

**EXH. PRM-9
DOCKET UE-220216
PSE'S PENALTY MITIGATION
WITNESS: PATRICK R. MURPHY**

**BEFORE THE
WASHINGTON UTILITIES AND TRANSPORTATION COMMISSION**

In the Matter of the Petition of

PUGET SOUND ENERGY

**For Penalty Mitigation Associated with
Service Quality Index No. 11-Electric
Safety Response Time Annual
Performance for Period Ending
December 31, 2021**

Docket UE-220216

**EIGHTH EXHIBIT (NONCONFIDENTIAL) TO THE
PREFILED DIRECT TESTIMONY OF**

PATRICK R. MURPHY

ON BEHALF OF PUGET SOUND ENERGY

AUGUST 19, 2022

Economic Review

February 3, 2022



Washington State
Economic and Revenue Forecast Council

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WASHINGTON STATE
ECONOMIC AND REVENUE FORECAST COUNCIL

AGENDA

Economic Review Meeting

February 3, 2022
11:00 a.m.

- Call to order
- Approval meeting minutes: January 19, 2022
- Economic Review:
 - Presentation of economic outlook and revenue collection experience
- Adjournment

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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
January 19, 2022
Conference Call

Economic and Revenue Forecast Council

Tim Ormsby, House of Representatives, Chair
Christine Rolfes, Senate
Lynda Wilson, Senate
Ed Orcutt, House of Representatives
Mike Pellicciotti, Treasurer
Vikki Smith, Department of Revenue
David Schumacher, Office of Financial Management

Staff

Steve Lerch, Executive Director
Rachel Knutson, OFM
Sarian Scott, Senate Ways and Means
Andy Toulon, House Appropriations

Call to Order

Representative Ormsby called the meeting to order at 11:02 a.m.

Approval of the Minutes

Representative Orcutt moved, seconded by Representative Ormsby, to adopt the meeting minutes from January 6, 2022. Motion was passed at 11:02 a.m.

Budget Outlook Methodology Adoption Presentation

The Budget Outlook Work Group members presented.

Motion

Senator Rolfes moved, seconded by Representative Ormsby, to adopt outlook as presented. Motion was passed unanimously at 11:11 a.m.

Adjournment

With no further business, the meeting adjourned at 11:11 a.m.

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



Economic Review: February 3, 2022

Executive Summary

United States

- This forecast is based on a modified version of IHS Markit's January 2022 Control forecast for the U.S. economy. We have adjusted real gross domestic product (GDP) to match the January 2022 Blue Chip "Consensus" GDP forecast for 2022 and 2023. We expect real GDP to increase 3.9% in 2022 and 2.6% in 2023 which is close to the 4.0% and 2.5% growth rates assumed in the November forecast. Our forecast for real GDP growth in 2024-27 is based on the most recent long term forecast from Blue Chip which was released in October 2021. As in November, we expect growth rates of 2.1%, and 2.0% in 2024 and 2025. Our initial forecast for 2026 and 2027, also from the October long term forecast, is for growth rates of 2.0% and 1.9%.
- 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 Thursday, January 27, 2022 closing prices for Brent and WTI futures. Oil prices have risen since the November forecast was produced. While oil prices are expected to decline from current levels, they are expected to remain higher than in the November forecast throughout the forecast. The latest futures prices indicate that the refiner acquisition price of crude oil will average \$84 per barrel in the first quarter of 2022 compared to \$77 in the November forecast. By the fourth quarter of 2025 the refiner acquisition price of crude is expected to average \$66 per barrel compared to \$62 per barrel in the November forecast. The refiner acquisition price is then expected to continue to decline, reaching \$64 at the end of 2027.
- National employment in December increased by a weaker-than-expected 199,000 net jobs. Employment data for October and November were revised up by 141,000 jobs. Sectors with the largest job gains in December included accommodation and food services (+53,000), professional and technical services (+37,000), manufacturing (+26,000), construction (+22,000), transportation and warehousing (+19,000), general merchandise stores (+16,000), wholesale trade (+14,000) and other services (+13,000). Sectors with declining employment in December included sporting goods, hobby, book and music stores (-13,000), clothing and clothing accessory stores (-8,000), local government excluding education (-8,000), amusements, gambling and recreation (-7,000), business support services (-6,000), motion picture and sound recording industries (-6,000), nursing and residential care facilities (-6,000) and state government excluding education (-5,000).
- Two key measures of consumer confidence decreased this month. The University of Michigan (UM) consumer sentiment survey decreased by 1.8 points to 68.8 in January. Consumers were less optimistic about both current and future economic prospects, with inflation cited as a concern by survey respondents. The Conference Board index of consumer confidence decreased by 1.4 points in January to 113.8. Survey results indicated that concerns

about inflation declined for the second straight month but remain elevated after hitting a 13-year high in November 2021. Concerns about the pandemic increased slightly, amid the ongoing Omicron surge.

- Initial claims for unemployment insurance decreased by 30,000 to 260,000 (SA) in the week ending January 22nd. The four-week moving average of initial claims increased by 15,000 to 247,000.
- Industrial production in December decreased by 0.1% (SA) following a revised 0.7% increase in November. Industrial production is 3.7% (SA) above its December 2020 level. New orders for core capital goods (i.e., durables excluding aircraft and military), which is a proxy for business investment, were unchanged (SA) in December following a revised 0.3% increase in November according to U.S. Census Bureau data. New orders for core capital goods increased by 10.4% over their December 2020 level.
- Residential construction activity picked up in December but existing home sales slowed. December housing starts increased by 1.4% (SA) compared to November and were 2.5% above their December 2020 level. Housing units authorized by building permits in December were 9.1% (SA) above their November level and 6.5% above from their year-ago level. New home sales in December increased by 11.9% (SA) compared to November but were 14.0% below their year-ago level. Existing home sales in December decreased by 4.6% (SA) compared to November and were down 7.1% compared to December 2020. The seasonally adjusted Case-Shiller national home price index for November was 1.1% above its October level and 18.8% above its year-ago level.
- The major threat to the U.S. and Washington economies continues to be the potential for negative impacts related to COVID-19. Concerns about rising inflation and geopolitical tensions are also forecast risks.

Washington

- We have two months of new Washington employment data since the November forecast was released. Total seasonally adjusted nonfarm payroll employment increased 11,900 in November and December which was 9,700 less than the increase of 21,600 expected in the forecast. Washington employment is now 87,900 (2.5%) lower than at its February 2020 peak. Private services-providing sectors added only 4,600 jobs in the two-month period compared to an expected gain of 18,900 jobs. The manufacturing sector added 3,200 jobs including 1,100 jobs in aerospace manufacturing, and construction employment increased by 2,500 jobs. State and local government employment increased by 2,300 jobs in November and December and the federal government added 1,500 jobs.
- Data revisions added 1,800 (0.1%) to the estimated level of total employment in October 2021. Because employment growth in November and December was less than expected, employment is 7,900 (0.2%) lower in December than expected in the November forecast.
- Washington's unemployment rate declined to 4.5% in December from 4.7% in November. December's rate was the lowest rate since the pandemic hit. The unemployment rate is down significantly from the 16.3% rate reached in April 2020 which was an all-time high in the series that dates back to 1976. At the

