November 2016 Preliminary Economic Forecast

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This forecast is based on a modified version of Global Insight's October 2016 Control 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 October Blue Chip forecast for real GDP growth in 2016 and 2017 was unchanged from September at 1.5% and 2.2%. The Blue Chip long term forecast, however, was revised down slightly to 2.1%, 2.1%, 2.1%, and 2.0% in 2018 through 2021 from 2.2%, 2.1%, 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 Wednesday, October 26, 2016 closing prices for Brent and WTI futures. The latest futures prices are slightly higher than the prices used in the September forecast. The refiner acquisition price of crude oil in the fourth quarter of 2016 is now expected to average $47 per barrel compared to $45 in the September forecast. As in September, oil prices are expected to rise gradually during the remainder of the forecast. By the end of 2021, the refiner acquisition price is expected to increase to $57 per barrel.

Global Insight revised their outlook for housing construction in their October forecast. The near-term forecast for housing starts is lower, the recovery is slower, and starts plateau at a lower level than expected in September. The reasons cited for the lower projections are slower household formation as well as labor shortages, tighter lending standards, a shortage of developed lots, and unfavorable regulatory treatment of loans for land development. Our forecast for U.S. housing starts is virtually identical to Global Insight's. In our preliminary November forecast starts average 1.161 million units (SAAR) in the fourth quarter of this year compared to 1.212 million units in the September forecast. Starts are now expected to plateau at 1.503 million units in 2021 compared to 1.656 million units 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 rose 6,000 (seasonally adjusted) in September, which was 2,900 more than the 3,000 expected in the September forecast. The manufacturing sector accounted for much of the variance in job growth with no net change in jobs in September; the September forecast had expected a reduction of 1,200 manufacturing jobs. The aerospace sector was expected to shed 1,500 jobs but instead added 200. Construction employment increased 1,000 and government payrolls expanded by 800 jobs. As is usually the case, the bulk of the job growth was in private, service-providing sectors which added 4,000 jobs in September.

Though aerospace employment rose slightly in September, we have retained the overall decline in aerospace employment implied by the Boeing announcement earlier this year. In 2017 through 2019 we expect a more gradual decline in aerospace employment similar to the assumption made in September. We project no change in aerospace employment in the final two years of the forecast.

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 August 2016 by 3,600 jobs (0.1%). As a result of the upward revision to history and stronger-than-expected growth, the total effect is 6,500 (0.2%) more jobs in September 2016 than expected in the September forecast.

In September, the Bureau of Economic Analysis released estimates for state personal income through the second quarter of 2016. This release also reflected the results of the annual revision to the national income and product accounts (NIPA). We have incorporated the new BEA estimates as well as additional Washington Quarterly Census of Employment and Wages (QCEW) and other wage data also through the second quarter. Our current estimate of Washington personal income in the second quarter of 2016 is $388.3 billion which is $5.1 billion (1.3%) higher than assumed in the September forecast. Wages and salaries were $1.6 billion higher than believed in September and other sources of personal income were $3.5 billion higher. The large increase in the estimate of nonwage income was due to the annual NIPA revision.

Washington housing construction was weaker than expected in the third quarter. Washington housing units authorized by building permits averaged 38,400 units (SAAR) in the third quarter of 2016, down from 45,300 in the second quarter. The September forecast expected an average rate of 40,500 units in the third quarter. Multi-family permits averaged 17,900 units in the third quarter which was exactly the amount expected in the September

forecast. Single-family permits, however, averaged 20,500 units in third quarter which was 2,100 fewer than expected.

