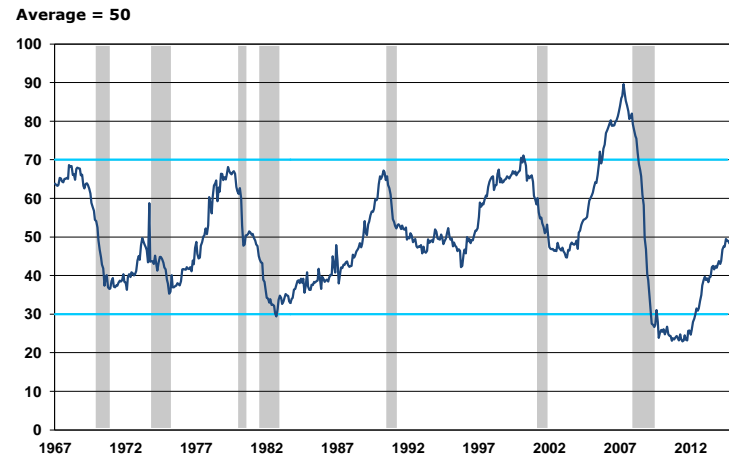
January 1980 to February 2015



\* Source: Bureau of Labor Statistics

## Washington Business Cycle Indicator

January 1968 to December 2014



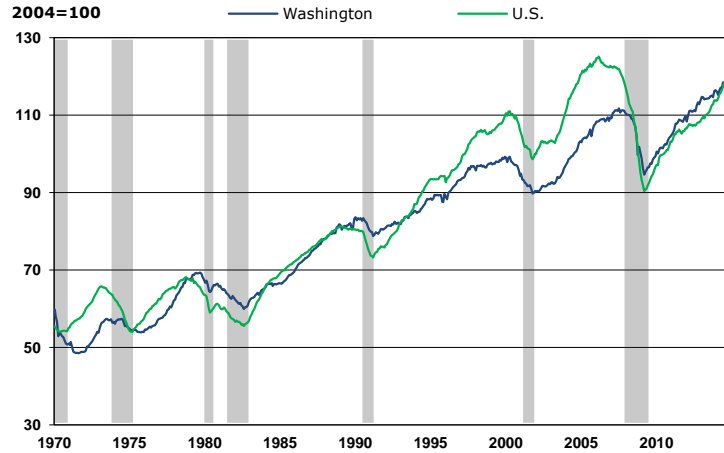
\* Source: ERFC

\* Shaded areas correspond with national recessions.  
Appendix

# Figure A7.2: Washington State Leading Indicators

## The Washington and U.S. Indexes of Leading Indicators

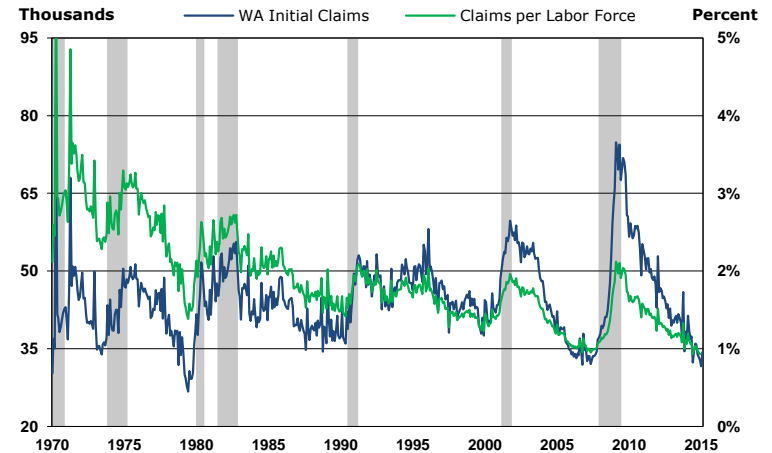
January 1970 to January 2015



\* The Conference Board, ERFC

## Washington Initial Claims for Unemployment Insurance

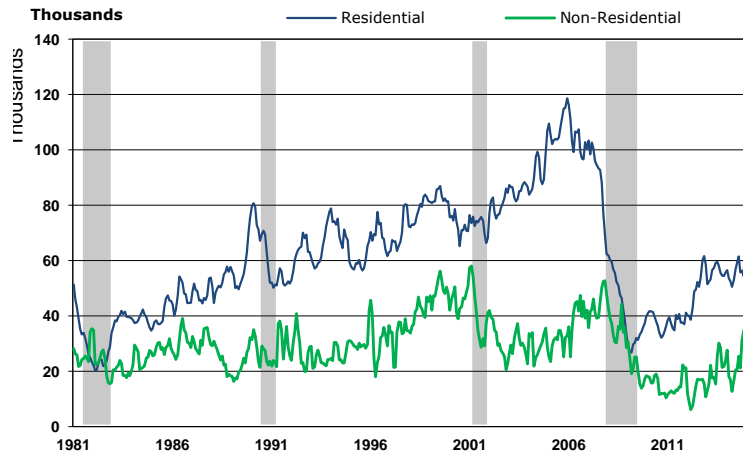
January 1970 to February 2015, S.A.



\* Source: WA State Employment Security, ERFC

## Square Footage of Construction Projects in WA State

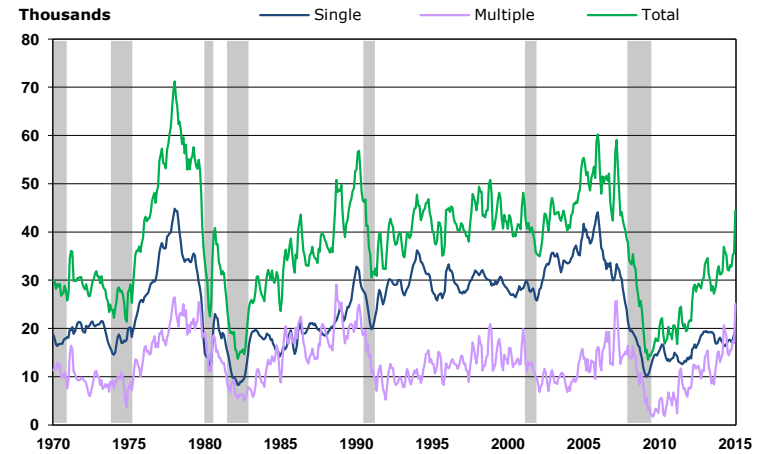
January 1981 to January 2015, 3mma, SAAR



