

Economic Review  
September 6, 2017



Washington State  
Economic and Revenue Forecast Council

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WASHINGTON STATE  
**ECONOMIC AND REVENUE FORECAST COUNCIL**

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## AGENDA

### **ECONOMIC REVIEW MEETING**

September 6, 2017  
10:00 a.m.

- Approval of meeting minutes:
  - ✓ June 20, 2017 Revenue Review
  - ✓ July 28, 2017 Budget Outlook
- Contract renewal: Stephen Lerch, Executive Director
- Presentation of economic outlook and revenue collection experience

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STATE OF WASHINGTON

**ECONOMIC AND REVENUE FORECAST COUNCIL**

*PO Box 40912 □ Olympia, Washington 98504-0912 □ (360) 534-1560*

**Meeting Minutes  
Revenue Review**

June 20, 2017

John A. Cherberg, Hearing Room 3

**Economic and Revenue Forecast Council**

*Members Present*

John Braun, Senator  
Terry Nealey, House of Representatives (via phone)  
Timm Ormsby, House of Representatives  
Vikki Smith, Department of Revenue  
David Schumacher, Office of Financial Management  
Duane Davidson, Treasurer

*Staff*

Steve Lerch, Executive Director,  
ERFC

**Call to Order**

Director Schumacher called the meeting to order at 10:02 a.m.

**Motion**

Representative Ormsby made a motion to approve the meeting minutes from the June 7, 2017 meeting, seconded by Director Smith. Council approved the motion at 10:02 a.m.

**Forecast Presentation**

Dr. Lerch presented information on the final economic and revenue forecast. Dr. Lerch summarized the forecast changes. There was a brief discussion regarding future Federal Reserve interest rate increases in the forecast.

**Motion**

Representative Ormsby moved, seconded by Director Smith, to adopt the baseline revenue forecast. Council unanimously approved the motion at 10:14 a.m.

**Adjournment**

Meeting adjourned at 10:14 a.m.

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## ECONOMIC AND REVENUE FORECAST COUNCIL

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### **Meeting Minutes Budget Outlook Adoption**

July 28, 2017

John A. Cherberg, Hearing Room 2

#### **Economic and Revenue Forecast Council**

*Members Present*

**John Braun, Senate (via phone)**

**Terry Nealey, House of Representatives**

**Timm Ormsby, House of Representatives (via phone)**

**Duane Davidson, Treasurer**

**David Schumacher, OFM**

*Staff*

Steve Lerch, Executive Director

*Budget Outlook Work Group*

*representatives:*

Andy Toulon, House

Amanda Cecil, Senate

#### **Call to Order**

Director Schumacher called the meeting to order at 10:32 a.m.

#### **Request for Guidance**

Members of the Budget Outlook Work Group requested guidance regarding the Tobacco Arbitration Settlement as outlined in a memo dated July 28, 2017. Discussion ensued among members.

#### **Motion**

Representative Ormsby, seconded by Representative Nealey, moved to include the anticipated \$15 million tobacco arbitration award into the official outlook. Motion approved at 10:41 a.m.

#### **Presentation on Budget Outlook**

Andy Toulon and Amanda Cecil provided an overview of the methodology for the State Budget Outlook. The presented outlook does include the tobacco arbitration award discussed above.

#### **Motion to Adopt the Budget Outlook**

Senator Braun moved, seconded by Representative Nealey, to adopt the outlook on the 2017-19 Operating Budget. Motion passed at 10:50 a.m.

#### **Adjournment**

Meeting adjourned at 10:54 a.m.

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**Economic & Revenue Forecast Council  
State of Washington**



**Economic Review: September 6, 2017**

**Executive Summary**

- This forecast is based on a modified version of IHS Markit's August 2017 forecast for the U.S. economy. As usual, we have adjusted real gross domestic product (GDP) to match the Blue Chip "Consensus" GDP forecast. The August Blue Chip forecast for real GDP growth in 2017 was revised down to 2.1% from 2.2% in June. The forecast for 2018 was unchanged at 2.4%. The Blue Chip long-range forecast, which is revised only twice per year, has not been updated since March and remains at 2.1%, 2.0%, and 2.0% in 2019, 2020, and 2021.
- Our oil price forecast reflects the futures markets, primarily the Brent (North Sea) oil price but also the West Texas Intermediate (WTI) benchmark. This forecast was based on the Wednesday, August 30, 2017 closing prices for Brent and WTI futures. The latest futures prices are slightly higher than the prices used in the June forecast and, as in June, rise gradually through the forecast. The refiner acquisition price of crude oil in the fourth quarter of 2017 is now expected to average \$46 per barrel compared to \$45 in the June forecast. By the end of 2021, the refiner acquisition price is expected to average \$50 per barrel compared to \$49 in the June forecast.
- As in June, the preliminary September forecast incorporates some policies proposed by the Trump administration, including lower personal and corporate federal tax rates, consistent with the House Republican plan, as well as \$220 billion in additional infrastructure spending over 10 years. The forecast does not assume a border adjustment tax nor does it assume any changes to the affordable care act.
- The preliminary September forecast was produced prior to Hurricane Harvey. The impact of the storm will be reflected in the final September U.S. economic forecast but the impact on the state forecast will be minimal.
- The U.S. labor market expanded by 156,000 net new jobs in August. In the previous 12 months, employment had increased by an average of 176,000 jobs. Data for August employment will be incorporated into our final economic forecast.
- Two key measures of consumer confidence both increased this month. The University of Michigan index of consumer sentiment increased by 3.4 points in August to 96.8. The Conference Board index of consumer confidence increased for a second straight month, rising 2.9 points in August to 122.9.
- Initial claims for unemployment insurance increased by 1,000 to 236,000 (SA) in the week ending August 26<sup>th</sup>. The four-week moving average of initial claims decreased by 1,250 to 236,750.
- Industrial production increased by 0.2% (SA) in July following a revised 0.4% (SA) increase in June. Industrial production is now 2.2% above its July 2016 level. New orders for core capital goods (i.e., durables excluding aircraft and military), which is a proxy for business investment, increased by 1.0% (SA) in

July and were 1.1% (SA) above their year-ago level according to U.S. Census Bureau data.

- U.S. housing data were generally weak this month. Housing units authorized by building permits in July were 4.1% (SA) below their June level but 4.1% above their year-ago level. July housing starts decreased by 4.8% (SA) compared to June and were 5.6% below their July 2016 level. Existing home sales in July fell 1.3% (SA) compared to June but were 2.1% above their year-ago level. New single-family home sales decreased from a revised 630,000 (SAAR) in June to 571,000 in July, a decline of 9.4% and 8.9% below their year-ago level. The seasonally adjusted Case-Shiller national home price index for June was 0.3% above its May level and 5.8% above its year-ago level.
- Major threats to the U.S. and Washington economies remain, including slow labor productivity growth, geopolitical risks and concerns about international trade.

