



November 2021 Preliminary Economic Forecast

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This forecast is based on a modified version of IHS Markit's October 2021 Control forecast for the U.S. economy. We have adjusted real gross domestic product (GDP) to match the October 2021 Blue Chip "Consensus" GDP forecast for 2021 and 2022. We expect real GDP to increase 5.7% in 2021 and 4.1% in 2022 which is weaker than the 5.9% and 4.3% growth rates assumed in the September forecast. Our forecast for real GDP growth in 2023-25 is based on the most recent long term forecast from Blue Chip which was also released in October. We expect growth rates of 2.5%, 2.1%, and 2.0% in 2023 through 2025 which is very close to the September forecast of 2.4%, 2.2%, and 2.1%.

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, October 28, 2021 closing prices for Brent and WTI futures. Oil prices have risen sharply since the September forecast was produced. While oil prices are expected to decline from current levels, they are expected to remain higher than in the September forecast throughout the forecast. The latest futures prices indicate that the refiner acquisition price of crude oil will average \$80 per barrel in the fourth quarter of 2021 compared to \$71 in the September forecast. By the fourth quarter of 2025 the refiner acquisition price of crude is expected to average \$60 per barrel compared to \$55 per barrel in the September forecast.

A comparison of the preliminary November U.S. forecast with the September U.S. forecast is shown in Table 2.

We have just one month of new Washington employment data since the September forecast was released. Total nonfarm payroll employment increased 11,000 in September which was 8,900 less than the increase of 19,800 expected in the forecast. Washington employment is now 110,800 (3.1%) lower than at its February 2020 peak. Private services-providing sectors added 12,200 jobs in September. The manufacturing sector added 1,000 jobs including 1,200 jobs in aerospace manufacturing. Construction employment increased by 1,400 jobs. State and local government employment decreased by 3,700 jobs in September but the federal government added 100 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 subtracted just 400 (0.0%) from the estimated level of total employment in August 2021. Because employment growth in September was slightly less than expected, employment is 9,400 (0.3%) lower in September than expected in the September forecast.

Washington's unemployment rate declined to 4.9% in September from 5.1% in August. 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 September, after the forecast was complete, the Bureau of Economic Analysis released estimates for state personal income through the second quarter of 2021. The September release also incorporated the results of the BEA's annual update of state personal income which revised personal income estimates from 1998 through 2020. We have incorporated the new BEA estimates as well as additional Washington Quarterly Census of Employment and Wages (QCEW) data. Our current estimate of Washington personal income in the second quarter of 2021 is \$2.7 billion (0.5%) lower than in the September forecast. Wages and salaries are \$7.5 billion (2.7%) higher than expected but nonwage income is \$10.2 billion (3.8%) lower than expected.

Washington housing construction rebounded in the third quarter of 2021 on a surge in multi-family activity. The number of housing units authorized by building permits rose to 56,100 (SAAR) in the third quarter from 47,600 in the second quarter. Third quarter permits consisted of 23,200 single-family units, down from 24,300 in the second quarter, and 32,900 multi-family units, up from 23,300. The September forecast expected 53,400 units (SAAR) in the third quarter, consisting of 24,700 single-family units and 28,700 multi-family units.

We expect a 2.4% increase in Washington employment this year which is the same growth rate expected in the September 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 2.3% per year in 2022 through 2025 compared to 2.2% per year in the September forecast. Our forecast for nominal personal income growth this year is 7.4%, up from 6.5% in the September forecast. Personal income growth will slow next year as the extraordinary stimulus of the last two years is withdrawn. We expect personal income growth of only 1.8% in 2022 compared to 1.7% in the September forecast. Our new forecast for nominal personal income growth in 2023 through 2025 averages 5.3% per year which is the same growth rate expected in the September forecast.

A comparison of the preliminary November Washington forecast with the September Washington forecast is shown in Table 3.