\* Source: McGraw-Hill Construction, ERFC

## Housing Units Authorized in Washington State

January 1970 to January 2015, 3mma, SAAR



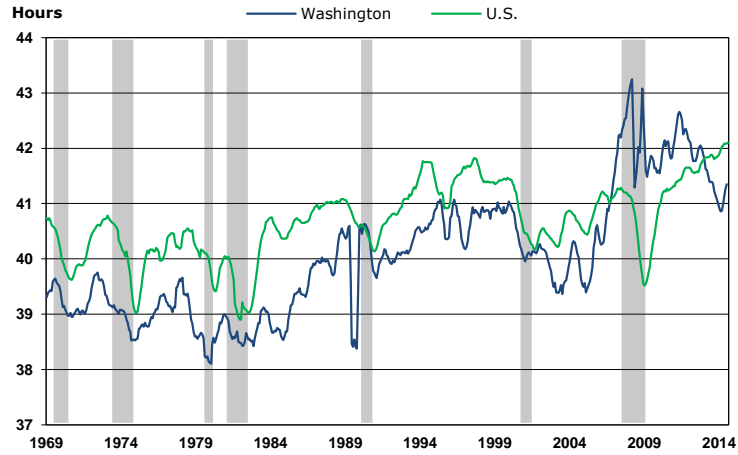
\* Source: Census Bureau, ERFC

\* Shaded areas correspond with national recessions.  
Appendix

# Figure A7.3: Other State Economic Indicators

## Average Weekly Hours in Manufacturing

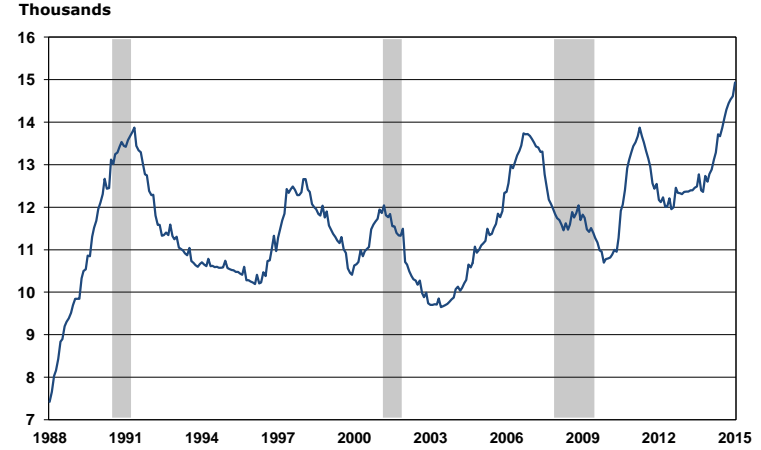
June 1969 to January 2015, 6-Mo. Moving Average, S.A.



\* Bureau of Labor Statistics, ERFC

## Washington Driver's License In-Migration

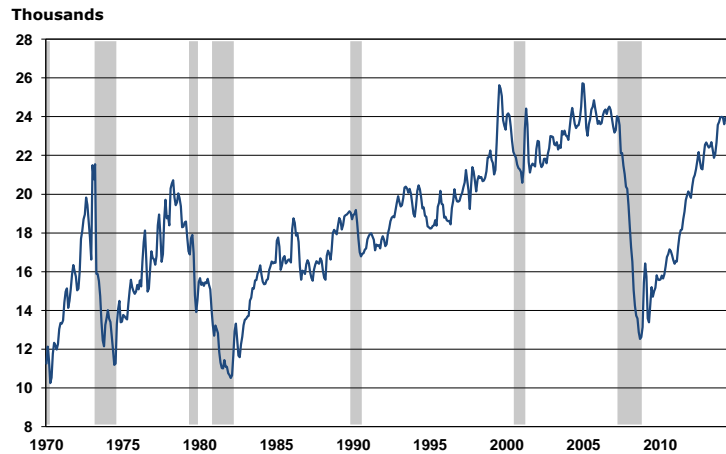
January 1988 to January 2015, 12-Month Moving Average



\* Source: WA State Department of Licensing, ERFC

## New Car and Truck Registrations in Washington

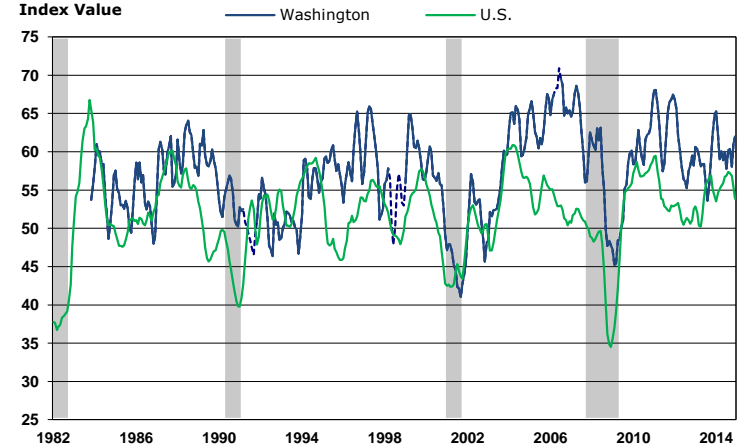
September 1970 to February 2015, 3-Month Moving Average, S.A.



\* Source: WA State Department of Licensing, ERFC

## Institute for Supply Management Index

March 1982 to November 2014, 3-Month Moving Average, S.A.