- business cycle peak in February 2020 the Washington unemployment rate was 4.1%.
- In December, after the forecast was complete, the U.S. Department of Commerce, Bureau of Economic Analysis (BEA) released state personal income estimates for the third quarter of 2021. According to these estimates, Washington personal income increased from \$550.9 billion (SAAR) in the second quarter of 2021 to \$553.7 billion in the third quarter. The 2.1% increase (SAAR) in Washington personal income was the 28th best performance among the states and District of Columbia and trailed the 2.6% rate of increase for the U.S. as a whole. Once again, changes to personal income from Covid-19 relief programs dominated overall personal income growth. Special Covid-related unemployment programs declined by \$7.1 billion in the third quarter and direct payments to individuals declined by \$5.6 billion. Partially offsetting these was a \$3.3 billion increase in child tax credits. Other Covid-related programs subtracted another \$1.6 billion for a total decline of \$11.1 billion in personal income from Covid-related programs in the third quarter. Washington personal income excluding these programs increased at an 11.0% annual rate which was 13th best in the nation and surpassed national rate of 10.1%.
 - Washington housing construction increased in the fourth quarter of 2021 on continued strength in multi-family activity. Washington housing permits increased from 55,700 units (SAAR) in the third quarter of 2021 to 58,600 units in the fourth quarter. Fourth quarter permits consisted of 23,000 single-family units and 35,600 multi-family units. The November forecast expected 50,500 (SAAR) units in the fourth quarter as a whole consisting of 25,100 single-family units and 25,400 multi-family units.
 - Seattle-area home prices continue to rise rapidly. According to the S&P/Case-Shiller Home Price Indices, seasonally adjusted Seattle home prices increased 2.1% in November compared to a 1.2% increase in the composite-20 index. November Seattle home prices were up 23.3% over the year, down only slightly from a record 25.5% over-the-year increase in July. In comparison, the composite-20 index was up 18.3% over the year in November. November Seattle home prices were up 171% since the December 2011 trough and exceeded the May 2007 peak by 88%.
 - Seattle-area consumer price inflation outpaced the national average in the year ending in December 2021. From December 2020 to December 2021, the seasonally adjusted Seattle CPI rose 7.6% compared to the 7.1% increase in the U.S. City Average index. These relatively high rates were partially due to much higher food and energy prices this year compared to last year. However, core prices, which exclude food and energy, still increased 6.5% in Seattle and 5.5% in the national index. Seattle shelter cost inflation trailed the national average at 3.0% compared to 4.2%. Seattle inflation excluding shelter exceeded the national average at 10.2% compared to 8.6%.
 - According to the World Institute for Strategic Economic Research (WISER), Washington exports increased 23% from the third quarter of 2020 to the third quarter of 2021. After more than two years of year-over-year declines, Washington exports of transportation equipment (mostly Boeing planes) increased over the year for a second consecutive quarter, rising 60%. Agricultural exports decreased 10% over the year but this could be misleading as the data include soybean and corn exports which receive only

minimal processing in Washington. Exports from all other sectors (mostly manufacturing) increased 26% over the year.

- Washington car and truck sales declined for a fifth consecutive month in December. The seasonally adjusted number of new vehicle registrations fell 5.8% in December following declines of 7.1%, 11.3%, 0.7%, and 3.7% in August, September, October, and November. The number of registrations is down 21.0% over the year and is now at its lowest level since May 2020.
- We expect a 4.2% increase in Washington employment this year which is slightly less than the 4.4% growth rate expected in the November forecast. We expect above-average growth through the remainder of the forecast as the economy continues to recover from the recession. We expect employment growth to average 1.4% per year in 2023 through 2025 which is also slightly less than the 1.5% average growth rate expected in the November forecast. Employment growth is expected to slow to an average rate of 0.9% per year in 2026 and 2027. Our forecast for nominal personal income growth this year is 2.4%, up from 1.9% in the November forecast. Personal income growth will be weak this year as the extraordinary stimulus of the last two years is withdrawn. Our new forecast for nominal personal income growth in 2023 through 2025 averages 5.4% per year compared to 5.2% in the November forecast. Personal income growth is expected to grow at an average rate of 5.2% per year in 2026 and 2027.

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Washington State Economic Outlook & Revenue Collection Experience

Presented to
The Economic & Revenue Forecast Council

Steve Lerch
Executive Director

February 3, 2022



**WASHINGTON STATE
ECONOMIC AND REVENUE FORECAST COUNCIL**



Summary

- The forecast now extends through 2027
- Inflation is expected to be higher in 2022 and 2023 compared to the November forecast
- WA personal income and building permits have been revised up slightly compared to November
- The preliminary economic forecast assumes the Federal Reserve tapers its asset purchases by mid-March and raises interest rates in the second quarter
- Revenue collections since the November forecast are \$350 million (6.4%) above expectations

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Forecast risks

Upside

- Recent surge in COVID cases declines faster than expected, leading to greater consumer confidence and a return to more typical spending patterns
- Supply chains recover more quickly than expected, leading to increased supply of goods and services, slower inflation

Downside

- Rising COVID cases and hospitalizations lead to reduced consumer confidence and spending
- Supply chain issues worsen, leading to prolonged delay in production and shipment of goods
- Geopolitical risks

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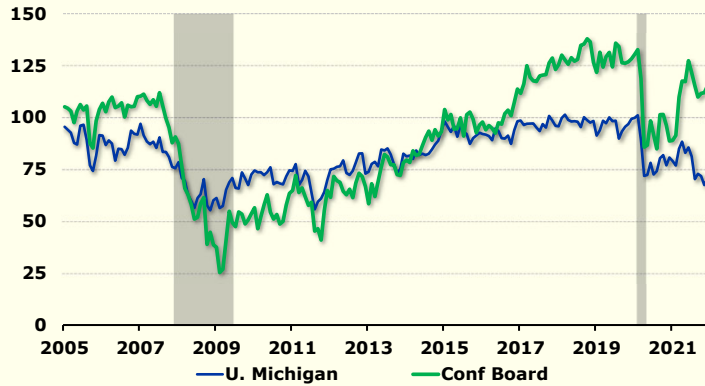
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Consumer confidence remains well below pre-pandemic levels

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



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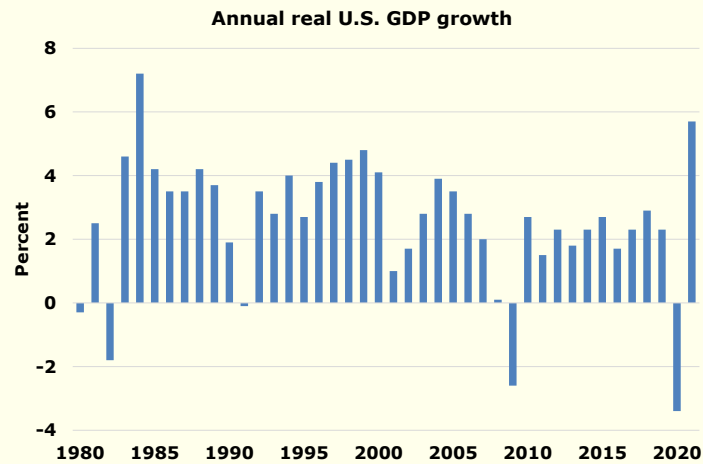
Sources: University of Michigan, Conference Board; data through January 2022

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Real GDP growth in 2021 was strongest since 1984



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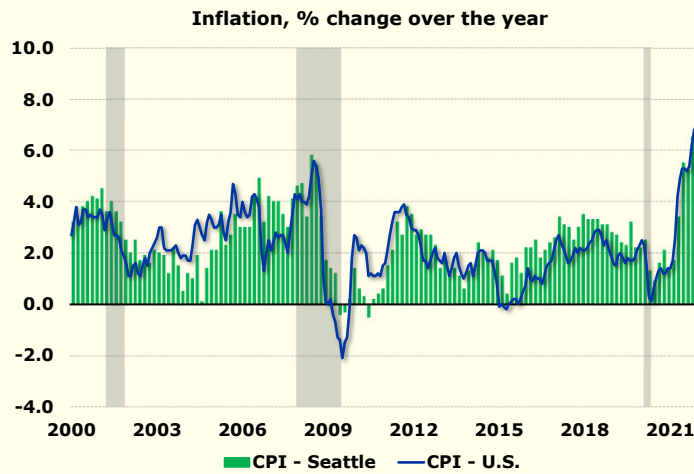
Source: U.S. Bureau of Economic Analysis, annual data through 2021