## **Washington**

- We have two months of new Washington employment data since the June forecast was released. Total nonfarm payroll employment rose 15,300 (seasonally adjusted) in June and July, which was 6,300 more than the 9,000 expected in the June forecast. Manufacturing gained 300 jobs in the two-month period in spite of the loss of 600 aerospace jobs. Construction employment also increased 300 in June and July. Government payrolls expanded by 2,700 jobs in the last two months. As usual, the bulk of the net new jobs occurred in private, service-providing sectors, which added 12,000 jobs.
- 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 May 2017 by 9,400 jobs (0.3%). As a result of the upward revision to history and stronger-than-expected growth, the total effect is 15,700 (0.5%) more jobs in July 2017 than expected in the June forecast.
- In June, the Bureau of Economic Analysis released estimates for state personal income through the first quarter of 2017. We have incorporated the new BEA estimates as well as additional Washington QCEW and other wage data. Our current estimate of Washington personal income in the first quarter of 2017 is \$406.6 billion, which is \$5.0 billion (1.3%) higher than assumed in the June forecast. The variance was mostly in wages and salaries which were \$4.5 billion higher than believed in June.
- Washington housing construction increased in the second quarter of 2017 but fell slightly short of the forecast. The number of housing units authorized by building permits increased to 43,900 units (SAAR) in the second quarter of 2017 from 40,800 units in the first quarter. Second quarter permits were made up of 22,500 single-family units and 21,400 multi-family units. The June forecast assumed 45,300 units (SAAR) in the second quarter, consisting of 22,600 single-family units and 22,700 multi-family units. Washington housing construction in July was about as expected in the June forecast. In July, 44,500 units (SAAR) were permitted of which 23,200 were single family and 21,300 were multi-family. The June forecast assumed an average rate of

43,800 units for the third quarter as a whole (SAAR) consisting of 24,200 single-family units and 19,600 multi-family units.

- Seattle area home prices continue to rise very rapidly. According to the S&P/Case-Shiller Home Price Indices, seasonally adjusted Seattle area home prices rose 0.8% in June compared to a 0.1% increase in the Composite-20 index. However, the over-the-month changes are problematic due to seasonal adjustment issues. A more reliable measure is the over-the-year growth, which shows a 13.4% increase in prices since the previous June, more than double the 5.7% increase in the Composite-20 index. Not only are prices rising faster in Seattle than in other major metropolitan areas but also the rate of price appreciation in Seattle has been increasing. Seattle home prices are now up 70% since the December 2011 trough and now exceed the May 2007 peak by 18%.
- Seattle area consumer price inflation remains well above the national average. Over the last year, from June 2016 to June 2017, consumer prices in the Seattle area rose 3.0% compared to 1.6% for the U.S. city average. Core prices, which exclude food and energy, were up 3.1% in Seattle compared to 1.7% for the nation. The higher Seattle inflation is almost entirely due to more rapid growth in shelter costs. During the year, shelter costs in Seattle rose 6.3% compared to 3.3% for the nation. Excluding shelter, Seattle inflation was close to the national average at 1.2% compared to 0.8%.
- The Institute of Supply Management - Western Washington Index (ISM-WW) moved back into positive territory in August. The index, which measures conditions in the manufacturing sector, increased from 47.0 in July to 58.2 in August (index values above 50 indicate growth while values below 50 indicate contraction). The index had been less than or equal to 50 in each of the three previous months. The production, orders, and inventory components indicated expansion in August but the employment component indicated contraction. The vendor deliveries component was neutral at 50. Manufacturing has fluctuated around the 50 mark since mid-2015.
- Washington car and truck sales increased in July after sinking to the lowest level in more than three years in June. Seasonally adjusted new vehicle registrations increased 3.5% in July to 283,900 (SAAR) from 274,300 in June. Car and truck sales are still down 15.3% since the post-recession peak in January 2016 and down 7.2% over the year.
- Second quarter 2017 Washington exports were down 3.4% from the second quarter of 2016 because of a 10.1% decline in transportation equipment exports (mostly Boeing planes). Exports of agricultural products increased 28.9% over the year and exports of all other commodities rose 1.9% over the year. This "other" category, which consists mainly of manufactured goods, has shown positive over-the-year growth for the last three quarters.
- Washington employment is expected to grow 3.0% this year, up from 2.4% in the June forecast. As in June, we expect growth to decelerate gradually as the recovery matures. We expect employment growth to average 1.6% per year in 2018 through 2021, which is slightly higher than the 1.4% rate assumed in June. Our preliminary forecast for nominal personal income growth this year is 6.0%, up from 4.7% in the June forecast. Our new forecast for nominal personal income growth in 2018 through 2021 averages 5.1% per year which is the same rate as expected in the June forecast.

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# Washington State Economic Outlook & Revenue Collection Experience

Presented to  
The Economic & Revenue Forecast Council

Steve Lerch  
Executive Director

September 6, 2017  
Olympia, Washington



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## Summary

- The preliminary economic forecast for the U.S. is very similar to the June forecast; the impacts of Hurricane Harvey will be incorporated in the final September forecast
- The preliminary economic forecast for WA has slightly higher employment, personal income, and housing permits than in June
- Downside risks to the baseline include weak labor productivity growth and geopolitical concerns
- Revenue collections since the June forecast are \$73.7 million (2.4%) above expectations

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## Forecast risks

### Upside

- Elevated consumer, business confidence could translate into stronger growth
- Stock market gains could translate into faster household consumption growth
- Stronger global economic growth

### Downside

- Stagnant labor productivity inhibits wage growth
- Geopolitical risks: North Korea, Russia
- International trade policy uncertainty

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## The stock market continues to grow



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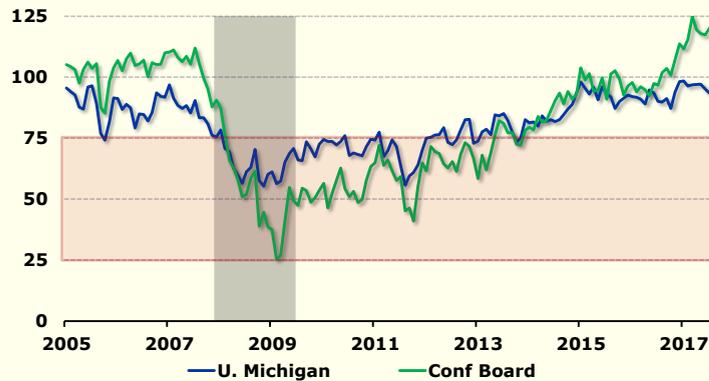
Source: Yahoo! Finance, data through August 2017

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## Consumer confidence is at or above pre-recession levels

Index  
Mich: 1966Q1 = 100, SA  
Conf Board: 1985 = 100, SA



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Sources: University of Michigan, Conference Board; data through August 2017

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## U.S. nonresidential investment grew for a fifth consecutive quarter in 2017 Q2