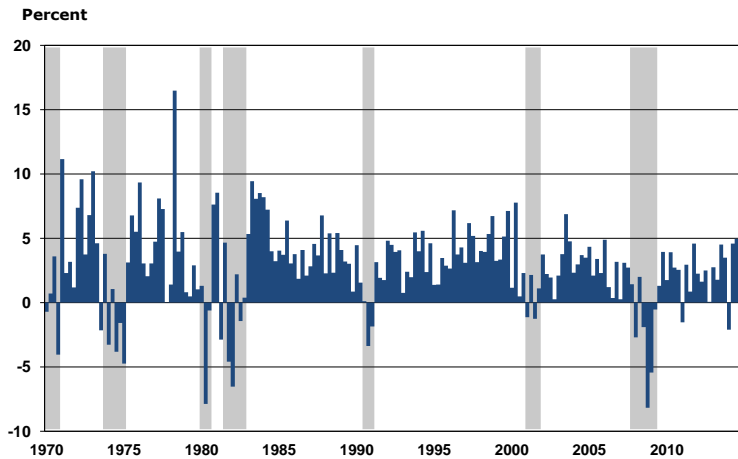
\* Source: Institute for Supply Management, ISM-WW, ERFC

\* Shaded areas correspond with national recessions.  
Appendix

## Figure A7.4: Other Economic Indicators

### Quarterly U.S. Real GDP Growth

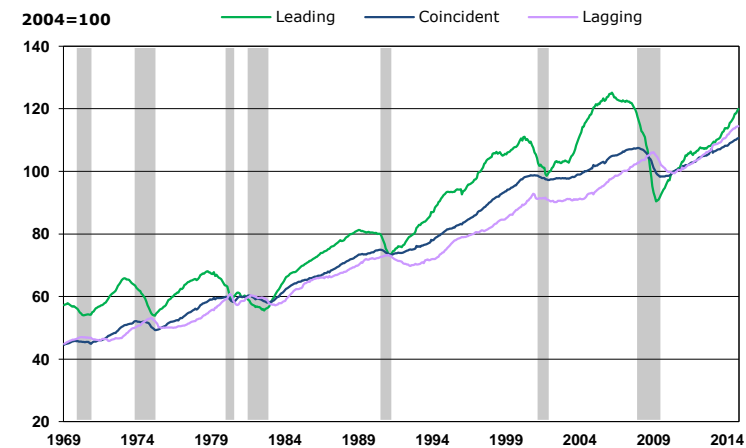
1970Q1 to 2014Q4, SAAR



\* Source: Bureau of Economic Analysis

### U.S. Economic Indicators

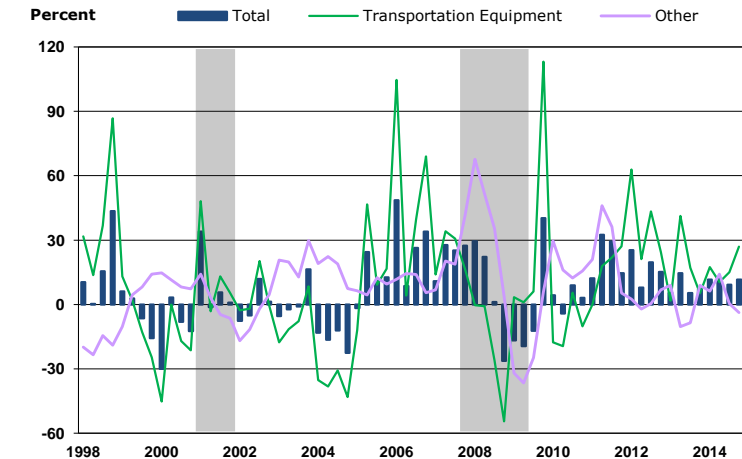
January 1969 to January 2015



\* Source: The Conference Board

### Washington State Export Composition

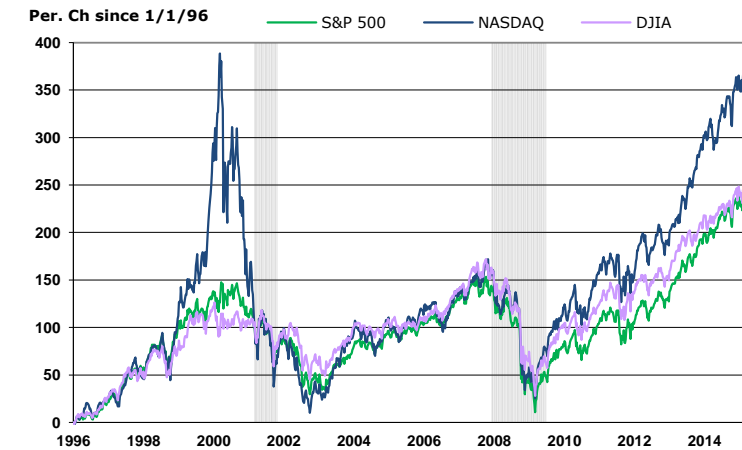
1998Q1 to 2014Q4, Year-over-year percent change