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In December, prices rose at fastest rate since June 1982



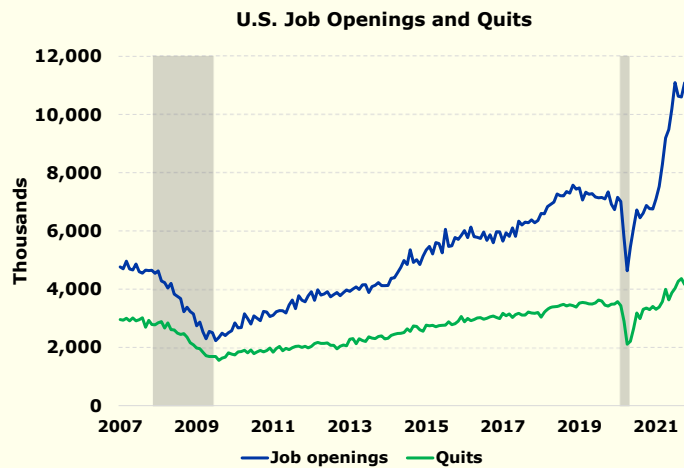
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Source: U.S. Bureau of Labor Statistics, data through December 2021

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Job openings and quits remain at high levels



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Source: U.S. Bureau of Labor Statistics, data through December 2021

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Wage growth has increased across all occupations

High-skill:
Managers,
Professionals,
Technicians

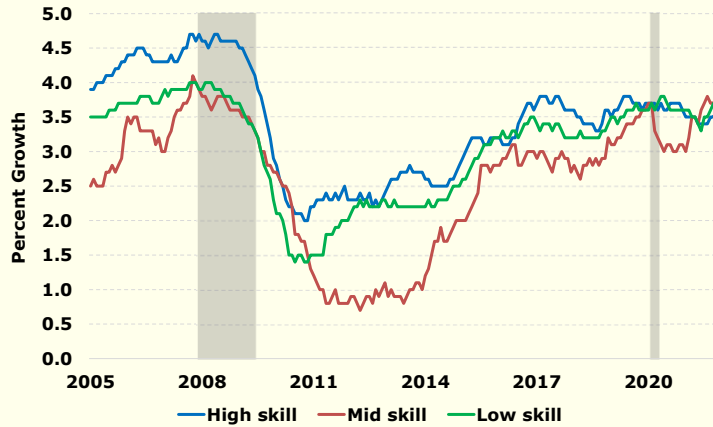
Middle-skill:
Office &
Administration,
Operators,
Production, Sales

Low-skill: Food
Preparation &
Serving,
Cleaning,
individual Care
Services,
Protective
Services

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U.S. median wage growth, 12 mo. moving average



Source: Federal Reserve Bank of Atlanta, data through December 2021

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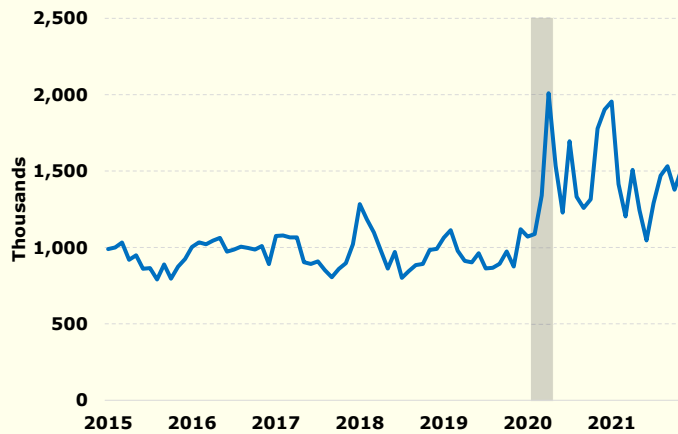


Employees not at work due to illness or injury has increased since the start of the pandemic

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Employed but not at work due to illness or injury



Source: U.S. Bureau of Labor Statistics, data through December 2021

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Recovery of total U.S., WA employment similar; differs across industries

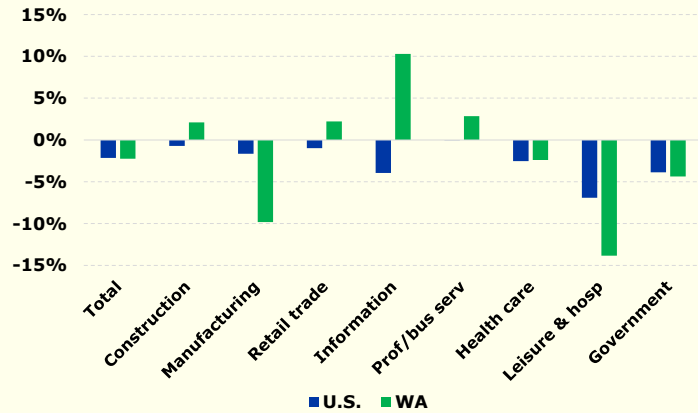
December 2021 employment:

U.S. = 2.2% below January 2020

WA = 2.3% below January 2020

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Employment Change: December 2021 compared to January 2020



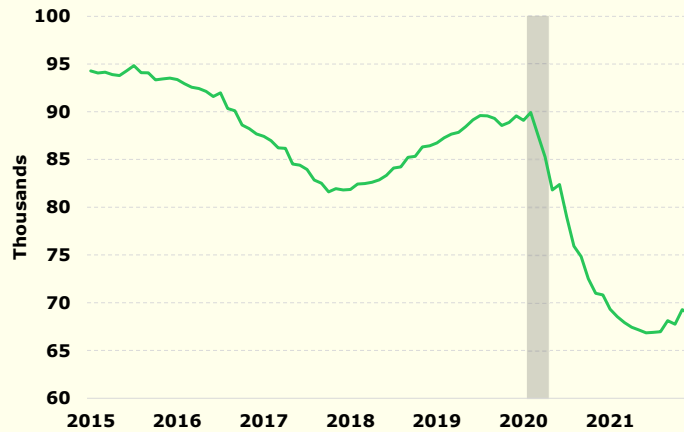
Source: ERFC, U.S. Bureau of Labor Statistics, Employment Security Dept.

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WA aerospace employment is up 1,900 since low point in June 2021

WA aerospace employment



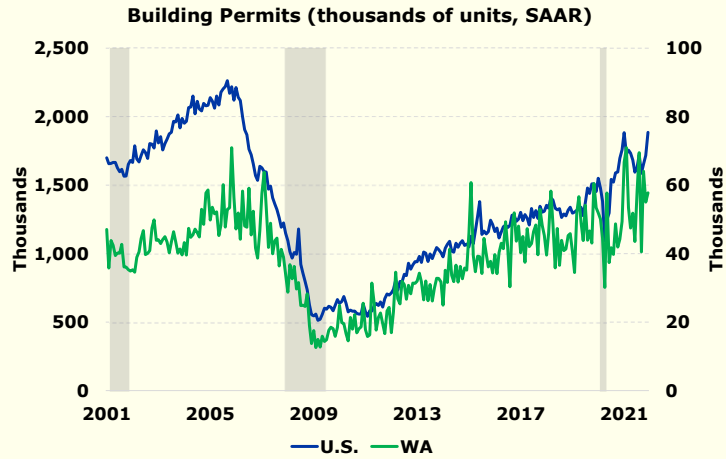
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Source: ERFC, U.S. Bureau of Labor Statistics, Employment Security Dept.