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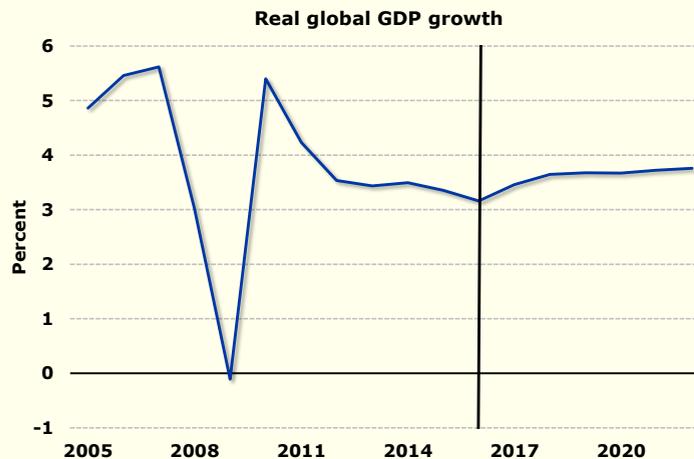
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Source: U.S. Bureau of Economic Analysis, data through 2017 Q2

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## Global GDP growth is expected to improve gradually



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Source: International Monetary Fund, World Economic Outlook, July 2017; historic data through 2016

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## Second quarter 2017 U.S. GDP growth revised up to 3%; highest growth since early 2015



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Source: U.S. Bureau of Economic Analysis, data through 2017 Q2

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## Wage growth has slowly improved since the recession

Wage growth has been slowed as higher-wage retirees have been replaced by lower-wage, younger workers

**Year-over-year median wage growth, 3 month average**



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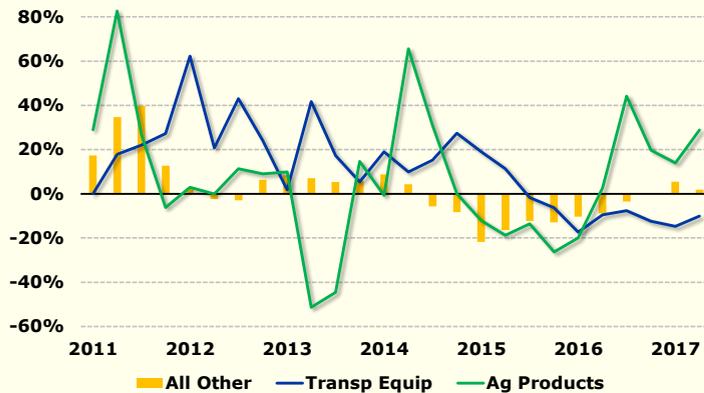
Source: Federal Reserve Bank of Atlanta Wage Tracker, data through July 2017

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## Agricultural exports are showing some improvement, transportation equipment is declining

Year over year growth, quarterly WA exports



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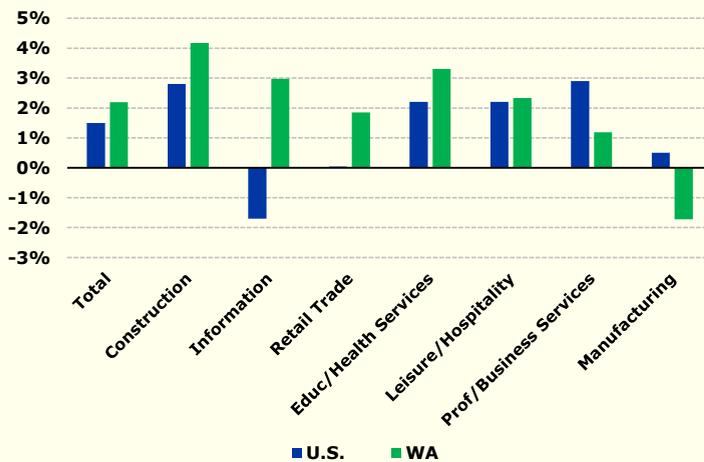
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Source: WISERTrade, data through 2017 Q2

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## Washington vs U.S. employment growth: July 2016 to July 2017



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Source: U.S. Bureau of Labor Statistics, Employment Security Dept., ERFC; data through July 2017

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## Washington electronic shopping employment is exploding



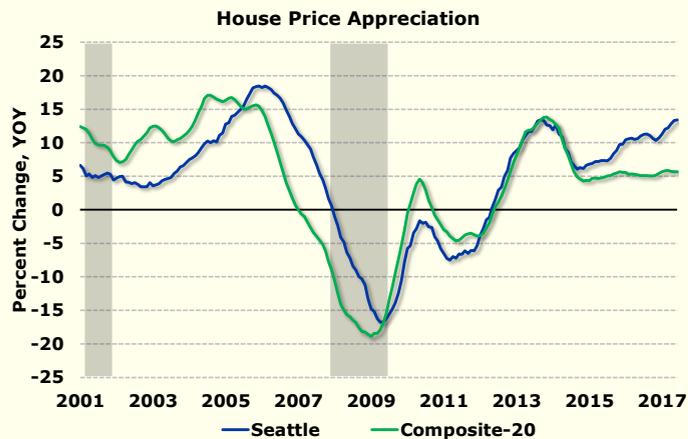
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Source: Employment Security Department; Monthly data through August 2017

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## Seattle house price appreciation has accelerated



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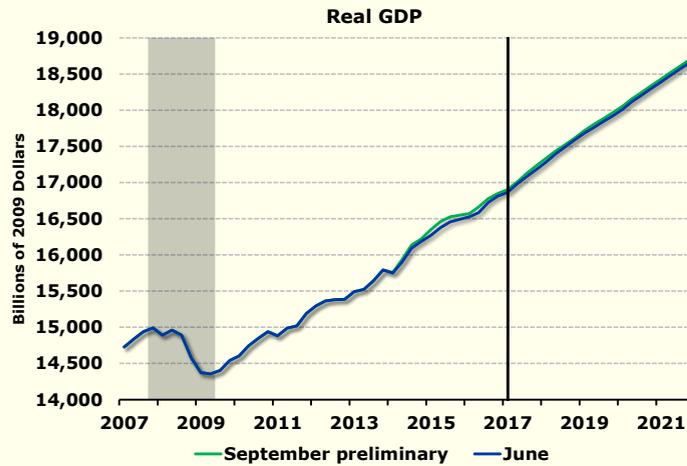
Source: S&P Case-Shiller; Monthly data through June 2017

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## Real GDP is slightly higher than in the June forecast

Real GDP at the end of 2021 is 0.2% higher than in the June forecast.