Washington employment is expected to grow 2.9% this year, up slightly from 2.8% in the September forecast. As in September, we expect growth to gradually decelerate as the recovery matures. We expect employment growth to average 1.4% per year in 2017 through 2021 which is slightly higher than the 1.3% rate assumed in September. As in September, our preliminary forecast for nominal personal income growth this year is 4.8%. Our new forecast for nominal personal income growth in 2017 through 2021 averages 5.0% per year, also up slightly from the 4.9% rate 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 2016

	2016Q3	2016Q4	2017Q1	2017Q2		2016	2017	2018	2019	2020	2021
Real GDP, Percent Change, Annual Rate											
ERFC (Preliminary November)	2.6	2.3	2.3	2.3		1.5	2.2	2.1	2.1	2.1	2.0
Global Insight	1.9	2.1	2.4	2.3		1.4	2.2	2.2	2.2	2.1	2.2
Economy.com	3.0	2.9	3.2	2.9		1.6	2.9	2.7			
Blue Chip Average*	2.7	2.3	2.2	2.3		1.5	2.2	2.1	2.1	2.1	2.0
Blue Chip Top 10*	3.2	2.8	2.7	2.7		1.6	2.5	2.5	2.5	2.5	2.4
Blue Chip Bottom 10*	2.3	1.8	1.7	1.8		1.4	1.9	1.5	1.6	1.6	1.6
Real Consumption, Percent Change, Annual Rate											
ERFC (Preliminary November)	2.7	2.4	2.4	2.4		2.6	2.5	2.2	2.2	2.1	2.1
Global Insight	2.9	2.6	2.1	2.3		2.7	2.5	2.3	2.5	2.3	2.3
Economy.com	3.0	2.8	3.5	3.2		2.7	3.2	3.1			
Blue Chip Average*	2.7	2.4	2.3	2.4		2.6	2.5	2.2	2.2	2.1	2.1
Blue Chip Top 10*	3.1	2.9	2.8	2.8		2.7	2.8	2.6	2.6	2.5	2.5
Blue Chip Bottom 10*	2.2	2.0	1.8	1.9		2.6	2.2	1.7	1.7	1.6	1.7
Federal Funds Rate											
ERFC (Preliminary November)	0.4	0.5	0.7	0.7		0.4	0.8	1.5	2.4	2.8	2.8
Global Insight	0.4	0.5	0.7	0.7		0.4	0.8	1.5	2.4	2.8	2.8
Economy.com	0.4	0.4	0.7	0.8		0.4	0.9	2.2			
Three Month T-Bill Rate											
ERFC (Preliminary November)	0.3	0.4	0.6	0.6		0.3	0.7	1.4	2.2	2.6	2.6
Global Insight	0.3	0.4	0.6	0.6		0.3	0.7	1.4	2.2	2.6	2.6
Blue Chip Average*	0.3	0.4	0.6	0.7		0.3	0.8	1.7	2.2	2.5	2.7
Blue Chip Top 10*		0.6	0.8	1.0		0.4	1.1	2.6	3.2	3.4	3.5
Blue Chip Bottom 10*		0.3	0.3	0.5		0.3	0.5	1.0	1.2	1.6	1.8
10-Yr. T-Note Yield											
ERFC (Preliminary November)	1.6	1.7	2.0	2.0		1.7	2.1	2.7	3.3	3.5	3.5