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WA and U.S. residential construction have been volatile but trending up since July 2020



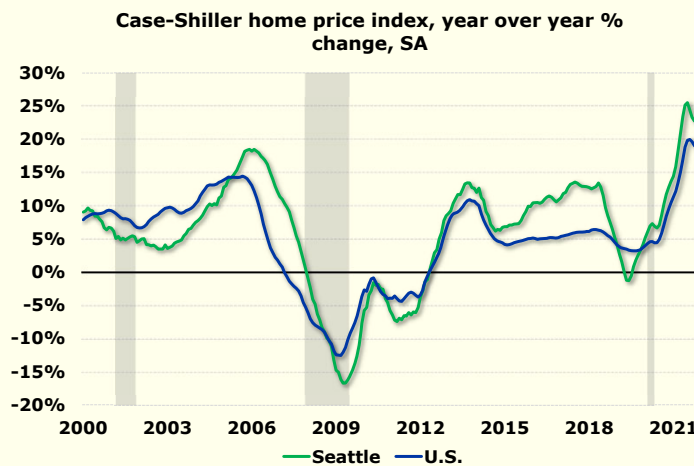
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Source: U.S. Census Bureau; monthly data through December 2021

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Home price growth remains strong



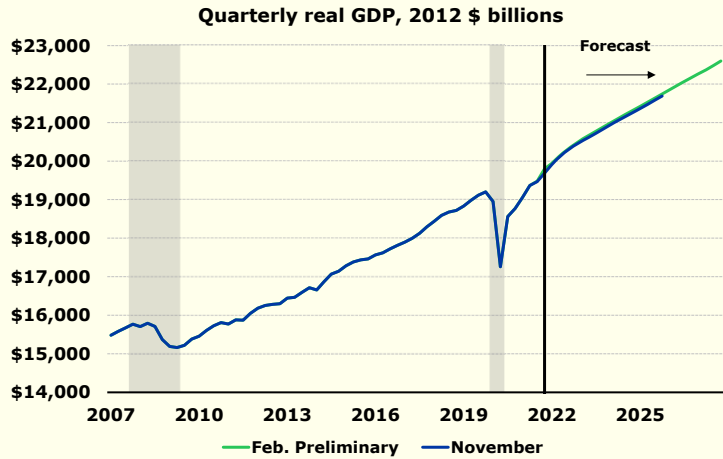
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Source: Case-Shiller, data through November 2021

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U.S. GDP forecast very similar to November



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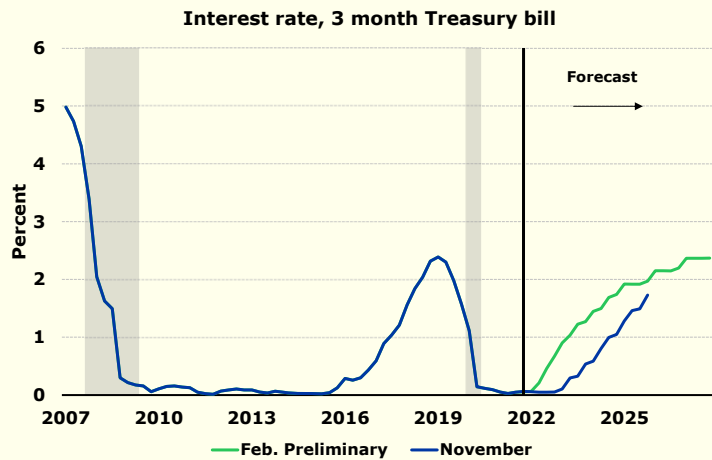
Source: IHS Markit, ERFC Feb. 2022 Preliminary forecast; data through 2021 Q4

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Interest rates are expected to gradually increase as Federal Reserve tightens monetary policy

The Federal Reserve is expected to raise interest rates in the 2nd quarter of this year



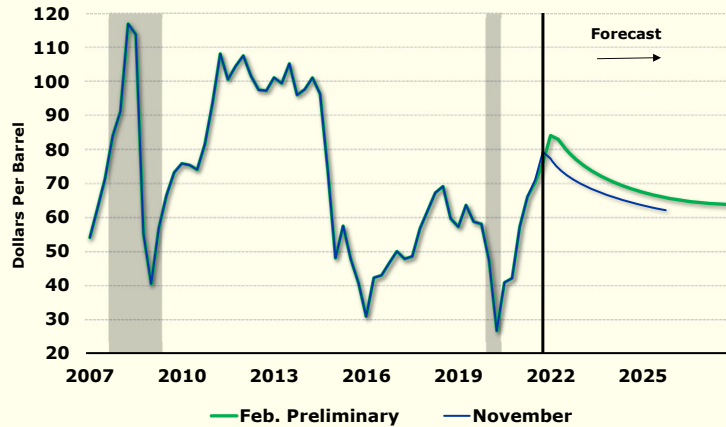
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Source: IHS Markit, ERFC Feb. 2022 Preliminary forecast; data through 2021 Q4

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Oil prices are higher than November forecast, expected to peak in 1st quarter 2022



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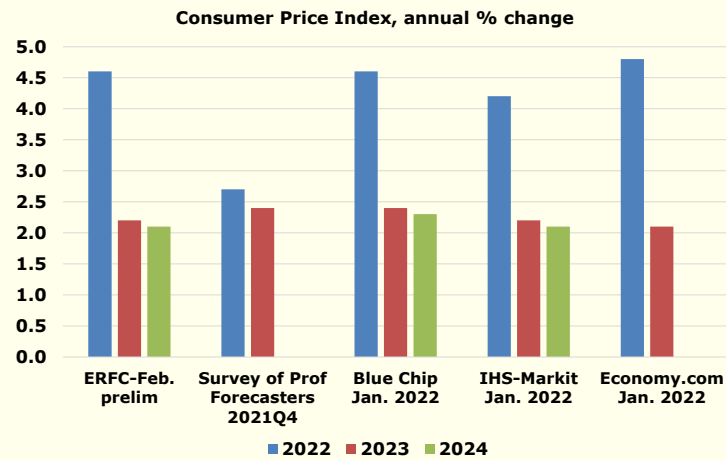
Source: Energy Information Administration, IHS Markit, ERFC; data through Q4 2021
Note: Vertical black line indicates last actual

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Forecasters generally expect inflation to decrease after this year

The Consumer Price Index increased by 4.7% in 2021

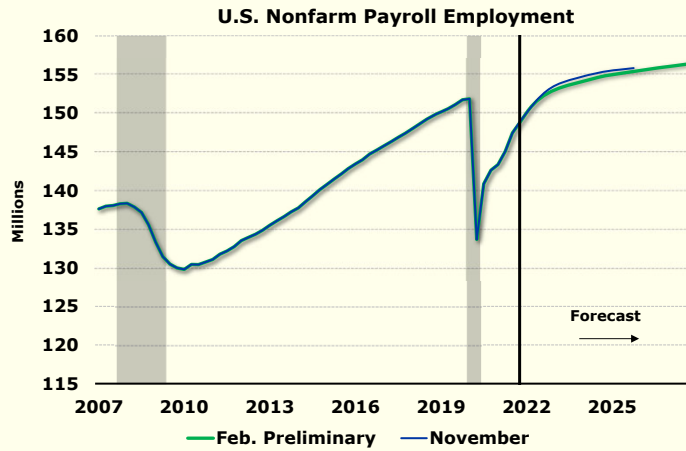


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U.S. nonfarm employment growth is slightly weaker in 2022 and 2023 compared to November forecast