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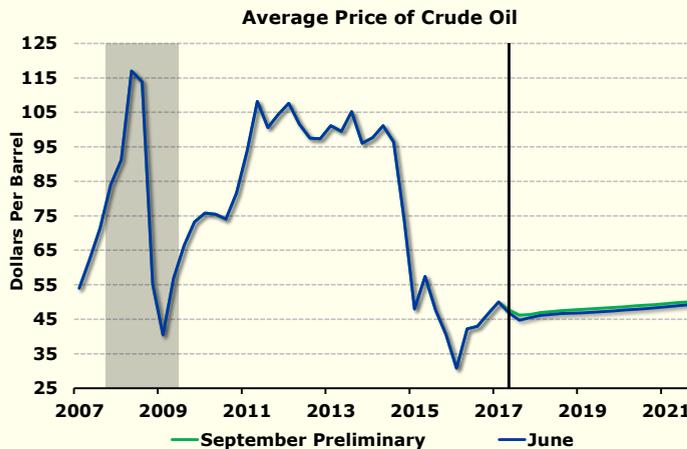
Source: ERFC September 2017 Preliminary forecast; data through Q2 2017

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## Oil prices are slightly higher compared to the June forecast



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Source: DOE, ERFC September 2017 Preliminary forecast; historical data through Q2 2017

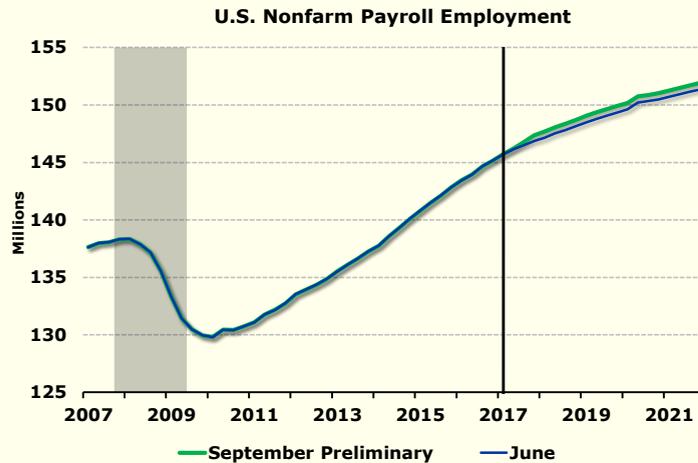
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## The U.S. nonfarm payroll employment forecast is slightly higher than in June

By the end of 2021, U.S. employment is 0.4% higher than in the June forecast.



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Source: ERFC September 2017 Preliminary forecast; data through Q2 2017

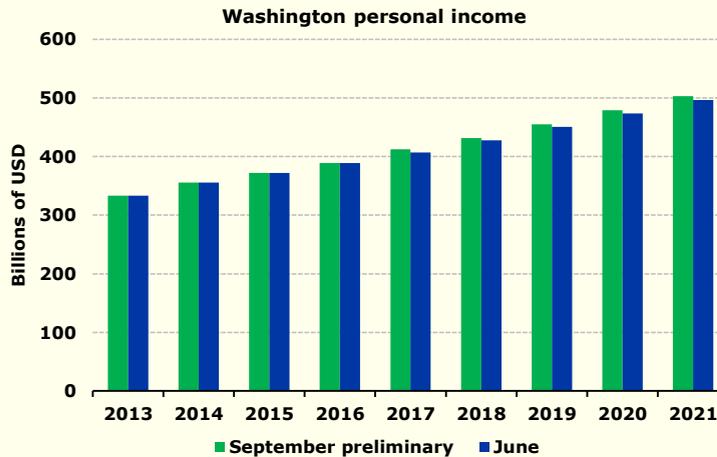
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## Washington personal income is slightly higher than in June

2017 YTD data were revised slightly higher. WA personal income is 1.2% higher in 2021 compared to the June forecast.



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Source: ERFC September 2017 Preliminary forecast; historical data through 2016

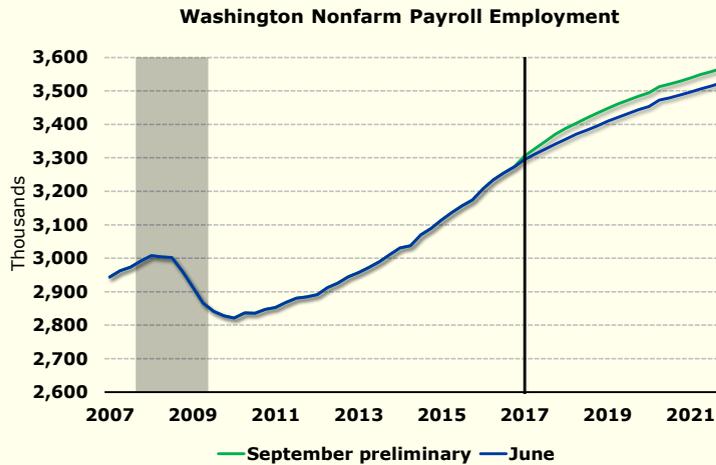
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## Washington employment forecast is slightly higher than in June

The WA nonfarm employment forecast is 43,000 jobs higher (1.2%) by 2021 compared to June.



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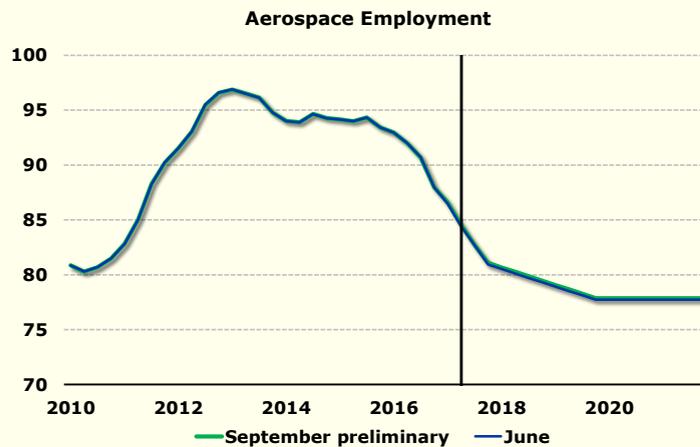
Source: ERFC September 2017 Preliminary forecast; historical data through Q1 2017

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## Aerospace employment forecast is unchanged since June

Aerospace employment is expected to decline by 6,700 jobs between 2017 Q2 and 2019 Q4



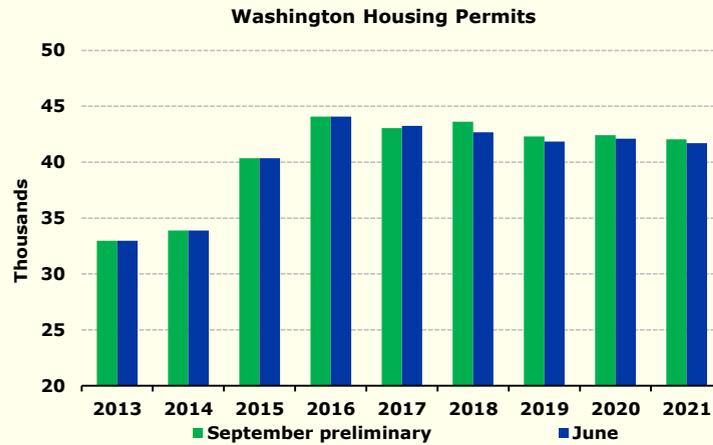
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Source: ERFC September 2017 Preliminary forecast; historical data through Q2 2017

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## Washington housing permits forecast is slightly higher compared to June



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Source: ERFC September 2017 Preliminary forecast; historical data through 2016

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## Rev Act growth relative to income above average for last 10 quarters