Global Insight	1.6	1.7	1.9	2.0		1.7	2.1	2.7	3.4	3.6	3.6
Economy.com	1.6	1.9	2.2	2.6		1.8	2.8	3.8			
Blue Chip Average*	1.6	1.7	1.8	2.0		1.7	2.1	2.8	3.1	3.4	3.6
Blue Chip Top 10*		1.9	2.1	2.4		1.8	2.6	3.7	4.0	4.4	4.3
Blue Chip Bottom 10*		1.5	1.5	1.6		1.6	1.7	2.0	2.2	2.5	2.7
Consumer Price Index, Percent Change, Annual Rate											
ERFC (Preliminary November)	2.1	3.6	2.0	2.8		1.4	2.6	2.3	2.2	2.3	2.3
Global Insight	1.7	3.2	1.9	3.2		1.3	2.5	2.4	2.6	2.5	2.4
Economy.com	1.4	2.3	2.4	2.9		1.2	2.4	2.7			
Blue Chip Average*	1.6	2.4	2.2	2.3		1.2	2.3	2.3	2.3	2.3	2.3
Blue Chip Top 10*	1.8	3.3	2.7	3.1		1.3	2.7	2.6	2.7	2.7	2.6
Blue Chip Bottom 10*	1.2	1.7	1.7	1.7		1.2	1.9	1.9	2.0	1.9	1.8
Payroll Employment, Millions											
ERFC (Preliminary November)	144.7	145.2	145.6	146.0		144.4	146.1	147.2	148.4	149.6	150.5
Percent Change, Annual Rate	2.0	1.4	1.1	1.0		1.8	1.2	0.8	0.8	0.8	0.6
Global Insight	144.6	145.1	145.5	145.8		144.3	146.0	147.2	148.7	150.0	151.2
Percent Change, Annual Rate	1.7	1.3	1.1	1.0		1.7	1.2	0.9	1.0	0.9	0.8
Economy.com	144.6	145.1	145.6	146.2		144.3	146.4	148.4			
Percent Change, Annual Rate	1.7	1.5	1.4	1.5		1.7	1.5	1.4			
Unemployment Rate, Percent											
ERFC (Preliminary November)	4.9	4.8	4.8	4.7		4.9	4.7	4.6	4.6	4.7	4.8
Global Insight	4.9	4.9	4.9	4.8		4.9	4.8	4.6	4.6	4.7	4.8
Economy.com	4.9	5.0	4.9	4.9		4.9	4.8	4.7			
Blue Chip Average*	4.9	4.8	4.7	4.6		4.9	4.6	4.7	4.7	4.7	4.8
Blue Chip Top 10*		4.9	4.9	4.8		4.9	4.8	5.1	5.4	5.2	5.3
Blue Chip Bottom 10*		4.7	4.6	4.4		4.8	4.4	4.3	4.2	4.3	4.3
Real Disposable Personal Income, Percent Change, Annual Rate											
ERFC (Preliminary November)	2.1	1.6	2.3	1.6		2.5	1.9	2.5	2.6	2.3	2.3
Global Insight	2.7	2.3	2.8	1.8		2.6	2.4	2.8	2.7	2.5	2.5
Blue Chip Average*	2.6	2.2	2.4	2.3		2.6	2.3	2.3	2.3	2.2	2.2
Blue Chip Top 10*	3.4	3.1	3.0	2.9		2.8	2.7	2.8	2.7	2.7	2.8
Blue Chip Bottom 10*	1.8	1.1	1.8	1.9		2.3	1.9	1.7	1.7	1.7	1.6
West Texas Intermediate											
ERFC (Preliminary November)	44.9	49.4	50.4	51.9		43.2	52.0	54.1	55.3	56.1	56.9
Global Insight	44.9	47.3	46.9	50.6		42.7	50.2	54.4	67.6	74.9	81.1
Economy.com	44.9	50.0	51.6	55.0		43.5	56.0	61.1			