\* Source: WISER

### National Stock Indexes

January 1, 1996 to March 6, 2015



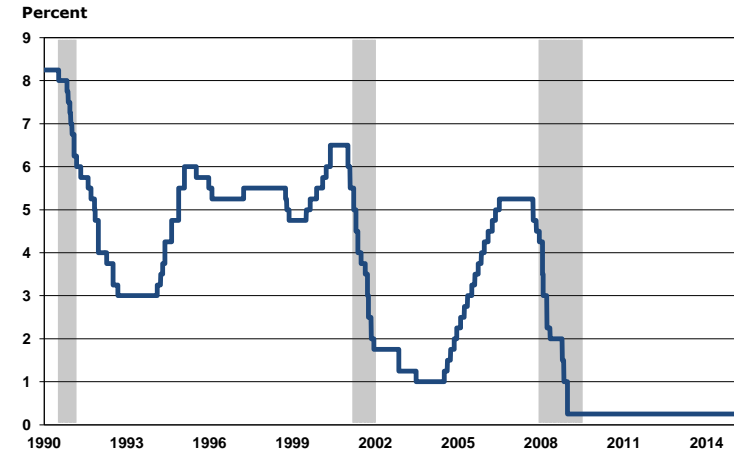
\* Source: ERFC

\* Shaded areas correspond with national recessions.