Table 1
U.S. Economic Forecast Comparison
October 2021

	2021Q3	2021Q4	2022Q1	2022Q2	2020	2021	2022	2023	2024	2025
Real GDP, Percent Change, Annual Rate										
ERFC (November Preliminary)	3.3	5.2	4.3	3.9	-3.4	5.7	4.1	2.5	2.1	2.0
IHS	1.4	5.1	4.9	4.4	-3.4	5.4	4.3	2.8	2.7	2.5
Economy.com	3.4	6.2	5.3	3.1	-3.4	5.8	4.3	2.4		
Blue Chip Average*	3.6	5.3	4.2	3.8		5.7	4.1	2.5	2.1	2.0
Blue Chip Top 10*	5.2	7.1	5.7	5.2		6.0	5.0	3.0	2.5	2.3
Blue Chip Bottom 10*	2.2	3.5	2.8	2.6		5.4	3.2	2.1	1.8	1.8
Real Consumption, Percent Change, Annual Rate										
ERFC (November Preliminary)	0.6	3.6	3.8	3.5	-3.8	7.8	3.6	2.5	2.3	2.2
IHS	0.4	4.8	3.0	2.9	-3.8	7.8	3.4	2.4	2.9	3.1
Economy.com	-0.3	6.0	5.0	2.6	-3.8	7.8	4.0	2.3		
Blue Chip Average*	1.6	4.0	3.5	3.3		7.8	3.6	2.5	2.3	2.2
Blue Chip Top 10*	4.1	6.1	4.9	4.6		8.2	4.4	3.0	2.7	2.6
Blue Chip Bottom 10*	-0.1	2.1	2.4	2.5		7.2	2.9	2.1	2.0	1.9
Federal Funds Rate										
ERFC (November Preliminary)	0.1	0.1	0.1	0.1	0.4	0.1	0.1	0.4	1.0	1.7
IHS	0.1	0.1	0.1	0.1	0.4	0.1	0.1	0.4	1.0	1.7
Economy.com	0.1	0.1	0.1	0.1	0.4	0.1	0.1	0.5		
Three Month T-Bill Rate										
ERFC (November Preliminary)	0.0	0.0	0.1	0.1	0.4	0.0	0.1	0.3	0.9	1.5
IHS	0.0	0.0	0.1	0.1	0.4	0.0	0.1	0.3	0.9	1.5
Blue Chip Average*	0.0a	0.1	0.1	0.1		0.1	0.1	0.6	1.1	1.6
Blue Chip Top 10*	na	0.1	0.1	0.2		0.1	0.2	0.9	1.6	2.2
Blue Chip Bottom 10*	na	0.1	0.1	0.1		0.0	0.1	0.4	0.7	1.1
10-Yr. T-Note Yield										
ERFC (November Preliminary)	1.3	1.5	1.7	1.8	0.9	1.4	1.9	2.3	2.6	2.8
IHS	1.3	1.5	1.6	1.7	0.9	1.4	1.8	2.3	2.6	2.8
Economy.com	1.3	1.7	1.9	2.2	0.9	1.5	2.2	2.8		
Blue Chip Average*	1.3a	1.6	1.7	1.8		1.4	1.9	2.3	2.5	2.7
Blue Chip Top 10*	na	1.7	1.9	2.1		1.6	2.2	2.6	2.9	3.3
Blue Chip Bottom 10*	na	1.4	1.5	1.6		1.3	1.6	2.0	2.1	2.2
Consumer Price Index, Percent Change, Annual Rate										
ERFC (November Preliminary)	6.5	3.8	2.4	1.8	1.2	4.4	3.3	2.0	2.0	2.1
IHS	6.5	2.6	1.9	1.9	1.2	4.3	3.0	2.1	2.1	2.3
Economy.com	6.7	3.7	2.8	2.4	1.2	4.4	3.6	2.4		
Blue Chip Average*	5.9	2.9	2.5	2.3		4.3	3.2	2.4	2.3	2.3
Blue Chip Top 10*	6.7	4.5	3.6	3.1		4.5	3.8	2.8	2.6	2.7
Blue Chip Bottom 10*	4.0	1.3	1.5	1.7		3.9	2.6	2.1	2.0	2.0
Payroll Employment, Millions										
ERFC (November Preliminary)	147.3	148.4	149.6	150.9	142.3	146.0	151.3	154.1	155.3	155.9
Percent Change, Annual Rate	6.3	3.0	3.3	3.4	-5.7	2.7	3.6	1.8	0.7	0.4
IHS	147.3	148.3	149.5	150.8	142.3	146.0	151.3	154.2	155.7	156.6
Percent Change, Annual Rate	6.3	2.7	3.5	3.4	-5.7	2.6	3.6	1.9	1.0	0.6
Economy.com	147.3	149.1	150.5	151.8	142.3	146.2	152.0	154.3		
Percent Change, Annual Rate	6.3	4.8	4.1	3.2	-5.7	2.8	3.9	1.5		
Unemployment Rate, Percent										
ERFC (November Preliminary)	5.1	4.7	4.5	4.3	8.1	5.5	4.2	3.8	3.8	3.8
IHS	5.1	4.6	4.5	4.2	8.1	5.5	4.1	3.6	3.6	3.7
Economy.com	5.1	4.6	4.1	3.7	8.1	5.5	3.7	3.5		
Blue Chip Average*	5.1a	4.9	4.6	4.4		5.6	4.3	3.9	3.9	4.0
Blue Chip Top 10*	5.5	5.3	5.1	5.0		5.7	4.8	4.4	4.4	4.3
Blue Chip Bottom 10*	5.1	4.5	4.1	3.8		5.5	3.8	3.5	3.5	3.6
Real Disposable Personal Income, Percent Change, Annual Rate										
ERFC (November Preliminary)	-5.5	-6.9	-1.9	3.5	6.2	1.6	-3.6	3.1	3.3	3.1
IHS	-5.7	-6.1	-1.5	3.7	6.2	1.6	-3.3	3.0	3.2	3.1
Blue Chip Average*	-3.1	-1.0	1.1	2.2		2.3	-1.6	2.2	2.1	2.1
Blue Chip Top 10*	3.0	2.9	4.2	4.6		3.3	0.5	2.7	2.5	2.5
Blue Chip Bottom 10*	-7.3	-5.5	-2.4	-0.3		1.5	-3.2	1.7	1.8	1.7
West Texas Intermediate										
ERFC (November Preliminary)	70.6	82.3	80.0	76.6	39.2	69.2	75.8	68.3	63.7	60.7
IHS	70.6	73.1	67.9	66.3	39.2	66.9	65.8	63.1	62.2	62.7
Economy.com	70.5	67.1	64.4	61.6	39.5	65.5	61.6	60.6		