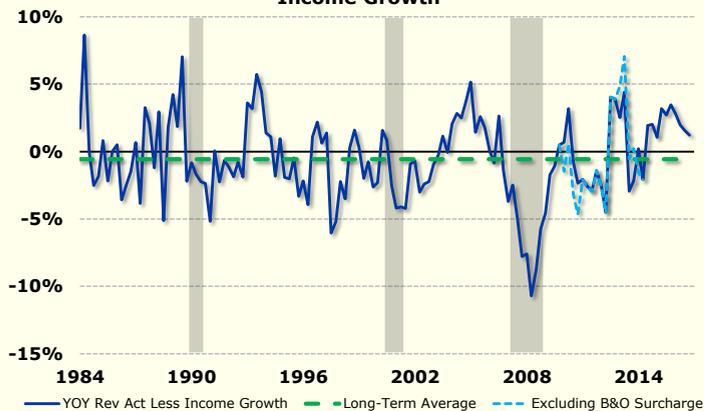
Adjusted Rev Act growth YOY:

16Q3: 7.2%  
16Q4: 6.4%  
17Q1: 6.3%  
17Q2: 5.7%

June personal income YOY growth estimate:

16Q3: 4.5%  
16Q4: 4.4%  
17Q1: 4.8%  
17Q2: 4.5%

**Year-Over-Year Rev Act\* Growth Less State Personal Income Growth**



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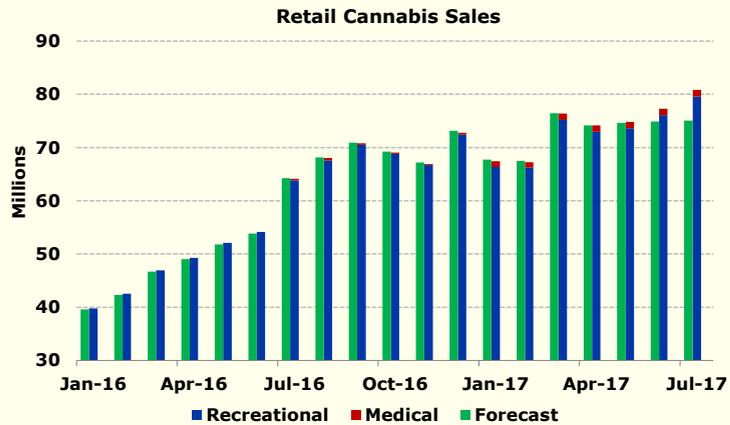
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\*Adjusted for large one-time payments and refunds and payments under the amnesty program  
Source: ERFC; Quarterly revenue data through Q2 2017, June 2017 income estimates

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## Cannabis revenue continues to be volatile



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Source: LCB, ERFC; data through July 2017

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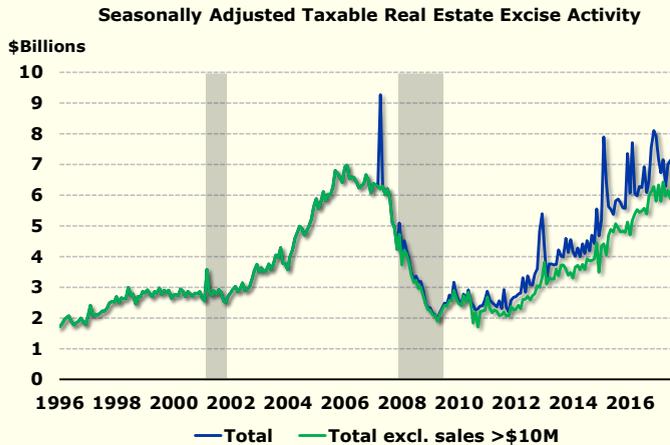
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## Large commercial property sales made a comeback in the 2<sup>nd</sup> quarter

Large commercial sales (>\$10 million) totaled \$5.2 billion in the 4<sup>th</sup> quarter of 2016, \$1.8 billion in the 1<sup>st</sup> quarter of 2017 and \$2.9 billion in the 2<sup>nd</sup> quarter.

Large commercial sales totaled \$478 million (preliminary) in July while sales less than \$10 million spiked.



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Source: ERFC; Monthly data through July 2017 preliminary

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## Revenue collections to date

### Collections Variance Since June Forecast (June 12, 2017 – August 10, 2017) dollars in thousands

	<u>Estimate</u>	<u>Actual</u>	<u>Difference</u>	<u>Pct.</u>
Dept. of Revenue	\$3,091,201	\$3,163,968	\$72,767	2.4%
All other agencies	\$11,046	\$12,573	\$1,526	13.8%
<b>Total GF-S</b>	<b>\$3,108,712</b>	<b>\$3,182,440</b>	<b>\$73,728</b>	<b>2.4%</b>

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## Conclusion

- The U.S. and Washington economic forecasts are fairly similar to June; we continue to expect moderate growth
- As has been the case for some time, Washington's economy is continuing to outperform the nation
- Threats to economic expansion include slow labor productivity, geopolitical risks and concerns about international trade
- The next monthly revenue collection report will be available on September 11<sup>th</sup> and the revenue forecast will be presented on September 20<sup>th</sup>