# Figure A7.4: Other Economic Indicators

## Federal Funds Target Rate

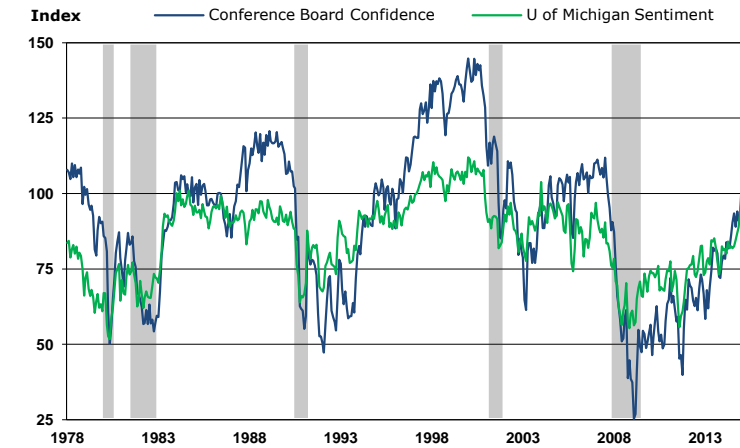
January 1, 1990 to February 28, 2015



\* Federal Reserve

## Consumer Confidence

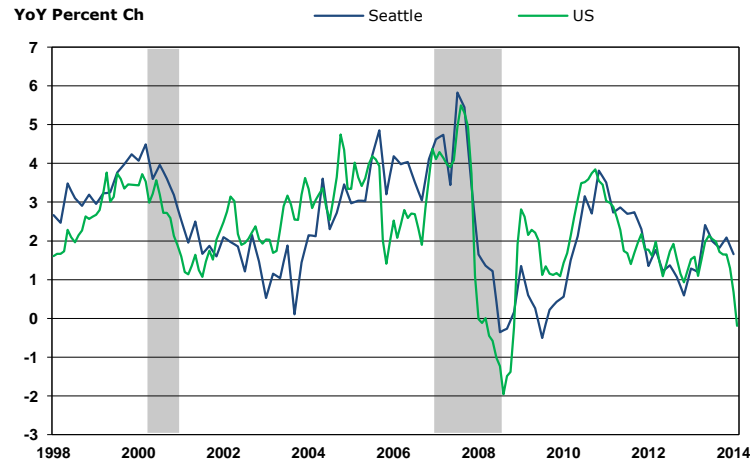
March 1978 to February 2015



\* Source: The Conference Board, University of Michigan

## Seattle vs U.S. CPI (All Urban Consumers)

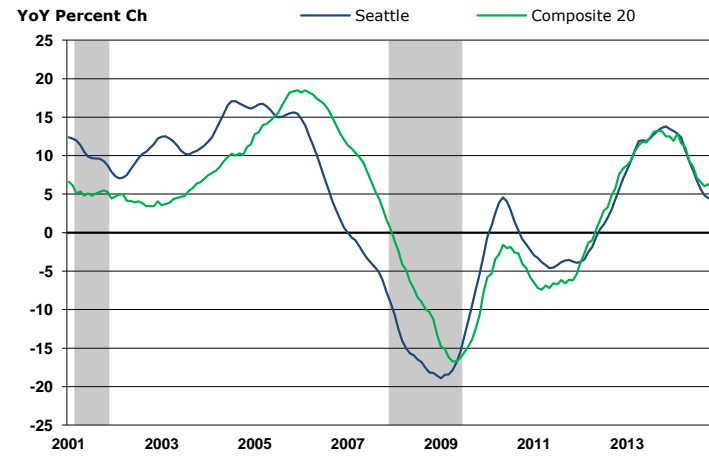
December 1998 to January 2015



\* Source: Bureau of Labor Statistics

## Case Shiller Home Price Index

January 2001 to December 2014, SA



\* Source: Case Shiller, ERFC

\* Shaded areas correspond with national recessions.  
Appendix





## Glossary

**Biennium:** The state's two years budget cycle.

**Cash Basis:** Cash receipts received during a period. The Forecast Council forecasts revenues on a Cash and GAAP (Generally Accepted Accounting Principles) basis.

**CPI:** The Consumer Price Index for All Urban Consumers. The Bureau of Labor Statistics (BLS) updates the CPI monthly, surveying over 60,000 goods in 85 urban areas.

**Tax Elasticity:** A measure of how tax revenues respond to changes in personal income. If tax revenue elasticity is greater than one, a one percent change in personal income will be associated with more than a one percent increase in tax revenues. If elasticity is less than one, a one percent increase in personal income will be associated with less than a one percent increase in tax revenues.

**Fiscal Year:** The state's budget year. Washington State's fiscal year runs from July 1 through June 30. Fiscal year 2014, for example, ran from July 1, 2013 through June 30, 2014.

**GAAP Basis:** Generally Accepted Accounting Principles measure revenue in the period during which they accrue rather than the period in which they are received.  
General Fund: Accounts for all financial resources and transactions not accounted for in another fund.