* Forecasts beyond 2017 are from the October 2016 Blue Chip Economic Indicators

Table 2

U.S. Forecast Comparison

	2016Q3	2016Q4	2017Q1	2017Q2		2015	2016	2017	2018	2019	2020	2021
Real GDP (Billions of 2009 Dollars)												
November Forecast, Preliminary	16,690	16,784	16,878	16,975		16,397	16,646	17,017	17,375	17,740	18,112	18,474
Percent Change	*2.6%*	*2.3%*	*2.3%*	*2.3%*		*2.6%*	*1.5%*	*2.2%*	*2.1%*	*2.1%*	*2.1%*	*2.0%*
September Forecast	16,692	16,793	16,884	16,978		16,397	16,645	17,019	17,394	17,759	18,150	18,531
Percent Change	*3.0%*	*2.4%*	*2.2%*	*2.2%*		*2.6%*	*1.5%*	*2.2%*	*2.2%*	*2.1%*	*2.2%*	*2.1%*
Real Consumption (Billions of 2009 Dollars)												
November Forecast, Preliminary	11,560	11,630	11,698	11,768		11,215	11,510	11,799	12,058	12,324	12,583	12,847
Percent Change	*2.7%*	*2.4%*	*2.4%*	*2.4%*		*3.2%*	*2.6%*	*2.5%*	*2.2%*	*2.2%*	*2.1%*	*2.1%*
September Forecast	11,569	11,641	11,709	11,778		11,215	11,516	11,809	12,081	12,347	12,618	12,896
Percent Change	*2.9%*	*2.5%*	*2.3%*	*2.4%*		*3.2%*	*2.7%*	*2.6%*	*2.3%*	*2.2%*	*2.2%*	*2.2%*
Implicit Price Deflator, PCE (2009=1.00)												
November Forecast, Preliminary	1.110	1.116	1.120	1.125		1.095	1.108	1.128	1.148	1.169	1.193	1.216
Percent Change	*1.6%*	*2.3%*	*1.4%*	*2.0%*		*0.4%*	*1.1%*	*1.8%*	*1.8%*	*1.9%*	*2.0%*	*2.0%*
September Forecast	1.109	1.116	1.120	1.125		1.095	1.107	1.127	1.145	1.166	1.188	1.212
Percent Change	*1.6%*	*2.3%*	*1.5%*	*1.7%*		*0.4%*	*1.1%*	*1.7%*	*1.6%*	*1.8%*	*1.9%*	*2.0%*
Real Personal Income (Billions of 2009 Dollars)												
November Forecast, Preliminary	14,462	14,516	14,612	14,692		14,113	14,418	14,737	15,136	15,559	15,980	16,366
Percent Change	*2.3%*	*1.5%*	*2.7%*	*2.2%*		*4.0%*	*2.2%*	*2.2%*	*2.7%*	*2.8%*	*2.7%*	*2.4%*
September Forecast	14,466	14,537	14,634	14,722		14,113	14,426	14,767	15,170	15,590	16,014	16,405
Percent Change	*2.2%*	*2.0%*	*2.7%*	*2.4%*		*4.0%*	*2.2%*	*2.4%*	*2.7%*	*2.8%*	*2.7%*	*2.4%*
Nonfarm Payroll Employment (Millions)												
November Forecast, Preliminary	144.7	145.2	145.6	146.0		141.8	144.4	146.1	147.2	148.4	149.6	150.5
Percent Change	*2.0%*	*1.4%*	*1.1%*	*1.0%*		*2.1%*	*1.8%*	*1.2%*	*0.8%*	*0.8%*	*0.8%*	*0.6%*
September Forecast	144.7	145.3	145.7	146.0		141.8	144.4	146.2	147.3	148.4	149.5	150.5
Percent Change	*2.0%*	*1.6%*	*1.2%*	*0.9%*		*2.1%*	*1.8%*	*1.2%*	*0.8%*	*0.8%*	*0.8%*	*0.7%*
Unemployment Rate (Percent of Labor Force)												
November Forecast, Preliminary	4.9	4.8	4.8	4.7		5.3	4.9	4.7	4.6	4.6	4.7	4.8
September Forecast	4.8	4.8	4.7	4.7		5.3	4.8	4.7	4.6	4.6	4.7	4.8
30 Year Fixed Mortgage Rate (Percent, average)												
November Forecast, Preliminary	3.5	3.5	3.8	3.8		3.9	3.6	3.9	4.6	5.3	5.6	5.6
September Forecast	3.5	3.6	3.8	4.0		3.9	3.6	4.1	4.9	5.5	5.8	5.8
3 Month T-Bill Rate (Percent, average)												
November Forecast, Preliminary	0.3	0.4	0.6	0.6		0.1	0.3	0.7	1.4	2.2	2.6	2.6
September Forecast	0.3	0.4	0.6	0.7		0.1	0.3	0.9	1.6	2.5	2.8	2.8