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## Questions

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Table 1

**U.S. Economic Forecast Comparison**

August 2017

	2017Q2	2017Q3	2017Q4	2018Q1	2016	2017	2018	2019	2020	2021
<b>Real GDP, Percent Change, Annual Rate</b>										
ERFC (Preliminary September)	2.6	2.8	2.5	2.3	1.5	2.1	2.4	2.1	2.0	2.0
IHS	2.6	3.1	2.4	3.0	1.5	2.1	2.7	2.4	2.1	2.2
Economy.com	2.6	2.8	2.8	3.1	1.5	2.1	2.8	2.1		
Blue Chip Average*	2.7	2.5	2.3		2.1	2.4	2.1	2.0	2.0	
Blue Chip Top 10*	3.2	2.9	2.8		2.2	2.8	2.5	2.5	2.5	
Blue Chip Bottom 10*	2.1	2.1	1.7		2.0	2.1	1.5	1.6	1.5	
<b>Real Consumption, Percent Change, Annual Rate</b>										
ERFC (Preliminary September)	2.8	2.2	2.4	2.5	2.7	2.6	2.4	2.3	2.2	2.1
IHS	2.8	2.6	2.7	3.3	2.7	2.6	3.0	2.8	2.5	2.5
Economy.com	2.8	2.8	2.8	2.8	2.7	2.7	2.7	2.2		
Blue Chip Average*	2.4	2.4	2.4		2.6	2.4	2.3	2.2	2.1	
Blue Chip Top 10*	2.8	2.9	2.9		2.7	2.8	2.8	2.6	2.6	
Blue Chip Bottom 10*	2.0	2.0	1.9		2.4	2.0	1.7	1.7	1.7	
<b>Federal Funds Rate</b>										
ERFC (Preliminary September)	1.0	1.2	1.3	1.5	0.4	1.0	1.7	2.6	3.0	3.0
IHS	1.0	1.2	1.3	1.5	0.4	1.0	1.7	2.6	3.0	3.0
Economy.com	1.0	1.2	1.2	1.4	0.4	1.0	1.9	3.4		
<b>Three Month T-Bill Rate</b>										
ERFC (Preliminary September)	0.9	1.1	1.2	1.4	0.3	0.9	1.6	2.5	2.8	2.8
IHS	0.9	1.1	1.2	1.4	0.3	1.0	1.7	2.5	2.9	2.9
Blue Chip Average*		1.1	1.2	1.4		1.0	1.7	2.4	2.7	2.8
Blue Chip Top 10*		1.1	1.3	1.6		1.0	1.9	3.1	3.5	3.4
Blue Chip Bottom 10*		1.0	1.1	1.3		0.9	1.5	1.7	2.0	2.2
<b>10-Yr. T-Note Yield</b>										
ERFC (Preliminary September)	2.3	2.3	2.6	2.9	1.8	2.4	3.2	3.9	4.0	3.9
IHS	2.3	2.3	2.5	2.8	1.8	2.4	3.1	3.8	4.1	4.1
Economy.com	2.3	2.5	2.7	3.0	1.8	2.5	3.4	4.2		
Blue Chip Average*		2.4	2.6	2.7		2.4	2.9	3.6	3.7	3.8
Blue Chip Top 10*		2.6	2.8	3.0		2.5	3.3	4.3	4.4	4.4
Blue Chip Bottom 10*		2.3	2.4	2.5		2.3	2.6	2.8	3.0	3.1
<b>Consumer Price Index, Percent Change, Annual Rate</b>										
ERFC (Preliminary September)	-0.3	1.7	2.2	2.0	1.3	2.0	1.8	1.9	2.2	2.3
IHS	-0.3	1.3	2.2	1.8	1.3	2.0	1.6	2.2	2.8	2.6
Economy.com	-0.3	1.7	2.5	2.1	1.3	2.0	2.1	2.8		
Blue Chip Average*		1.6	2.3	2.3		2.0	2.0	2.3	2.4	2.3
Blue Chip Top 10*		2.1	3.0	2.9		2.1	2.3	2.8	2.8	2.8
Blue Chip Bottom 10*		1.0	1.7	1.9		1.9	1.7	1.9	2.0	2.0
<b>Payroll Employment, Millions</b>										
ERFC (Preliminary September)	146.2	146.8	147.4	147.7	144.3	146.5	148.2	149.5	150.7	151.6
Percent Change, Annual Rate	1.4	1.5	1.7	0.9	1.8	1.5	1.2	0.9	0.8	0.6
IHS	146.2	146.8	147.4	147.9	144.3	146.5	148.6	150.3	151.7	152.9
Percent Change, Annual Rate	1.4	1.7	1.6	1.3	1.8	1.5	1.4	1.2	0.9	0.8
Economy.com	146.2	146.8	147.3	147.8	144.3	146.5	148.5	150.2		
Percent Change, Annual Rate	1.4	1.5	1.4	1.4	1.8	1.5	1.4	1.1		
<b>Unemployment Rate, Percent</b>										
ERFC (Preliminary September)	4.4	4.3	4.3	4.3	4.9	4.4	4.3	4.3	4.3	4.3
IHS	4.4	4.3	4.3	4.3	4.9	4.4	4.2	4.0	4.1	4.1
Economy.com	4.4	4.4	4.3	4.2	4.9	4.4	4.1	4.0		
Blue Chip Average*		4.3	4.2	4.2		4.4	4.1	4.5	4.6	4.6
Blue Chip Top 10*		4.4	4.3	4.3		4.4	4.4	5.2	5.1	5.2
Blue Chip Bottom 10*		4.2	4.1	4.0		4.3	3.9	4.1	4.1	4.1
<b>Real Disposable Personal Income, Percent Change, Annual Rate</b>										
ERFC (Preliminary September)	3.2	2.5	1.9	4.3	1.4	1.6	3.0	2.9	2.2	2.1
IHS	3.2	3.3	2.5	5.0	1.4	1.7	3.6	3.3	2.5	2.7
Blue Chip Average*		2.2	2.4	3.1		1.6	2.6	2.5	2.4	2.3
Blue Chip Top 10*		2.9	3.2	4.7		1.9	3.3	3.6	3.2	3.0
Blue Chip Bottom 10*		1.4	1.7	2.1		1.3	2.0	1.7	1.8	1.7
<b>West Texas Intermediate</b>										
ERFC (Preliminary September)	48.3	46.8	46.5	47.5	43.2	48.4	48.0	48.7	49.5	50.4
IHS	48.3	48.0	48.1	47.1	43.2	49.1	45.9	53.7	67.4	73.4
Economy.com	48.1	48.5	51.0	50.5	43.4	49.9	50.3	52.3		

\* Forecasts beyond 2018 are from the March 2017 Blue Chip Economic Indicators

## U.S. Forecast Comparison

2017Q2 2017Q3 2017Q4 2018Q1

### Real GDP (Billions of 2009 Dollars)

September Forecast, Preliminary	17,011	17,127	17,235	17,334
Percent Change	2.6%	2.8%	2.5%	2.3%
June Forecast	16,983	17,083	17,182	17,283
Percent Change	2.9%	2.4%	2.3%	2.4%

### Real Consumption (Billions of 2009 Dollars)

September Forecast, Preliminary	11,840	11,905	11,975	12,050
Percent Change	2.8%	2.2%	2.4%	2.5%
June Forecast	11,769	11,841	11,913	11,988
Percent Change	2.8%	2.5%	2.5%	2.5%

### Implicit Price Deflator, PCE (2009=1.00)

September Forecast, Preliminary	1.123	1.127	1.132	1.136
Percent Change	0.3%	1.5%	1.7%	1.5%
June Forecast	1.124	1.128	1.133	1.137
Percent Change	0.8%	1.4%	1.9%	1.3%

### Real Personal Income (Billions of 2009 Dollars)

September Forecast, Preliminary	14,573	14,649	14,715	14,822
Percent Change	2.7%	2.1%	1.8%	3.0%
June Forecast	14,648	14,764	14,847	14,957
Percent Change	2.4%	3.2%	2.3%	3.0%

### Nonfarm Payroll Employment (Millions)

September Forecast, Preliminary	146.2	146.8	147.4	147.7
Percent Change	1.4%	1.5%	1.7%	0.9%
June Forecast	146.1	146.5	146.9	147.1
Percent Change	1.2%	1.0%	1.0%	0.8%

### Unemployment Rate (Percent of Labor Force)

September Forecast, Preliminary	4.4	4.3	4.3	4.3
June Forecast	4.4	4.3	4.3	4.3

### 30 Year Fixed Mortgage Rate (Percent, average)

September Forecast, Preliminary	4.0	4.0	4.2	4.6
June Forecast	4.1	4.3	4.5	4.7

### 3 Month T-Bill Rate (Percent, average)

September Forecast, Preliminary	0.9	1.1	1.2	1.4
June Forecast	0.9	1.1	1.2	1.4

2015 2016 2017 2018 2019 2020 2021

16,472	16,716	17,069	17,476	17,843	18,200	18,564
2.9%	1.5%	2.1%	2.4%	2.1%	2.0%	2.0%
16,397	16,662	17,027	17,437	17,804	18,160	18,523
2.6%	1.6%	2.2%	2.4%	2.1%	2.0%	2.0%