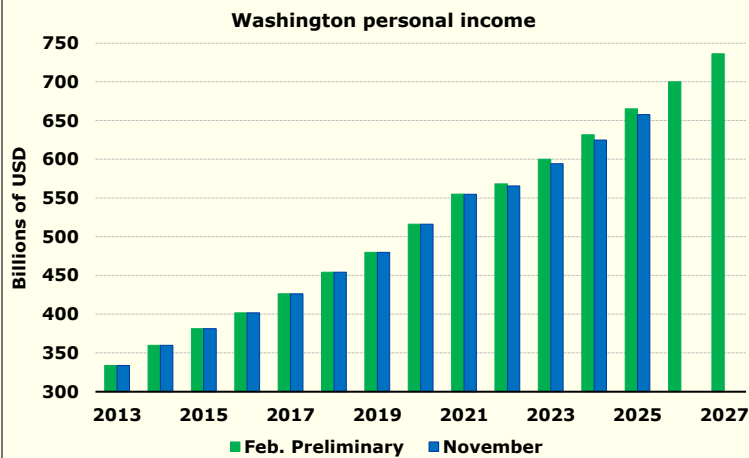
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Source: IHS Markit, ERFC Feb. 2022 Preliminary forecast; data through 2021 Q4

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WA personal income growth is slightly stronger compared to November



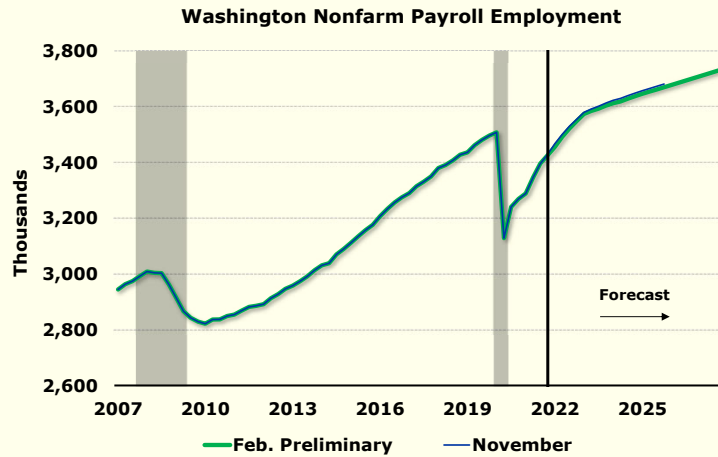
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Source: ERFC Feb. 2022 Preliminary forecast; historical data through 2020

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WA employment forecast is very similar to November



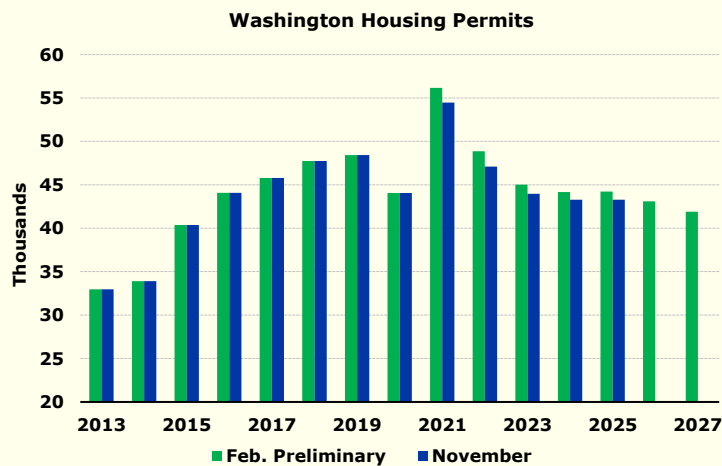
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Source: ERFC Feb. 2022 Preliminary forecast; historical data through 2021 Q4

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For 2022 – 2025, WA housing permits forecast has been increased by an average of 1,200 units



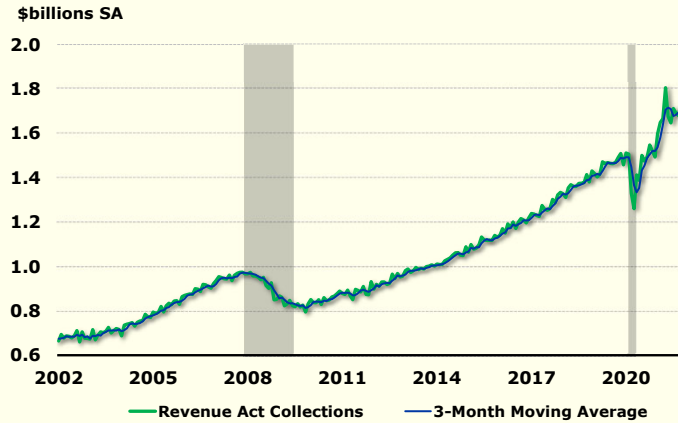
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Source: ERFC Feb. 2022 Preliminary forecast; historical data through 2021

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Revenue Act collections remain strong; over 17% year over year growth for November activity



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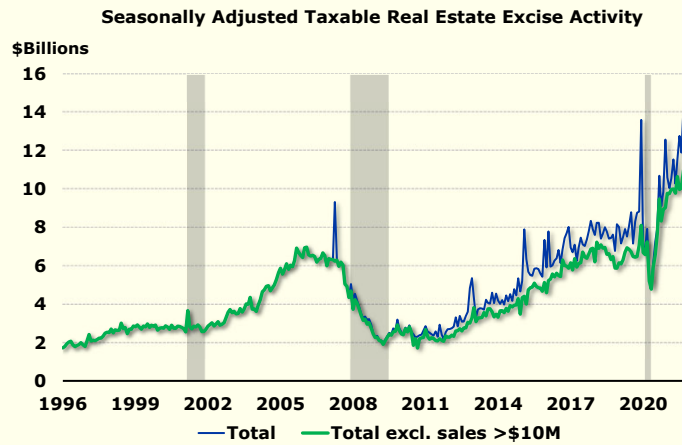
* Adjusted for large one-time transactions, amnesty payments, reporting frequency change and deferred 2020 payments, current definition of Revenue Act
Source: DOR and ERFC; monthly data through November 2021 activity

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Seasonally adjusted taxable REET activity down from record September level but remains high

Large commercial transactions in December totaled \$2.9 B, up from \$1.7 B in November.



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Source: ERFC; Monthly data through December 2021 estimate

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Revenue collections to date

Collections Variance Since November Forecast (November 11, 2021 – February 10, 2022) dollars in thousands

	<u>Estimate</u>	<u>Actual</u>	<u>Difference</u>	<u>Pct.</u>
Dept. of Revenue	\$5,452,360	\$5,803,107	\$350,748	6.4%
All other agencies	8,332	7,427	(904)	-10.9%
Total GF-S	\$5,460,692	\$5,810,535	\$349,843	6.4%

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Conclusion

- The U.S. forecast has higher oil prices and inflation than in November
- WA personal income and building permits are slightly stronger than in November forecast
- COVID-19 and higher inflation continue to pose a risk to economic activity
- The next monthly revenue collection report will be available on February 14th and the revenue forecast will be presented on February 16th

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Questions

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U.S. Economic Forecast Comparison