* Forecasts beyond 2022 are from the October 2021 Blue Chip Economic Indicators
a Actual

Table 2

U.S. Forecast Comparison

	2021Q2	2021Q3	2021Q4	2022Q1
Real GDP (Billions of 2012 Dollars)				
November Forecast, Preliminary	19,368	19,524	19,772	19,981
Percent Change	6.7%	3.3%	5.2%	4.3%
September Forecast	19,361	19,592	19,855	20,061
Percent Change	6.6%	4.9%	5.5%	4.2%
Real Consumption (Billions of 2012 Dollars)				
November Forecast, Preliminary	13,666	13,686	13,809	13,938
Percent Change	12.0%	0.6%	3.6%	3.8%
September Forecast	13,660	13,708	13,840	13,973
Percent Change	11.9%	1.4%	3.9%	3.9%
PCE Price Index (2012=100)				
November Forecast, Preliminary	114.8	116.3	117.2	117.9
Percent Change	6.5%	5.3%	3.3%	2.4%
September Forecast	114.8	116.2	116.8	117.3
Percent Change	6.5%	5.1%	2.2%	1.6%
Real Personal Income (Billions of 2012 Dollars)				
November Forecast, Preliminary	17,927	17,754	17,512	17,472
Percent Change	-26.4%	-3.8%	-5.4%	-0.9%
September Forecast	17,918	17,694	17,537	17,562
Percent Change	-26.5%	-4.9%	-3.5%	0.6%
Nonfarm Payroll Employment (Millions)				
November Forecast, Preliminary	145.1	147.3	148.4	149.6
Percent Change	4.8%	6.3%	3.0%	3.3%
September Forecast	145.1	147.4	148.6	149.7
Percent Change	4.8%	6.7%	3.3%	2.8%
Unemployment Rate (Percent of Labor Force)				
November Forecast, Preliminary	5.9	5.1	4.7	4.5
September Forecast	5.9	5.2	4.9	4.6
Oil Price, Refiner's Acquisition				
November Forecast, Preliminary	66.0	69.7	80.5	78.7
September Forecast	66.0	69.8	71.4	69.7
30 Year Fixed Mortgage Rate (Percent, average)				
November Forecast, Preliminary	3.0	2.9	3.0	3.2
September Forecast	3.0	2.9	3.0	3.2
3 Month T-Bill Rate (Percent, average)				
November Forecast, Preliminary	0.0	0.0	0.0	0.1
September Forecast	0.0	0.1	0.1	0.1

