

March 2023 Preliminary Economic Forecast

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This forecast is based on a modified version of IHS Markit's February 2023 Control forecast for the U.S. economy. We have adjusted real gross domestic product (GDP) to be consistent with the February Blue Chip "Consensus" GDP forecast for 2023 and 2024. We expect real GDP to increase 0.7% in 2023 and 1.2% in 2024 compared to the 0.2% and 1.5% growth rates assumed in the November forecast. Our forecast for real GDP growth in 2025-27 is based on the most recent long term forecast from Blue Chip which was released in October 2022. As in November, we expect growth rates of 2.1%, 2.1%, and 1.9% in 2025 through 2027. The forecast assumes three quarters of negative growth from the fourth quarter of 2022 to the third quarter of 2023 with a peak-to-trough decline of 0.3%.

Our oil price forecast reflects the futures markets for the Brent (North Sea) oil price and West Texas Intermediate (WTI) benchmarks. This forecast was based on the Wednesday, February 22, 2023 closing prices for Brent and WTI futures. Oil prices are lower than in the November forecast, especially in the near term. As in November, oil prices are expected to decline throughout the forecast. The latest futures prices indicate that the refiner acquisition price of crude oil will average \$75 per barrel in the second quarter of 2023 compared to \$83 in the November forecast. By the fourth quarter of 2027 the refiner acquisition price of crude is now expected to average \$64 per barrel compared to \$66 in the November forecast.

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

We have two months of new Washington employment data since the November forecast was released. Total seasonally adjusted nonfarm payroll employment increased 16,300 in November and December which was 3,800 more than the forecasted increase of 12,500. Private services-providing sectors added 11,400 jobs in the two-month period. The manufacturing sector added 200 jobs despite the loss of 600 jobs in aerospace manufacturing. Construction employment increased by 600 jobs in November and December. State and local government employment rose by 4,700 jobs but federal government employment declined by 700 jobs.

Revisions to employment data added 4,900 (0.1%) to the estimated level of total employment in October 2022. The combined effect of the upward revision to historical data and the stronger employment growth in November and December is that December employment is 8,800 (0.2%) higher than expected in the November forecast.

Washington's unemployment rate increased for a third consecutive month in December. Washington's seasonally adjusted unemployment rate increased to 4.2% (SA) in December from 4.0% in November, 3.8% in October, and 3.7% in September. The September rate matched a record low in the series that dates to 1976.

In December, the U.S. Department of Commerce, Bureau of Economic Analysis (BEA) released state personal income estimates for the third quarter of 2022. Washington personal income in the third quarter of 2022 was \$3.5 billion (0.6%) lower than in the November forecast. Wages and salaries were \$0.8 billion (0.3%) lower than expected and nonwage income was \$2.7 billion (1.0%) lower than expected.

Washington housing construction continued to slow in the fourth quarter of 2022 and early 2023. The number of housing units authorized by building permits declined from 58,300 (SAAR) in the first quarter to 55,800 in the second quarter, 44,800 units in the third quarter, and 38,200 in the fourth quarter. Fourth quarter permits consisted of 15,200 single-family units and 23,000 multi-family units. The November forecast assumed 41,500 units for the fourth quarter. Permits continued to decline in January 2023 when 30,500 units (SAAR) were permitted consisting of 13,600 single-family units and 16,900 multi-family units.

We expect a 1.4% increase in Washington employment this year up from the 0.9% growth rate expected in the November forecast. We expect slower growth during the remainder of the forecast as the U.S economy slows. We expect employment growth to average 0.7% per year in 2024 through 2027 which is slightly lower than the 0.9% average rate in the November forecast. Our forecast for nominal personal income growth this year is 4.3%, down from 5.4% in the November forecast. Our new forecast for nominal personal income growth in 2024 through 2027 averages 5.1% per year which is which is the same average rate as in the November forecast.