January 2022

	2021Q4	2022Q1	2022Q2	2022Q3	2022	2023	2024	2025	2026	2027
Real GDP, Percent Change, Annual Rate										
ERFC (February Preliminary)	6.8	2.9	3.7	3.2	3.9	2.6	2.1	2.0	2.0	1.9
IHS	6.8	3.6	3.4	3.6	4.1	2.5	2.5	2.4	2.4	2.3
Economy.com	6.7	2.1	6.1	3.0	4.1	3.1				
Blue Chip Average*	5.9	3.3	3.9	3.3	3.9	2.6	2.1	2.0	2.0	1.9
Blue Chip Top 10*	7.0	4.9	5.1	4.2	4.7	3.3	2.5	2.3	2.3	2.2
Blue Chip Bottom 10*	4.3	1.7	2.7	2.5	3.3	2.1	1.8	1.8	1.6	1.6
Real Consumption, Percent Change, Annual Rate										
ERFC (February Preliminary)	4.9	2.7	3.4	2.9	3.7	2.4	2.3	2.2	2.2	2.2
IHS	4.9	3.2	2.5	2.4	3.6	2.2	2.7	2.9	3.1	3.1
Economy.com	5.9	3.8	4.4	2.9	4.3	2.5				
Blue Chip Average*	4.9	2.6	3.3	2.8	3.7	2.4	2.3	2.2	2.2	2.2
Blue Chip Top 10*	6.2	4.4	4.7	3.7	4.7	2.9	2.7	2.6	2.6	2.5
Blue Chip Bottom 10*	3.3	0.9	2.0	2.0	2.8	2.0	2.0	1.9	1.8	1.9
Federal Funds Rate										
ERFC (February Preliminary)	0.1	0.1	0.2	0.5	0.4	1.2	1.8	2.1	2.4	2.6
IHS	0.1	0.1	0.2	0.5	0.4	1.2	1.8	2.1	2.4	2.6
Economy.com	0.1	0.1	0.2	0.5	0.4	1.4				
Three Month T-Bill Rate										
ERFC (February Preliminary)	0.1	0.1	0.2	0.5	0.3	1.1	1.6	1.9	2.2	2.4
IHS	0.1	0.1	0.2	0.5	0.4	1.1	1.6	1.9	2.2	2.4
Blue Chip Average*	0.1a	0.1	0.3	0.5	0.4	2.3	1.1	1.6	1.9	2.0
Blue Chip Top 10*	na	0.2	0.5	0.8	0.6	2.9	1.6	2.2	2.5	2.7
Blue Chip Bottom 10*	na	0.1	0.1	0.2	0.2	1.8	0.7	1.1	1.3	1.3
10-Yr. T-Note Yield										
ERFC (February Preliminary)	1.5	1.5	1.7	2.0	1.8	2.4	2.8	3.0	3.1	3.2
IHS	1.5	1.5	1.6	1.9	1.8	2.4	2.7	2.9	3.0	3.1
Economy.com	1.5	1.8	2.1	2.3	2.1	2.8				
Blue Chip Average*	1.5a	1.7	1.8	2.0	1.9	2.3	2.5	2.7	2.9	3.0
Blue Chip Top 10*	na	1.8	2.1	2.3	2.2	2.9	2.9	3.3	3.5	3.6
Blue Chip Bottom 10*	na	1.5	1.6	1.7	1.6	1.8	2.1	2.2	2.3	2.3
Consumer Price Index, Percent Change, Annual Rate										
ERFC (February Preliminary)	8.1	3.3	3.1	1.8	4.6	2.2	2.1	2.1	2.2	2.3
IHS	8.0	1.4	3.2	2.3	4.2	2.2	2.1	2.1	2.2	2.3
Economy.com	7.9	4.2	3.0	2.2	4.8	2.1				
Blue Chip Average*	7.5	3.9	3.0	2.5	4.6	2.4	2.3	2.3	2.3	2.2
Blue Chip Top 10*	8.4	5.4	4.6	3.6	5.4	3.1	2.6	2.7	2.6	2.5
Blue Chip Bottom 10*	5.6	2.1	1.7	1.4	3.7	1.9	2.0	2.0	2.0	1.9
Payroll Employment, Millions										
ERFC (February Preliminary)	148.7	150.1	151.2	152.0	151.5	153.5	154.5	155.2	155.7	156.2
Percent Change, Annual Rate	3.5	3.8	3.0	2.1	3.6	1.3	0.7	0.4	0.4	0.3
IHS	148.7	150.2	151.3	152.2	151.6	153.6	154.7	155.7	156.6	157.5
Percent Change, Annual Rate	3.5	4.0	3.1	2.3	3.7	1.3	0.7	0.6	0.6	0.6
Economy.com	148.7	150.2	151.6	152.4	151.8	154.4				
Percent Change, Annual Rate	3.6	4.0	3.7	2.2	3.9	1.7				
Unemployment Rate, Percent										
ERFC (February Preliminary)	4.3	3.9	3.8	3.6	3.7	3.7	3.8	4.0	4.1	4.2
IHS	4.3	3.9	3.7	3.5	3.7	3.6	3.8	4.0	4.0	4.1
Economy.com	4.2	3.9	3.7	3.5	3.6	3.4				
Blue Chip Average*	4.2a	4.0	3.8	3.7	3.8	3.5	3.9	4.0	4.0	4.0
Blue Chip Top 10*	na	4.3	4.1	4.0	4.2	3.9	4.4	4.3	4.3	4.4
Blue Chip Bottom 10*	na	3.8	3.6	3.4	3.6	3.2	3.5	3.6	3.6	3.6
Real Disposable Personal Income, Percent Change, Annual Rate										
ERFC (February Preliminary)	-6.8	-3.0	2.5	3.7	-3.7	3.0	3.0	2.9	2.8	2.5
IHS	-6.8	-1.7	2.4	3.4	-3.5	2.8	3.1	3.1	3.0	2.7
Blue Chip Average*	-4.9	0.2	2.3	2.5	-2.4	2.4	2.1	2.1	2.1	2.2
Blue Chip Top 10*	-0.7	3.2	4.0	3.7	-0.5	3.2	2.5	2.5	2.5	2.6
Blue Chip Bottom 10*	-7.5	-3.1	0.3	1.0	-3.7	1.5	1.8	1.7	1.7	1.8
West Texas Intermediate										
ERFC (February Preliminary)	77.4	85.3	84.2	81.1	82.3	74.0	69.3	66.3	64.3	63.2
IHS	76.9	71.1	71.5	72.9	72.0	67.8	65.1	63.3	63.7	65.0
Economy.com	77.2	73.5	70.0	66.0	68.2	61.2				

* Forecasts beyond 2023 are from the October 2021 Blue Chip Economic Indicators
a Actual

U.S. Forecast Comparison

	2021Q4	2022Q1	2022Q2	2022Q3
Real GDP (Billions of 2012 Dollars)				
February Forecast, Preliminary	19,800	19,942	20,122	20,281
Percent Change	6.8%	2.9%	3.7%	3.2%
November Forecast	19,686	19,905	20,099	20,263
Percent Change	4.6%	4.5%	4.0%	3.3%
Real Consumption (Billions of 2012 Dollars)				
February Forecast, Preliminary	13,898	13,990	14,107	14,207
Percent Change	4.9%	2.7%	3.4%	2.9%
November Forecast	13,819	13,951	14,072	14,174
Percent Change	2.9%	3.9%	3.5%	2.9%
PCE Price Index (2012=100)				
February Forecast, Preliminary	118.1	119.0	119.8	120.4
Percent Change	6.4%	3.3%	2.6%	2.0%
November Forecast	117.3	117.9	118.5	119.0
Percent Change	3.6%	2.1%	2.0%	1.8%
Real Personal Income (Billions of 2012 Dollars)				
February Forecast, Preliminary	17,645	17,565	17,687	17,850
Percent Change	-5.3%	-1.8%	2.8%	3.7%
November Forecast	17,525	17,536	17,690	17,851
Percent Change	-4.7%	0.3%	3.6%	3.7%
Nonfarm Payroll Employment (Millions)				
February Forecast, Preliminary	148.7	150.1	151.2	152.0
Percent Change	3.5%	3.8%	3.0%	2.1%
November Forecast	148.8	150.0	151.2	152.2
Percent Change	3.8%	3.4%	3.2%	2.7%
Unemployment Rate (Percent of Labor Force)				
February Forecast, Preliminary	4.3	3.9	3.8	3.6
November Forecast	4.5	4.2	4.0	3.8
Oil Price, Refiner's Acquisition				
February Forecast, Preliminary	76.0	84.1	82.9	80.0
November Forecast	79.3	77.3	74.5	72.5
30 Year Fixed Mortgage Rate (Percent, average)				
February Forecast, Preliminary	3.1	3.1	3.3	3.6
November Forecast	3.1	3.2	3.3	3.5
3 Month T-Bill Rate (Percent, average)				
February Forecast, Preliminary	0.1	0.1	0.2	0.5
November Forecast	0.1	0.1	0.0	0.0