Table 3

Washington Forecast Comparison

	2016Q3	2016Q4	2017Q1	2017Q2		2015	2016	2017	2018	2019	2020	2021
Real Personal Income (Billions of 2009 Dollars)												
November Forecast, Preliminary	353.3	354.4	360.4	360.8		339.7	351.9	361.6	373.3	385.5	397.4	408.4
Percent Change	*2.3%*	*1.3%*	*6.9%*	*0.4%*		*4.3%*	*3.6%*	*2.7%*	*3.2%*	*3.3%*	*3.1%*	*2.8%*
September Forecast	347.8	348.8	355.0	355.3		335.0	347.4	356.4	368.3	380.4	392.4	403.5
Percent Change	*1.3%*	*1.1%*	*7.3%*	*0.3%*		*4.4%*	*3.7%*	*2.6%*	*3.3%*	*3.3%*	*3.1%*	*2.8%*
Personal Income (Billions of Dollars)												
November Forecast, Preliminary	392.0	395.5	403.6	406.1		372.1	389.8	407.8	428.6	450.9	473.9	496.7
Percent Change	*3.9%*	*3.6%*	*8.4%*	*2.5%*		*4.6%*	*4.8%*	*4.6%*	*5.1%*	*5.2%*	*5.1%*	*4.8%*
September Forecast	385.9	389.1	397.6	399.6		367.0	384.7	401.7	421.8	443.6	466.3	489.1
Percent Change	*2.8%*	*3.4%*	*9.0%*	*2.1%*		*4.7%*	*4.8%*	*4.4%*	*5.0%*	*5.2%*	*5.1%*	*4.9%*
Nonfarm Payroll Employment (Thousands)												
November Forecast, Preliminary	3249	3262	3274	3287		3146	3238	3294	3345	3390	3433	3468
Percent Change	*1.8%*	*1.5%*	*1.4%*	*1.7%*		*2.8%*	*2.9%*	*1.7%*	*1.6%*	*1.4%*	*1.2%*	*1.0%*
September Forecast	3245	3255	3268	3280		3146	3235	3286	3333	3375	3414	3450
Percent Change	*1.8%*	*1.2%*	*1.6%*	*1.5%*		*2.8%*	*2.8%*	*1.6%*	*1.4%*	*1.3%*	*1.2%*	*1.0%*
Unemployment Rate (Percent of Labor Force)												
November Forecast, Preliminary	5.7	5.5	5.5	5.4		5.7	5.7	5.3	5.0	4.9	4.9	5.0
September Forecast	5.7	5.7	5.6	5.5		5.7	5.8	5.5	5.2	5.1	5.1	5.1
Manufacturing Employment (Thousands)												
November Forecast, Preliminary	288.1	283.8	283.1	283.6		290.7	288.2	283.5	284.9	287.3	290.3	293.5
Percent Change	*-2.9%*	*-5.9%*	*-0.9%*	*0.6%*		*0.7%*	*-0.9%*	*-1.6%*	*0.5%*	*0.8%*	*1.1%*	*1.1%*
September Forecast	288.5	284.1	284.2	284.5		290.8	288.4	284.7	285.3	287.7	290.3	293.0
Percent Change	*-2.0%*	*-6.0%*	*0.2%*	*0.5%*		*0.7%*	*-0.8%*	*-1.3%*	*0.2%*	*0.9%*	*0.9%*	*0.9%*
Construction Employment (Thousands)												
November Forecast, Preliminary	184.2	184.7	184.6	185.4		173.2	183.4	186.4	193.4	198.2	201.1	203.7
Percent Change	*1.1%*	*1.1%*	*-0.4%*	*1.7%*		*8.5%*	*5.9%*	*1.6%*	*3.7%*	*2.5%*	*1.5%*	*1.3%*
September Forecast	184.0	183.8	183.7	184.9		173.2	183.2	186.1	194.2	199.4	202.4	204.6
Percent Change	*1.7%*	*-0.6%*	*-0.1%*	*2.6%*		*8.5%*	*5.7%*	*1.6%*	*4.3%*	*2.7%*	*1.5%*	*1.1%*
Housing Permits (Thousands)												
November Forecast, Preliminary	38.4	39.2	39.0	39.4		40.4	40.1	39.5	40.8	41.6	41.8	41.8
Percent Change	*-48.3%*	*8.6%*	*-1.9%*	*3.6%*		*19.1%*	*-0.6%*	*-1.5%*	*3.2%*	*1.9%*	*0.7%*	*0.0%*
September Forecast	40.5	40.5	41.3	42.1		40.4	41.0	42.3	44.1	44.4	44.4	44.0
Percent Change	*-35.9%*	*0.2%*	*7.4%*	*8.2%*		*19.1%*	*1.5%*	*3.1%*	*4.4%*	*0.7%*	*0.0%*	*-0.9%*