	2019	2020	2021	2022	2023	2024	2025
	19,033	18,385	19,430	20,234	20,740	21,176	21,599
	2.3%	-3.4%	5.7%	4.1%	2.5%	2.1%	2.0%
	19,033	18,385	19,466	20,303	20,790	21,248	21,694
	2.3%	-3.4%	5.9%	4.3%	2.4%	2.2%	2.1%
	13,126	12,630	13,611	14,103	14,456	14,788	15,114
	2.2%	-3.8%	7.8%	3.6%	2.5%	2.3%	2.2%
	13,126	12,630	13,623	14,133	14,472	14,805	15,145
	2.2%	-3.8%	7.9%	3.7%	2.4%	2.3%	2.3%
	109.9	111.2	115.3	118.8	121.1	123.5	126.0
	1.5%	1.2%	3.7%	3.0%	1.9%	2.0%	2.0%
	109.9	111.2	115.2	118.0	120.0	122.2	124.5
	1.5%	1.2%	3.6%	2.4%	1.7%	1.9%	1.9%
	16,761	17,648	18,137	17,712	18,242	18,776	19,291
	2.5%	5.3%	2.8%	-2.3%	3.0%	2.9%	2.7%
	16,761	17,648	18,125	17,819	18,355	18,882	19,393
	2.5%	5.3%	2.7%	-1.7%	3.0%	2.9%	2.7%
	150.9	142.3	146.0	151.3	154.1	155.3	155.9
	1.3%	-5.7%	2.7%	3.6%	1.8%	0.7%	0.4%
	150.9	142.3	146.1	151.1	153.5	154.7	155.6
	1.3%	-5.7%	2.7%	3.4%	1.6%	0.8%	0.6%
	3.7	8.1	5.5	4.2	3.8	3.8	3.8
	3.7	8.1	5.6	4.2	3.7	3.7	3.7
	59.4	39.2	68.4	74.9	68.1	63.9	61.1
	59.4	39.2	66.1	67.5	62.7	59.0	56.2
	3.9	3.1	2.9	3.5	4.0	4.2	4.5
	3.9	3.1	2.9	3.4	3.8	4.0	4.3
	2.1	0.4	0.0	0.1	0.3	0.9	1.5
	2.1	0.4	0.1	0.1	0.1	0.4	0.9