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

Table 1 **U.S. Economic Forecast Comparison**February 2023

| February 2023 | | | | | | | | | | |
|--|--------------|------------------|---------------|---------------|--------------|--------------|-------------|--------------|--------------|--------------|
| | 2022Q4 | 2023Q1 | 2023Q2 | 2023Q3 | 2022 | 2023 | 2024 | 2025 | 2026 | 2027 |
| Deal CDD Deveent Change Ann | al Data | | | | | | | | | |
| Real GDP, Percent Change, Ann | | 0.2 | 0.6 | 0.2 | 2.1 | 0.7 | 1.2 | 2.1 | 2.1 | 1.0 |
| ERFC (Preliminary March) | 2.9 | -0.3 | -0.6 -0.2 | -0.2 0.7 | 2.1 | 0.7 | 1.2 | 2.1 | 2.1 | 1.9 |
| IHS Economy com | 2.9 2.9 | -1.3 -0.4 | 1.0 | 1.8 | 2.1 2.1 | 0.7 1.3 | 1.6 2.2 | 2.0 | 1.8 | 1.6 |
| Economy.com | 2.9 | -0.4 | -0.5 | -0.1 | 2.1 | 0.7 | 1.2 | 2.1 | 2.1 | 1.9 |
| Blue Chip Average* Blue Chip Top 10* | | 1.2 | 1.2 | 1.8 | | 1.5 | 2.0 | 2.5 | 2.1 | 2.2 |
| Blue Chip Bottom 10* | | -1.5 | -2.3 | -2.3 | | 0.1 | 0.3 | 1.7 | 1.8 | 1.7 |
| Bide Chip Bottom 10 | | -1.5 | -2.5 | -2.5 | | 0.1 | 0.5 | 1./ | 1.0 | 1./ |
| Real Consumption, Percent Cha | nge, Annu | | | | | | | | | |
| ERFC (Preliminary March) | 2.1 | 0.7 | 0.0 | 0.0 | 2.8 | 1.0 | 1.1 | 2.2 | 2.2 | 2.1 |
| IHS | 2.1 | -0.1 | 0.4 | 0.7 | 2.8 | 1.0 | 1.1 | 1.7 | 1.9 | 2.1 |
| Economy.com | 2.1 | 1.0 | 1.5 | 2.1 | 2.8 | 1.7 | 2.3 | | | |
| Blue Chip Average* | | 0.8 | 0.1 | 0.1 | | 1.0 | 1.1 | 2.2 | 2.2 | 2.1 |
| Blue Chip Top 10* | | 1.9 | 1.6 | 1.8 | | 1.7 | 2.0 | 2.6 | 2.5 | 2.3 |
| Blue Chip Bottom 10* | | -0.3 | -1.3 | -1.6 | | 0.4 | 0.0 | 1.8 | 1.9 | 1.9 |
| Federal Funds Rate | | | | | | | | | | |
| ERFC (Preliminary March) | 3.7 | 4.5 | 5.0 | 5.1 | 1.7 | 4.9 | 4.4 | 3.0 | 2.6 | 2.6 |
| IHS | 3.7 | 4.5 | 5.0 | 5.1 | 1.7 | 4.9 | 4.4 | 3.0 | 2.6 | 2.6 |
| Economy.com | 3.6 | 4.5 | 4.8 | 4.8 | 1.7 | 4.8 | 4.2 | 5.0 | 2.0 | 2.0 |
| Leonomy.com | 3.0 | 1.5 | 4.0 | 1.0 | 1.7 | 1.0 | 712 | | | |