11,264	11,572	11,870	12,154	12,433	12,707	12,974
3.6%	2.7%	2.6%	2.4%	2.3%	2.2%	2.1%
11,215	11,522	11,803	12,097	12,375	12,648	12,913
3.2%	2.7%	2.4%	2.5%	2.3%	2.2%	2.1%

1.095	1.108	1.126	1.142	1.161	1.183	1.206
0.3%	1.2%	1.6%	1.5%	1.6%	1.9%	2.0%
1.095	1.107	1.126	1.143	1.162	1.185	1.209
0.4%	1.1%	1.7%	1.5%	1.7%	1.9%	2.0%

14,206	14,377	14,603	14,966	15,425	15,849	16,217
4.6%	1.2%	1.6%	2.5%	3.1%	2.8%	2.3%
14,113	14,438	14,705	15,110	15,568	15,976	16,332
4.0%	2.3%	1.8%	2.8%	3.0%	2.6%	2.2%

141.8	144.3	146.5	148.2	149.5	150.7	151.6
2.1%	1.8%	1.5%	1.2%	0.9%	0.8%	0.6%
141.8	144.3	146.3	147.7	148.9	150.2	151.0
2.1%	1.8%	1.4%	0.9%	0.9%	0.8%	0.6%

5.3	4.9	4.4	4.3	4.3	4.3	4.3
5.3	4.9	4.4	4.2	4.2	4.2	4.3

3.9	3.6	4.1	4.9	5.8	6.0	6.0
3.9	3.6	4.3	5.0	5.8	6.0	5.9

0.1	0.3	0.9	1.6	2.5	2.8	2.8
0.1	0.3	0.9	1.6	2.5	2.8	2.8

## Washington Forecast Comparison

	2017Q2	2017Q3	2017Q4	2018Q1
<b>Real Personal Income (Billions of 2009 Dollars)</b>				
September Forecast, Preliminary	365.3	367.4	369.6	373.0
Percent Change	3.2%	2.3%	2.5%	3.7%
June Forecast	360.0	362.2	365.1	372.2
Percent Change	2.1%	2.5%	3.3%	8.1%
<b>Personal Income (Billions of Dollars)</b>				
September Forecast, Preliminary	410.1	414.0	418.3	423.7
Percent Change	3.5%	3.8%	4.2%	5.3%
June Forecast	404.5	408.4	413.6	423.1
Percent Change	3.0%	3.9%	5.2%	9.5%
<b>Nonfarm Payroll Employment (Thousands)</b>				
September Forecast, Preliminary	3327	3349	3371	3388
Percent Change	2.7%	2.7%	2.6%	2.1%
June Forecast	3311	3326	3341	3356
Percent Change	2.0%	1.9%	1.8%	1.8%
<b>Unemployment Rate (Percent of Labor Force)</b>				
September Forecast, Preliminary	4.6	4.5	4.5	4.4
June Forecast	4.5	4.5	4.4	4.4
<b>Manufacturing Employment (Thousands)</b>				
September Forecast, Preliminary	284.5	284.1	283.1	283.9
Percent Change	-2.0%	-0.6%	-1.4%	1.1%
June Forecast	283.5	282.2	281.3	282.0
Percent Change	-2.3%	-1.9%	-1.3%	1.0%
<b>Construction Employment (Thousands)</b>				
September Forecast, Preliminary	200.9	201.3	204.1	206.5
Percent Change	6.5%	0.7%	5.8%	4.8%
June Forecast	198.5	200.8	203.6	206.0
Percent Change	6.4%	4.7%	5.6%	4.8%
<b>Housing Permits (Thousands)</b>				
September Forecast, Preliminary	43.9	43.6	44.0	44.5
Percent Change	33.8%	-2.9%	4.0%	4.9%
June Forecast	45.3	43.8	43.2	43.4
Percent Change	52.1%	-12.9%	-5.3%	1.9%

	2015	2016	2017	2018	2019	2020	2021
September Forecast, Preliminary	339.9	351.1	366.2	377.7	392.1	405.2	416.8
Percent Change	4.3%	3.3%	4.3%	3.1%	3.8%	3.3%	2.9%
June Forecast	339.7	351.2	361.3	374.1	387.8	400.0	410.9
Percent Change	4.3%	3.4%	2.9%	3.5%	3.7%	3.1%	2.7%
September Forecast, Preliminary	372.1	389.0	412.2	431.5	455.2	479.2	502.8
Percent Change	4.6%	4.5%	6.0%	4.7%	5.5%	5.3%	4.9%
June Forecast	372.1	388.8	407.0	427.6	450.7	473.8	496.6
Percent Change	4.6%	4.5%	4.7%	5.1%	5.4%	5.1%	4.8%
September Forecast, Preliminary	3146	3242	3338	3411	3467	3514	3553
Percent Change	2.9%	3.1%	3.0%	2.2%	1.6%	1.4%	1.1%
June Forecast	3146	3242	3318	3376	3427	3473	3510
Percent Change	2.9%	3.1%	2.4%	1.7%	1.5%	1.4%	1.1%
September Forecast, Preliminary	5.6	5.4	4.6	4.4	4.3	4.3	4.3
June Forecast	5.6	5.4	4.6	4.3	4.3	4.3	4.3
September Forecast, Preliminary	291.8	289.9	284.4	285.4	289.2	293.6	297.0
Percent Change	1.1%	-0.7%	-1.9%	0.3%	1.3%	1.5%	1.2%
June Forecast	291.8	289.8	283.0	284.0	289.0	292.9	295.8
Percent Change	1.1%	-0.7%	-2.3%	0.3%	1.8%	1.3%	1.0%
September Forecast, Preliminary	173.3	186.5	201.0	207.5	209.6	209.6	209.5
Percent Change	8.5%	7.6%	7.8%	3.2%	1.0%	0.0%	0.0%
June Forecast	173.3	186.4	199.6	207.4	210.7	211.4	211.2
Percent Change	8.5%	7.6%	7.1%	3.9%	1.6%	0.3%	-0.1%
September Forecast, Preliminary	40.4	44.1	43.1	43.6	42.3	42.4	42.0
Percent Change	19.1%	9.2%	-2.3%	1.3%	-3.0%	0.3%	-0.9%
June Forecast	40.4	44.1	43.3	42.7	41.9	42.1	41.7
Percent Change	19.1%	9.2%	-1.9%	-1.3%	-1.9%	0.6%	-0.9%