Table 3

Washington Forecast Comparison

	2021Q2	2021Q3	2021Q4	2022Q1
Real Personal Income (Billions of 2012 Dollars)				
November Forecast, Preliminary	479.0	475.3	468.1	468.8
Percent Change	-17.4%	-3.1%	-5.9%	0.6%
September Forecast	481.3	477.8	473.4	474.7
Percent Change	-22.4%	-2.9%	-3.6%	1.2%
Personal Income (Billions of Dollars)				
November Forecast, Preliminary	549.7	552.6	548.8	552.9
Percent Change	-12.1%	2.2%	-2.8%	3.0%
September Forecast	552.4	555.2	553.0	556.9
Percent Change	-17.4%	2.1%	-1.6%	2.8%
Disposable Personal Income (Billions of Dollars)				
November Forecast, Preliminary	487.9	488.6	483.6	485.8
Percent Change	-17.3%	0.6%	-4.1%	1.9%
September Forecast	491.2	491.3	488.2	490.8
Percent Change	-21.6%	0.1%	-2.6%	2.2%
Nonfarm Payroll Employment (Thousands)				
November Forecast, Preliminary	3346	3394	3433	3469
Percent Change	7.1%	5.9%	4.7%	4.3%
September Forecast	3339	3398	3429	3454
Percent Change	5.9%	7.3%	3.6%	3.0%
Unemployment Rate (Percent of Labor Force)				
November Forecast, Preliminary	5.3	5.0	4.8	4.7
September Forecast	5.3	5.0	5.0	4.8
Manufacturing Employment (Thousands)				
November Forecast, Preliminary	257.1	258.5	261.0	266.3
Percent Change	-2.3%	2.2%	4.0%	8.3%
September Forecast	256.7	258.1	257.5	257.0
Percent Change	-2.9%	2.2%	-0.9%	-0.8%
Construction Employment (Thousands)				
November Forecast, Preliminary	222.5	222.3	223.0	221.2
Percent Change	-0.1%	-0.3%	1.3%	-3.2%
September Forecast	223.1	224.6	221.0	218.9
Percent Change	-0.3%	2.6%	-6.2%	-3.7%
Housing Permits (Thousands)				
November Forecast, Preliminary	47.6	56.1	50.5	50.1
Percent Change	-68.8%	92.7%	-34.3%	-3.4%
September Forecast	47.6	53.4	49.2	47.7
Percent Change	-68.8%	58.8%	-27.9%	-11.8%

	2019	2020	2021	2022	2023	2024	2025
	436.5	464.2	481.2	475.3	491.4	507.2	523.3
	4.1%	6.3%	3.7%	-1.2%	3.4%	3.2%	3.2%
	448.6	473.0	486.3	482.7	500.5	516.7	533.1
	3.8%	5.4%	2.8%	-0.7%	3.7%	3.2%	3.2%
	479.8	516.3	554.7	564.8	595.1	626.3	659.3
	5.6%	7.6%	7.4%	1.8%	5.4%	5.2%	5.3%
	493.1	526.0	560.0	569.4	600.4	631.5	663.9
	5.4%	6.7%	6.5%	1.7%	5.4%	5.2%	5.1%
	428.9	465.0	492.9	496.0	523.2	552.2	583.1
	5.7%	8.4%	6.0%	0.6%	5.5%	5.5%	5.6%
	442.2	473.7	498.2	501.6	529.0	557.4	587.4
	5.1%	7.1%	5.2%	0.7%	5.5%	5.4%	5.4%
	3469	3286	3365	3515	3603	3645	3679
	2.0%	-5.3%	2.4%	4.5%	2.5%	1.2%	0.9%
	3469	3286	3364	3494	3578	3625	3669
	2.0%	-5.2%	2.4%	3.9%	2.4%	1.3%	1.2%
	4.2	8.4	5.2	4.5	4.3	4.4	4.4
	4.2	8.4	5.2	4.5	4.2	4.3	4.3
	293.7	271.7	258.8	268.2	271.4	270.4	269.7
	2.1%	-7.5%	-4.7%	3.7%	1.2%	-0.4%	-0.3%
	293.7	271.7	257.7	258.4	263.2	263.9	264.8
	2.1%	-7.5%	-5.1%	0.2%	1.9%	0.3%	0.3%
	219.5	213.5	222.6	220.2	220.2	221.8	223.8
	3.0%	-2.7%	4.2%	-1.1%	0.0%	0.7%	0.9%
	219.5	213.5	223.0	217.5	217.2	219.9	224.0
	3.0%	-2.7%	4.4%	-2.5%	-0.1%	1.2%	1.9%
	48.4	44.1	54.5	47.7	44.7	44.0	43.8
	1.4%	-9.0%	23.6%	-12.4%	-6.3%	-1.5%	-0.6%
	48.4	44.1	53.5	46.2	44.3	44.2	43.7
	1.4%	-9.0%	21.4%	-13.5%	-4.3%	0.0%	-1.3%