| Three Month T-Bill Rate | | | | | | | | | | |
| ERFC (Preliminary March) | 4.0 | 4.7 | 4.8 | 4.8 | 2.0 | 4.8 | 4.1 | 2.7 | 2.4 | 2.4 |
| IHS ` | 4.0 | 4.6 | 4.8 | 4.8 | 2.0 | 4.8 | 4.0 | 2.7 | 2.4 | 2.4 |
| Blue Chip Average* | | 4.7 | 4.9 | 4.8 | | 4.7 | 3.7 | 2.6 | 2.4 | 2.4 |
| Blue Chip Top 10* | | 4.9 | 5.1 | 5.2 | | 5.0 | 4.7 | 3.3 | 2.9 | 2.8 |
| Blue Chip Bottom 10* | | 4.5 | 4.4 | 4.1 | | 4.1 | 2.6 | 2.0 | 1.9 | 2.0 |
| 40 V - N . W . I | | | | | | | | | | |
| 10-Yr. T-Note Yield | 2.0 | 2.6 | 2.6 | 2.5 | 2.0 | 2.5 | 2.2 | 2.4 | 2.2 | 2.2 |
| ERFC (Preliminary March) | 3.8 | 3.6 | 3.6 | 3.5 | 3.0 | 3.5 | 3.3 | 3.1 | 3.2 | 3.2 |
| IHS | 3.8 | 3.6 | 3.7 | 3.6 | 3.0 | 3.6 | 3.4 | 3.2 | 3.2 | 3.2 |
| Economy.com | 3.8 | 3.7 | 4.0 | 4.1 | 3.0 | 4.0 | 3.9 | 2.7 | 3.1 | 2.2 |
| Blue Chip Average* Blue Chip Top 10* | | 3.7 3.9 | 3.7 4.1 | 3.6 4.1 | | 3.6 4.0 | 3.3 3.9 | 3.2 3.7 | 3.6 | 3.2 3.6 |
| Blue Chip Bottom 10* | | 3.5 | 3.3 | 3.1 | | 3.1 | 2.7 | 2.7 | 2.7 | 2.8 |
| Blac clip Bottom 10 | | 3.3 | 3.3 | 311 | | 311 | - 17 | 217 | 217 | 2.0 |
| Consumer Price Index, Percent | Change, A | nnual Ra | te | | | | | | | |
| ERFC (Preliminary March) | 3.1 | 2.6 | 3.1 | 2.7 | 8.0 | 3.6 | 2.1 | 1.9 | 2.0 | 2.1 |
| IHS | 3.1 | 3.2 | 3.5 | 3.1 | 8.0 | 4.0 | 2.3 | 2.2 | 2.1 | 2.2 |
| Economy.com | 3.1 | 3.5 | 3.3 | 2.5 | 8.0 | 3.9 | 2.4 | | | |
| Blue Chip Average* | | 3.4 | 3.1 | 2.8 | | 3.6 | 2.4 | 2.2 | 2.2 | 2.2 |
| Blue Chip Top 10* | | 5.3 | 4.2 | 3.4 | | 4.2 | 2.8 | 2.5 | 2.4 | 2.4 |
| Blue Chip Bottom 10* | | 2.0 | 1.9 | 2.0 | | 2.8 | 2.0 | 2.0 | 2.0 | 2.0 |
| Decoral Francisco Attitions | | | | | | | | | | |
| Payroll Employment, Millions | 154.2 | 155.2 | 155 1 | 154.2 | 152.6 | 1546 | 153.5 | 152.0 | 154.2 | 155.0 |
| ERFC (Preliminary March) | 154.3 2.5 | 155.3 2.6 | 155.1 -0.5 | 154.3 -1.9 | 152.6 4.3 | 154.6 1.3 | -0.7 | 153.8 0.1 | 154.2 0.3 | 155.2 0.6 |