**General Fund-State (GF-S) Revenue:** Resources from state sources only, excludes federal monies. The general fund is the principal state fund supporting the operation of the state.

**Implicit Price Deflator, PCE (IPD):** The IPD for consumption is a by-product of the National Income and Product Accounts. It is derived by dividing current dollar (nominal) consumer expenditures by constant dollar (real) consumer expenditures.

**Mortgage Rate:** The average interest rate on 30 year conventional loan (as reported by Freddie Mac).

**Near General Fund:** All accounts included in the General Fund - State plus the Education Legacy Trust Account.

**Non-Wage Income:** Personal income other than from wages and salaries. The major components are: proprietor's income, transfer payments, and dividends, interest and rent.

**Real GDP:** Gross Domestic Production adjusted for the price level.

**Revenue Act:** Revenue Act taxes consist of the retail sales tax, use tax, business and occupation tax, public utility tax and tobacco products tax, plus penalty and interest payments associated with those taxes.

**Personal Income:** Income from wages and salaries; other labor income; proprietor's income; dividends, interest and rent; transfer payments; and a residence adjustment. It is reduced by employee contributions for social insurance.

**Seasonally Adjusted:** Adjusted for normal seasonal variations. Monthly statistics, such as the unemployment rate, are seasonally adjusted to make month-to-month comparisons possible.

**Seasonally Adjusted Annual Rate:** A rate for a given period that is typically less than one year, but that is computed as if the rate were for a full year and seasonally adjusted.

**Nonfarm Payroll Employment:** Civilian non-farm payroll employees. The self-employed, farm workers, members of the armed forces, private household employees, and workers on strike are excluded.