U.S. Forecast Comparison	Fiscal Years					
	2016	2017	2018	2019	2020	2021
<b>Real GDP</b>						
Billions of 2009 dollars						
September Preliminary Forecast	16,578	16,886	17,282	17,665	18,015	18,383
<i>Growth</i>	1.7%	1.9%	2.3%	2.2%	2.0%	2.0%
June Forecast	16,513	16,846	17,235	17,629	17,976	18,344
<i>Growth</i>	1.7%	2.0%	2.3%	2.3%	2.0%	2.0%
Difference in level	64	40	47	36	40	39
<i>Difference in growth forecast</i>	0.0%	-0.2%	0.0%	-0.1%	0.0%	0.0%
<b>Real Consumption</b>						
Billions of 2009 dollars						
September Preliminary Forecast	11,413	11,729	12,013	12,294	12,570	12,841
<i>Growth</i>	3.0%	2.8%	2.4%	2.3%	2.2%	2.2%
June Forecast	11,356	11,674	11,952	12,239	12,509	12,783
<i>Growth</i>	2.7%	2.8%	2.4%	2.4%	2.2%	2.2%
Difference in level	57	55	62	54	61	58
<i>Difference in growth forecast</i>	0.3%	0.0%	0.0%	-0.1%	0.0%	0.0%
<b>Implicit Price Deflator</b>						
Index 2009 = 100						
September Preliminary Forecast	110.0	111.8	113.4	115.1	117.2	119.4
<i>Growth</i>	0.7%	1.6%	1.4%	1.5%	1.8%	1.9%
June Forecast	110.0	111.7	113.5	115.2	117.3	119.6
<i>Growth</i>	0.7%	1.5%	1.5%	1.5%	1.8%	2.0%
Difference in level	0.0	0.0	-0.1	-0.1	-0.1	-0.2
<i>Difference in growth forecast</i>	0.0%	0.0%	-0.1%	0.0%	-0.1%	-0.1%
<b>Unemployment Rate</b>						
Percent of Labor Force						
September Preliminary Forecast	5.0%	4.7%	4.3%	4.3%	4.3%	4.3%
June Forecast	5.0%	4.7%	4.3%	4.2%	4.2%	4.3%
<i>Difference in forecast</i>	0.0%	0.0%	0.0%	0.1%	0.1%	0.0%
<b>30 Year Fixed Mortgage Rate</b>						
Annual Average						
September Preliminary Forecast	3.8%	3.9%	4.4%	5.4%	6.0%	6.0%
June Forecast	3.8%	3.9%	4.6%	5.4%	6.0%	5.9%
<i>Difference in forecast</i>	0.0%	0.0%	-0.2%	0.0%	0.0%	0.0%
<b>3 Month T-Bill Rate</b>						
Annual Average						
September Preliminary Forecast	0.2%	0.6%	1.3%	2.1%	2.8%	2.8%
June Forecast	0.2%	0.6%	1.3%	2.1%	2.8%	2.8%
<i>Difference in forecast</i>	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

**Washington Forecast Comparison**
**Fiscal Years**

	<b>2016</b>	<b>2017</b>	<b>2018</b>	<b>2019</b>	<b>2020</b>	<b>2021</b>
<b>Real Personal Income</b>						
Billions of 2009 dollars						
September Preliminary Forecast	345.4	358.8	371.5	384.8	398.8	411.2
<i>Growth</i>	3.4%	3.9%	3.5%	3.6%	3.7%	3.1%
June Forecast	345.7	356.0	368.0	381.1	394.0	405.6
<i>Growth</i>	3.6%	3.0%	3.4%	3.6%	3.4%	2.9%
Difference in level	-0.3	2.8	3.5	3.7	4.8	5.6
<b><i>Difference in growth forecast</i></b>	<b>-0.1%</b>	<b>0.9%</b>	<b>0.2%</b>	<b>0.0%</b>	<b>0.3%</b>	<b>0.2%</b>
<b>Nominal Personal Income</b>						
Billions of dollars						
September Preliminary Forecast	380.0	401.0	421.1	443.0	467.3	491.0
<i>Growth</i>	4.1%	5.5%	5.0%	5.2%	5.5%	5.1%
June Forecast	380.4	397.8	417.5	439.1	462.2	485.3
<i>Growth</i>	4.2%	4.6%	5.0%	5.2%	5.3%	5.0%
Difference in level	-0.4	3.3	3.6	3.9	5.1	5.7
<b><i>Difference in growth forecast</i></b>	<b>-0.1%</b>	<b>1.0%</b>	<b>0.1%</b>	<b>0.0%</b>	<b>0.2%</b>	<b>0.1%</b>
<b>Nonfarm Payroll Employment</b>						
Thousands						
September Preliminary Forecast	3,193.2	3,290.0	3,378.0	3,440.2	3,491.2	3,534.4
<i>Growth</i>	2.9%	3.0%	2.7%	1.8%	1.5%	1.2%
June Forecast	3,193.2	3,283.2	3,348.6	3,402.2	3,450.5	3,492.5
<i>Growth</i>	2.9%	2.8%	2.0%	1.6%	1.4%	1.2%
Difference in level	0.0	6.8	29.4	38.1	40.7	41.9
<b><i>Difference in growth forecast</i></b>	<b>0.0%</b>	<b>0.2%</b>	<b>0.7%</b>	<b>0.2%</b>	<b>0.1%</b>	<b>0.0%</b>
<b>Housing Permits</b>						
Units Authorized, Thousands						
September Preliminary Forecast	40.1	44.2	44.0	42.7	42.2	42.4
<i>Growth</i>	3.6%	10.1%	-0.4%	-2.8%	-1.2%	0.3%
June Forecast	40.1	44.5	43.3	42.0	41.9	42.0
<i>Growth</i>	3.6%	11.0%	-2.6%	-3.0%	-0.2%	0.2%
Difference in level	0.0	-0.4	0.6	0.7	0.3	0.4
<b><i>Difference in growth forecast</i></b>	<b>0.0%</b>	<b>-0.9%</b>	<b>2.2%</b>	<b>0.2%</b>	<b>-1.0%</b>	<b>0.2%</b>

**Year-Over-Year Employment Growth by Industry  
(July 2016 to July 2017)  
Washington vs. U.S.**

	Washington		U.S.
	(000)	% Chg.	% Chg.
<b>Total</b>	<b>94.7</b>	<b>2.9%</b>	<b>1.5%</b>
Electronic Shopping and Mail-Order Houses	11.8	30.1%	NA
Construction	14.5	7.8%	2.8%
Software Publishers	2.7	4.5%	NA
Professional and Business Services	14.8	3.7%	2.9%
Leisure and Hospitality	11.8	3.6%	2.2%
Other Services	4.2	3.6%	1.3%
State and Local Gov Non-Education	7.0	3.3%	0.5%
Financial Activities	5.0	3.3%	1.8%
Education and Health Services	13.8	3.0%	2.2%
Wholesale Trade	3.5	2.6%	1.1%
State and Local Gov Education	5.4	2.1%	0.4%
Information Excluding Software	1.1	1.7%	NA
Transportation, Warehousing and Utilities	1.5	1.5%	1.6%
Manufacturing Excluding Aerospace	2.0	1.0%	NA
Mining and Logging	-0.1	-1.3%	7.2%
Aerospace Product and Parts Manufacturing	-8.3	-9.0%	NA
Information	3.7	3.1%	-1.7%
Retail Trade	14.5	3.9%	0.0%
Manufacturing	-6.3	-2.2%	0.5%

Source: WA State ERFC Kalman filtered data, U.S. Bureau of Labor Statistics