| Percent Change, Annual Rate IHS | 154.3 | 155.2 | 155.0 | 154.3 | 152.6 | 154.6 | 153.8 | 154.1 | 154.7 | 155.1 |
| Percent Change, Annual Rate | 2.5 | 2.3 | -0.5 | -1.7 | 4.3 | 1.3 | -0.5 | 0.2 | 0.4 | 0.3 |
| Economy.com | 154.3 | 155.2 | 155.4 | 155.5 | 152.6 | 155.4 | 156.0 | 0.2 | 0.4 | 0.5 |
| Percent Change, Annual Rate | 2.5 | 2.4 | 0.6 | 0.2 | 4.3 | 1.8 | 0.4 | | | |
| , er cerre errarrige, r anneaur riace | | | | 0.12 | | | | | | |
| Unemployment Rate, Percent | | | | | | | | | | |
| ERFC (Preliminary March) | 3.6 | 3.4 | 3.7 | 4.2 | 3.6 | 3.9 | 4.7 | 4.6 | 4.4 | 4.2 |
| IHS ` ´ | 3.6 | 3.4 | 3.7 | 4.2 | 3.6 | 3.9 | 4.6 | 4.5 | 4.4 | 4.4 |
| Economy.com | 3.6 | 3.4 | 3.4 | 3.5 | 3.6 | 3.5 | 3.9 | | | |
| Blue Chip Average* | | 3.6 | 3.9 | 4.2 | | 4.0 | 4.6 | 4.1 | 4.1 | 4.1 |
| Blue Chip Top 10* | | 3.8 | 4.3 | 4.9 | | 4.5 | 5.3 | 4.5 | 4.5 | 4.4 |
| Blue Chip Bottom 10* | | 3.4 | 3.5 | 3.7 | | 3.6 | 3.9 | 3.7 | 3.7 | 3.7 |
| Donl Dienoschle Dewsen-l Trass | no Douce- | + Chan | A | Data | | | | | | |
| Real Disposable Personal Incom | - | t Change, 5.8 | | | -6.4 | 2.7 | 3.2 | 3.3 | 2.6 | 2.8 |
| ERFC (Preliminary March) IHS | 3.3 3.3 | 5.8 | 0.9 0.6 | 2.7 2.8 | -6.4 -6.4 | 2.7 | 3.2 | 2.8 | 2.6 | 2.8 |
| Blue Chip Average* | 3.3 | | | | -0.4 | | | | | |
| | | 2.7 5.8 | 0.8 2.3 | 1.5 3.4 | | 1.7 2.9 | 2.1 3.5 | 2.2 2.5 | 2.0 2.3 | 2.0 2.2 |
| Blue Chip Top 10* Blue Chip Bottom 10* | | -0.3 | -1.1 | -0.6 | | 0.4 | 0.9 | 1.8 | 1.8 | 1.8 |
| Pide Clift Doctolli 10. | | -0.3 | -1.1 | -0.0 | | 0.4 | 0.9 | 1.0 | 1.0 | 1.0 |
| West Texas Intermediate | | | | | | | | | | |
| ERFC (Preliminary March) | 82.8 | 76.2 | 74.2 | 74.0 | 94.8 | 74.3 | 70.9 | 68.0 | 65.4 | 63.0 |
| IHS | 82.8 | 80.2 | 81.7 | 83.7 | 94.8 | 83.0 | 80.7 | 83.5 | 84.2 | 86.4 |
| Economy.com | 82.6 | 80.7 | 88.3 | 85.6 | 94.4 | 84.3 | 72.8 | 0010 | 0112 | 0011 |
| ,·, | | | | | | 2 | | | | |