	2021	2022	2023	2024	2025	2026	2027
Real GDP (Billions of 2012 Dollars)							
February Forecast, Preliminary	19,426	20,191	20,721	21,156	21,579	22,011	22,429
Percent Change	5.7%	3.9%	2.6%	2.1%	2.0%	2.0%	1.9%
November Forecast	19,394	20,166	20,670	21,104	21,526	#N/A	#N/A
Percent Change	5.5%	4.0%	2.5%	2.1%	2.0%	#N/A	#N/A
Real Consumption (Billions of 2012 Dollars)							
February Forecast, Preliminary	13,645	14,150	14,497	14,830	15,156	15,490	15,830
Percent Change	8.0%	3.7%	2.4%	2.3%	2.2%	2.2%	2.2%
November Forecast	13,622	14,116	14,469	14,802	15,127	#N/A	#N/A
Percent Change	7.9%	3.6%	2.5%	2.3%	2.2%	#N/A	#N/A
PCE Price Index (2012=100)							
February Forecast, Preliminary	115.5	120.1	122.4	124.9	127.5	130.1	132.9
Percent Change	3.9%	3.9%	2.0%	2.0%	2.1%	2.1%	2.1%
November Forecast	115.3	118.7	121.0	123.5	126.0	#N/A	#N/A
Percent Change	3.7%	2.9%	1.9%	2.1%	2.1%	#N/A	#N/A
Real Personal Income (Billions of 2012 Dollars)							
February Forecast, Preliminary	18,224	17,761	18,280	18,813	19,329	19,839	20,324
Percent Change	3.3%	-2.5%	2.9%	2.9%	2.7%	2.6%	2.4%
November Forecast	18,136	17,754	18,233	18,729	19,228	#N/A	#N/A
Percent Change	2.8%	-2.1%	2.7%	2.7%	2.7%	#N/A	#N/A
Nonfarm Payroll Employment (Millions)							
February Forecast, Preliminary	146.1	151.5	153.5	154.5	155.2	155.7	156.2
Percent Change	2.7%	3.6%	1.3%	0.7%	0.4%	0.4%	0.3%
November Forecast	146.2	151.6	154.1	155.1	155.7	#N/A	#N/A
Percent Change	2.7%	3.7%	1.6%	0.7%	0.4%	#N/A	#N/A
Unemployment Rate (Percent of Labor Force)							
February Forecast, Preliminary	5.4	3.7	3.7	3.8	4.0	4.1	4.2
November Forecast	5.4	3.9	3.7	3.9	4.0	#N/A	#N/A
Oil Price, Refiner's Acquisition							
February Forecast, Preliminary	67.4	81.2	73.6	69.3	66.6	64.9	64.0
November Forecast	68.4	73.9	68.3	65.0	62.8	#N/A	#N/A
30 Year Fixed Mortgage Rate (Percent, average)							
February Forecast, Preliminary	3.0	3.4	4.1	4.5	4.7	4.8	4.9
November Forecast	3.0	3.4	3.9	4.3	4.6	#N/A	#N/A
3 Month T-Bill Rate (Percent, average)							
February Forecast, Preliminary	0.0	0.3	1.1	1.6	1.9	2.2	2.4
November Forecast	0.0	0.1	0.3	0.9	1.5	#N/A	#N/A

Washington Forecast Comparison

	2021Q4	2022Q1	2022Q2	2022Q3
Real Personal Income (Billions of 2012 Dollars)				
February Forecast, Preliminary	468.7	467.6	470.7	475.6
Percent Change	-3.7%	-1.0%	2.7%	4.2%
November Forecast	468.1	470.2	474.4	479.0
Percent Change	-6.0%	1.8%	3.6%	3.9%
Personal Income (Billions of Dollars)				
February Forecast, Preliminary	553.5	556.7	564.0	572.7
Percent Change	2.5%	2.3%	5.4%	6.3%
November Forecast	549.0	554.2	561.9	569.9
Percent Change	-2.6%	3.9%	5.7%	5.8%
Disposable Personal Income (Billions of Dollars)				
February Forecast, Preliminary	488.2	489.2	495.4	503.0
Percent Change	1.0%	0.8%	5.2%	6.3%
November Forecast	484.5	488.0	494.6	501.6
Percent Change	-3.3%	2.9%	5.5%	5.8%
Nonfarm Payroll Employment (Thousands)				
February Forecast, Preliminary	3425	3455	3491	3521
Percent Change	3.6%	3.5%	4.2%	3.5%
November Forecast	3429	3467	3500	3529
Percent Change	4.0%	4.6%	3.9%	3.3%
Unemployment Rate (Percent of Labor Force)				
February Forecast, Preliminary	4.7	4.2	4.1	4.0
November Forecast	5.0	4.7	4.5	4.4
Manufacturing Employment (Thousands)				
February Forecast, Preliminary	263.3	267.3	269.8	269.8
Percent Change	7.5%	6.2%	3.8%	0.0%
November Forecast	261.8	265.9	266.2	265.2
Percent Change	4.9%	6.4%	0.5%	-1.6%
Construction Employment (Thousands)				
February Forecast, Preliminary	226.0	228.0	227.1	225.9
Percent Change	6.5%	3.6%	-1.7%	-2.1%
November Forecast	224.4	221.6	220.6	219.7
Percent Change	3.5%	-5.0%	-1.8%	-1.6%
Housing Permits (Thousands)				
February Forecast, Preliminary	58.6	51.2	49.8	47.9
Percent Change	22.2%	-41.6%	-10.6%	-14.1%
November Forecast	50.5	49.2	47.5	46.3
Percent Change	-34.3%	-9.8%	-13.0%	-10.2%

	2021	2022	2023	2024	2025	2026	2027
February Forecast, Preliminary	480.7	473.3	490.1	505.8	521.8	538.0	554.1
Percent Change	3.5%	-1.5%	3.6%	3.2%	3.2%	3.1%	3.0%
November Forecast	481.3	476.4	491.3	506.1	521.8	#N/A	#N/A
Percent Change	3.7%	-1.0%	3.1%	3.0%	3.1%	#N/A	#N/A
February Forecast, Preliminary	555.1	568.2	600.1	631.7	665.1	700.1	736.2
Percent Change	7.5%	2.4%	5.6%	5.3%	5.3%	5.3%	5.2%
November Forecast	554.7	565.5	594.3	624.9	657.7	#N/A	#N/A
Percent Change	7.5%	1.9%	5.1%	5.2%	5.2%	#N/A	#N/A
February Forecast, Preliminary	493.6	499.1	527.2	555.6	585.9	617.7	649.5
Percent Change	6.1%	1.1%	5.6%	5.4%	5.5%	5.4%	5.1%
November Forecast	493.1	497.8	523.8	552.3	582.4	#N/A	#N/A
Percent Change	6.0%	0.9%	5.2%	5.4%	5.5%	#N/A	#N/A
February Forecast, Preliminary	3364	3504	3589	3624	3658	3690	3722
Percent Change	2.4%	4.2%	2.4%	1.0%	0.9%	0.9%	0.9%
November Forecast	3365	3513	3596	3635	3669	#N/A	#N/A
Percent Change	2.4%	4.4%	2.4%	1.1%	0.9%	#N/A	#N/A
February Forecast, Preliminary	5.2	4.1	4.1	4.4	4.6	4.6	4.7
November Forecast	5.3	4.5	4.3	4.5	4.6	#N/A	#N/A
February Forecast, Preliminary	259.4	269.6	273.2	274.5	274.9	275.2	275.3
Percent Change	-4.5%	3.9%	1.4%	0.5%	0.1%	0.1%	0.0%
November Forecast	259.0	266.0	268.3	268.7	268.6	#N/A	#N/A
Percent Change	-4.7%	2.7%	0.9%	0.1%	0.0%	#N/A	#N/A
February Forecast, Preliminary	223.4	226.6	224.4	224.5	226.0	228.7	232.1
Percent Change	4.6%	1.4%	-1.0%	0.0%	0.7%	1.2%	1.5%
November Forecast	223.0	220.3	219.5	220.9	223.0	#N/A	#N/A
Percent Change	4.4%	-1.2%	-0.4%	0.6%	1.0%	#N/A	#N/A
February Forecast, Preliminary	56.2	48.9	45.0	44.2	44.2	43.1	41.9
Percent Change	27.5%	-13.0%	-7.9%	-1.9%	0.1%	-2.5%	-2.8%
November Forecast	54.5	47.1	44.0	43.3	43.3	#N/A	#N/A
Percent Change	23.6%	-13.5%	-6.6% g		0.0%	#N/A	#N/A