^{*} Forecasts beyond 2023 are from the October 2022 Blue Chip Economic Indicators

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| Table 2 |
|--------------------------|
| U.S. Forecast Comparisor |

| | 2022Q4 | 2023Q1 | 2023Q2 | 2023Q3 |
|----------------------------------|-------------|---------|--------|--------|
| Real GDP (Billions of 2012 Dol | lars) | | | |
| March Forecast, Preliminary | 20,198 | 20,183 | 20,152 | 20,144 |
| Percent Change | 2.9% | -0.3% | -0.6% | -0.2% |
| November Forecast | 19,987 | 19,964 | 19,959 | 19,993 |
| Percent Change | -0.7% | -0.5% | -0.1% | 0.7% |
| Real Consumption (Billions of | 2012 Dollai | rs) | | |
| March Forecast, Preliminary | 14,252 | 14,278 | 14,279 | 14,279 |
| Percent Change | 2.1% | 0.7% | 0.0% | 0.0% |
| November Forecast | 14,156 | 14,157 | 14,168 | 14,200 |
| Percent Change | 0.2% | 0.0% | 0.3% | 0.9% |
| PCE Price Index (2012=100) | | | | |
| March Forecast, Preliminary | 124.7 | 125.5 | 126.2 | 127.0 |
| Percent Change | 3.2% | 2.4% | 2.5% | 2.5% |
| November Forecast | 125.2 | 126.3 | 126.9 | 127.7 |
| Percent Change | 4.8% | 3.5% | 2.2% | 2.4% |
| Real Personal Income (Billions | of 2012 D | ollars) | | |
| March Forecast, Preliminary | 17,777 | 17,871 | 17,852 | 17,876 |
| Percent Change | 2.6% | 2.1% | -0.4% | 0.5% |
| November Forecast | 17,789 | 17,828 | 17,878 | 17,951 |
| Percent Change | 1.7% | 0.9% | 1.1% | 1.7% |
| Nonfarm Payroll Employment | (Millions) | | | |
| March Forecast, Preliminary | 154.3 | 155.3 | 155.1 | 154.3 |
| Percent Change | 2.5% | 2.6% | -0.5% | -1.9% |
| November Forecast | 153.4 | 153.4 | 152.6 | 151.7 |
| Percent Change | 1.7% | 0.0% | -2.0% | -2.2% |
| Unemployment Rate (Percent | of Labor Fo | rce) | | |
| March Forecast, Preliminary | 3.6 | 3.4 | 3.7 | 4.2 |
| November Forecast | 3.7 | 4.0 | 4.5 | 5.1 |
| Oil Price, Refiner's Acquisition | | | | |
| March Forecast, Preliminary | 83.7 | 76.7 | 75.1 | 74.5 |
| November Forecast | 87.7 | 85.8 | 82.9 | 80.6 |
| 30 Year Fixed Mortgage Rate (| • | | | |
| March Forecast, Preliminary | 6.6 | 6.3 | 6.3 | 6.2 |
| November Forecast | 7.0 | 7.0 | 6.8 | 6.6 |
| 3 Month T-Bill Rate (Percent, a | average) | | | |
| March Forecast, Preliminary | 4.0 | 4.7 | 4.8 | 4.8 |
| November Forecast | 3.9 | 4.5 | 4.7 | 4.6 |

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Table 3
Washington Forecast Comparison

| Washington Forecast Compar | ison | | | | | | | | | | |
|-----------------------------------|----------------|-----------|--------|--------|-------|--------|--------|-------|-------|-------|--|
| | 2022Q4 | 2023Q1 | 2023Q2 | 2023Q3 | 2021 | 2022 | 2023 | 2024 | 2025 | 2026 | |
| Real Personal Income (Billion | s of 2012 D | ollars) | | | | | | | | | |
| March Forecast, Preliminary | 479.4 | 481.7 | 481.7 | 482.8 | 494.1 | 477.2 | 482.9 | 494.7 | 511.5 | 527.8 | |
| Percent Change | 3.6% | 2.0% | 0.0% | 1.0% | 4.1% | -3.4% | 1.2% | 2.5% | 3.4% | 3.2% | |
| November Forecast | 481.3 | 483.0 | 485.3 | 488.0 | 494.1 | 478.4 | 486.9 | 500.8 | 516.9 | 533.6 | |
| Percent Change | 2.6% | 1.5% | 1.9% | 2.3% | 4.1% | -3.2% | 1.8% | 2.9% | 3.2% | 3.2% | |
| Personal Income (Billions of I | Dollars) | | | | | | | | | | |
| March Forecast, Preliminary | 597.8 | 604.4 | 608.1 | 613.3 | 570.9 | 585.9 | 611.4 | 639.4 | 673.5 | 708.4 | |
| Percent Change | 6.9% | 4.5% | 2.5% | 3.5% | 8.2% | 2.6% | 4.3% | 4.6% | 5.3% | 5.2% | |
| November Forecast | 602.4 | 609.9 | 616.0 | 623.1 | 570.9 | 588.0 | 619.9 | 651.6 | 684.9 | 719.6 | |
| Percent Change | 7.6% | 5.0% | 4.1% | 4.7% | 8.2% | 3.0% | 5.4% | 5.1% | 5.1% | 5.1% | |
| Disposable Personal Income (| (Billions of D | ollars) | | | | | | | | | |
| March Forecast, Preliminary | 510.4 | 522.8 | 528.2 | 536.4 | 504.4 | 500.2 | 533.2 | 566.4 | 598.9 | 629.8 | |
| Percent Change | 7.4% | 10.0% | 4.3% | 6.3% | 6.5% | -0.8% | 6.6% | 6.2% | 5.7% | 5.2% | |
| November Forecast | 515.3 | 527.2 | 535.0 | 544.7 | 504.4 | 502.0 | 540.3 | 575.8 | 605.6 | 636.3 | |
| Percent Change | 9.3% | 9.6% | 6.1% | 7.5% | 6.5% | -0.5% | 7.6% | 6.6% | 5.2% | 5.1% | |
| Nonfarm Payroll Employment | (Thousands | s) | | | | | | | | | |
| March Forecast, Preliminary | 3590 | 3601 | 3596 | 3583 | 3363 | 3540 | 3590 | 3594 | 3624 | 3659 | |
| Percent Change | 3.4% | 1.2% | -0.5% | -1.4% | 2.4% | 5.3% | 1.4% | 0.1% | 0.9% | 1.0% | |
| November Forecast | 3584 | 3586 | 3574 | 3560 | 3363 | 3538 | 3570 | 3585 | 3628 | 3667 | |
| Percent Change | 2.7% | 0.2% | -1.3% | -1.5% | 2.4% | 5.2% | 0.9% | 0.4% | 1.2% | 1.1% | |
| Unemployment Rate (Percent | of Labor Fo | rce) | | | | | | | | | |
| March Forecast, Preliminary | 4.0 | 4.2 | 4.4 | 4.8 | 5.3 | 4.0 | 4.6 | 5.1 | 5.0 | 4.7 | |
| November Forecast | 3.9 | 4.2 | 4.7 | 5.2 | 5.3 | 4.0 | 4.9 | 5.2 | 4.8 | 4.5 | |
| Manufacturing Employment (| Thousands) | | | | | | | | | | |
| March Forecast, Preliminary | 276.8 | 277.5 | 277.2 | 276.1 | 259.2 | 272.0 | 275.9 | 267.6 | 265.3 | 266.0 | |
| Percent Change | 3.4% | 1.0% | -0.4% | -1.6% | -4.6% | 4.9% | 1.5% | -3.0% | -0.9% | 0.3% | |
| November Forecast | 276.7 | 278.6 | 278.2 | 276.2 | 259.2 | 271.9 | 276.7 | 271.8 | 271.4 | 271.9 | |
| Percent Change | 3.4% | 2.8% | -0.6% | -2.8% | -4.6% | 4.9% | 1.8% | -1.8% | -0.1% | 0.2% | |
| Construction Employment (Th | | | | | | | | | | | |
| March Forecast, Preliminary | 239.5 | 238.4 | 233.1 | 230.1 | 223.4 | 236.0 | 233.2 | 230.8 | 231.3 | 234.5 | |
| Percent Change | 4.5% | -1.8% | -8.7% | -5.1% | 4.5% | 5.7% | -1.2% | -1.0% | 0.2% | 1.4% | |
| November Forecast | 240.1 | 237.6 | 233.1 | 229.6 | 223.4 | 236.1 | 232.8 | 230.5 | 229.6 | 230.3 | |
| Percent Change | 5.8% | -4.2% | -7.3% | -5.8% | 4.5% | 5.7% | -1.4% | -1.0% | -0.4% | 0.3% | |
| Housing Permits (Thousands) | | | | | | | | | | | |
| March Forecast, Preliminary | 38.2 | 35.8 | 39.8 | 40.8 | 56.9 | 49.3 | 39.6 | 44.0 | 46.7 | 45.9 | |
| Percent Change | -47.5% | -22.3% | 53.0% | 9.7% | 29.8% | -13.5% | -19.7% | 11.2% | 6.2% | -1.7% | |
| November Forecast | 41.5 | 42.4 | 42.5 | 42.9 | 56.9 | 50.7 | 42.8 | 46.1 | 47.5 | 46.2 | |
| Percent Change | -24.5% | 8.6% | 1.3% | 3.5% | 29.2% | -11.0% | -15.6% | 7.8% | 2.9% | -2.8% | |

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