U.S. Forecast Comparison	Fiscal Years					
	2022	2023	2024	2025	2026	2027
Real GDP						
Billions of 2012 dollars						
February Preliminary Forecast	19,836	20,481	20,939	21,367	21,797	22,217
<i>Growth</i>	4.7%	3.3%	2.2%	2.0%	2.0%	1.9%
November Forecast	19,789	20,445	20,889	21,313	#N/A	#N/A
<i>Growth</i>	4.5%	3.3%	2.2%	2.0%	#N/A	#N/A
Difference in level	47	37	51	54	#N/A	#N/A
<i>Difference in growth forecast</i>	0.2%	-0.1%	0.1%	0.0%	#N/A	#N/A
Real Consumption						
Billions of 2012 dollars						
February Preliminary Forecast	13,932	14,336	14,659	14,994	15,323	15,653
<i>Growth</i>	5.7%	2.9%	2.3%	2.3%	2.2%	2.2%
November Forecast	13,890	14,303	14,636	14,963	#N/A	#N/A
<i>Growth</i>	5.4%	3.0%	2.3%	2.2%	#N/A	#N/A
Difference in level	41	33	23	31	#N/A	#N/A
<i>Difference in growth forecast</i>	0.3%	-0.1%	-0.1%	0.0%	#N/A	#N/A
PCE Price Index						
2012 = 100						
February Preliminary Forecast	118.3	121.3	123.6	126.2	128.8	131.5
<i>Growth</i>	4.9%	2.5%	1.9%	2.1%	2.1%	2.1%
November Forecast	117.5	119.8	122.2	124.8	#N/A	#N/A
<i>Growth</i>	4.1%	2.0%	2.0%	2.1%	#N/A	#N/A
Difference in level	0.8	1.5	1.4	1.4	#N/A	#N/A
<i>Difference in growth forecast</i>	0.7%	0.5%	0.0%	0.0%	#N/A	#N/A
Unemployment Rate						
Percent of Labor Force						
February Preliminary Forecast	4.3%	3.6%	3.8%	3.9%	4.1%	4.1%
November Forecast	4.4%	3.7%	3.8%	4.0%	#N/A	#N/A
<i>Difference in forecast</i>	-0.1%	-0.1%	-0.1%	-0.1%	#N/A	#N/A
30 Year Fixed Mortgage Rate						
Annual Average						
February Preliminary Forecast	3.1%	3.9%	4.3%	4.6%	4.8%	4.9%
November Forecast	3.1%	3.7%	4.1%	4.4%	#N/A	#N/A
<i>Difference in forecast</i>	-0.1%	0.2%	0.2%	0.2%	#N/A	#N/A
3 Month T-Bill Rate						
Annual Average						
February Preliminary Forecast	0.1%	0.8%	1.4%	1.8%	2.0%	2.3%
November Forecast	0.1%	0.1%	0.6%	1.2%	#N/A	#N/A
<i>Difference in forecast</i>	0.0%	0.6%	0.8%	0.6%	#N/A	#N/A

Washington Forecast Comparison	Fiscal Years					
	2022	2023	2024	2025	2026	2027
Real Personal Income						
Billions of 2012 dollars						
February Preliminary Forecast	470.1	481.8	498.1	513.7	529.9	546.1
<i>Growth</i>	-1.4%	2.5%	3.4%	3.1%	3.2%	3.0%
November Forecast	472.0	484.0	498.7	513.8	#N/A	#N/A
<i>Growth</i>	-1.0%	2.5%	3.0%	3.0%	#N/A	#N/A
Difference in level	-2.0	-2.3	-0.6	-0.1	#N/A	#N/A
<i>Difference in growth forecast</i>	-0.4%	-0.1%	0.4%	0.1%	#N/A	#N/A
Nominal Personal Income						
Billions of dollars						
February Preliminary Forecast	556.1	584.3	615.7	648.1	682.4	718.0
<i>Growth</i>	3.4%	5.1%	5.4%	5.3%	5.3%	5.2%
November Forecast	554.4	580.0	609.3	641.0	#N/A	#N/A
<i>Growth</i>	3.1%	4.6%	5.1%	5.2%	#N/A	#N/A
Difference in level	1.6	4.3	6.4	7.1	#N/A	#N/A
<i>Difference in growth forecast</i>	0.3%	0.5%	0.3%	0.1%	#N/A	#N/A
Nonfarm Payroll Employment						
Thousands						
February Preliminary Forecast	3,441.9	3,557.1	3,606.9	3,641.5	3,673.4	3,705.9
<i>Growth</i>	4.7%	3.3%	1.4%	1.0%	0.9%	0.9%
November Forecast	3,447.9	3,563.8	3,616.5	3,652.4	#N/A	#N/A
<i>Growth</i>	4.9%	3.4%	1.5%	1.0%	#N/A	#N/A
Difference in level	-6.0	-6.8	-9.6	-10.8	#N/A	#N/A
<i>Difference in growth forecast</i>	-0.2%	0.0%	-0.1%	0.0%	#N/A	#N/A
Housing Permits						
Units Authorized, Thousands						
February Preliminary Forecast	53.8	46.3	44.4	44.2	43.7	42.5
<i>Growth</i>	9.0%	-13.9%	-4.2%	-0.4%	-1.2%	-2.9%
November Forecast	50.8	45.1	43.4	43.3	#N/A	#N/A
<i>Growth</i>	2.5%	-11.2%	-3.9%	-0.1%	#N/A	#N/A
Difference in level	3.0	1.2	1.0	0.9	#N/A	#N/A
<i>Difference in growth forecast</i>	6.6%	-2.7%	-0.3%	-0.3%	#N/A	#N/A

**Year-Over-Year Employment Growth by Industry
(November 2020 to November 2021)
Washington vs. U.S.**

	Washington		U.S.
	(000)	% Chg.	% Chg.
Total	148.6	4.5%	4.2%
Leisure and Hospitality	46.8	18.2%	14.7%
Information Excluding Software	7.3	9.8%	5.4%
State and Local Gov Education	19.5	8.9%	5.0%
Transportation, Warehousing and Utilities	9.5	8.5%	4.9%
Professional and Business Services	24.7	5.7%	4.9%
Software Publishers	4.3	5.7%	5.9%
Other Services	4.6	3.9%	5.6%
Construction	7.9	3.6%	2.5%
Manufacturing Excluding Aerospace	5.8	3.1%	3.0%
Wholesale Trade	3.9	2.9%	2.7%
Mining and Logging	0.2	2.9%	8.9%
Education and Health Services	9.5	1.9%	2.2%
Financial Activities	3.0	1.9%	1.8%
State and Local Gov Non-Education	0.6	0.3%	-0.4%
Aerospace Product and Parts Manufacturing	-1.7	-2.4%	1.0%
Electronic Shopping and Mail-Order Houses	-2.9	-3.6%	8.0%
Information	11.6	7.7%	5.5%
Retail Trade	2.7	0.7%	2.1%
Manufacturing	4.1	1.6%	2.9%

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