

ECONOMIC OUTLOOK

QUARTERLY REPORT

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NDSU PUBLIC CHOICE
PRIVATE ENTERPRISE

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Abstract

The Economic Outlook quarterly report uses the North Dakota Forecast Model developed by the NDSU Center for the Study of Public Choice and Private Enterprise to predict economic trends for the state of North Dakota and its three largest metropolitan statistical areas: Fargo, ND-MN; Bismarck, ND; and Grand Forks, ND-MN. The model uses past trends and empirical relationships in data to predict (forecast) future trends. These forecasts focus on key economic indicators such as wage growth, labor force participation, unemployment, and the housing price index. Like all forecast models, this method faces limitations and the specific values in the forecast should not be direct cause for decision-making. Rather, forecasting provides information about what is possible and can help establish expectations. The Economic Outlook report is released each quarter with updated data from the forecast model.

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Introduction

The Center for the Study of Public Choice and Private Enterprise has developed a forecast model to showcase the economic outlook for the state of North Dakota and its three largest metropolitan statistical areas: Fargo, ND-MN; Bismarck, ND; and Grand Forks, ND-MN. This report details the results of the model for the second quarter of 2021 (2021q2).

The forecast focuses on key economic indicators such as wage growth, labor force participation, unemployment, and the housing price index. The data used to create these forecasts come primarily from the St. Louis Federal Reserve. Each figure illustrates the model's projections with each panel showing both the actual forecast and the 90% confidence interval around the forecasted number. A 90% confidence interval shows the upper and lower limits of the projections with 90% certainty. This means that, statistically, we can be 90% confident that the value in the given quarter will fall between the upper and lower CI limits. Interconnected variables are incorporated into the model to demonstrate how state-level conditions impact predictions for metropolitan areas and how commodity price projections impact economic conditions. All projections are based on the trends of the past few quarters. As explained below, a forecast model does not and cannot account for unforeseen factors and changes that may affect economic performance. For more information about the North Dakota Forecast Model, see the accompanying technical appendix.

Limitations

Forecasting has long been a mainstay in the field of economics. It conveys much needed information about the world and trends in economic variables that can be useful for public and private decision-makers. However, it is important to acknowledge the limitations of any forecast. There are many reasons a forecast model may not produce correct predictions. The model uses historical data and past trends to predict (forecast) future trends. As a result, unexpected changes in economic conditions, public policy, or other factors may disrupt the accuracy of the forecasts. Similarly, the model cannot incorporate all of the complexity and uncertainty surrounding an economic system.

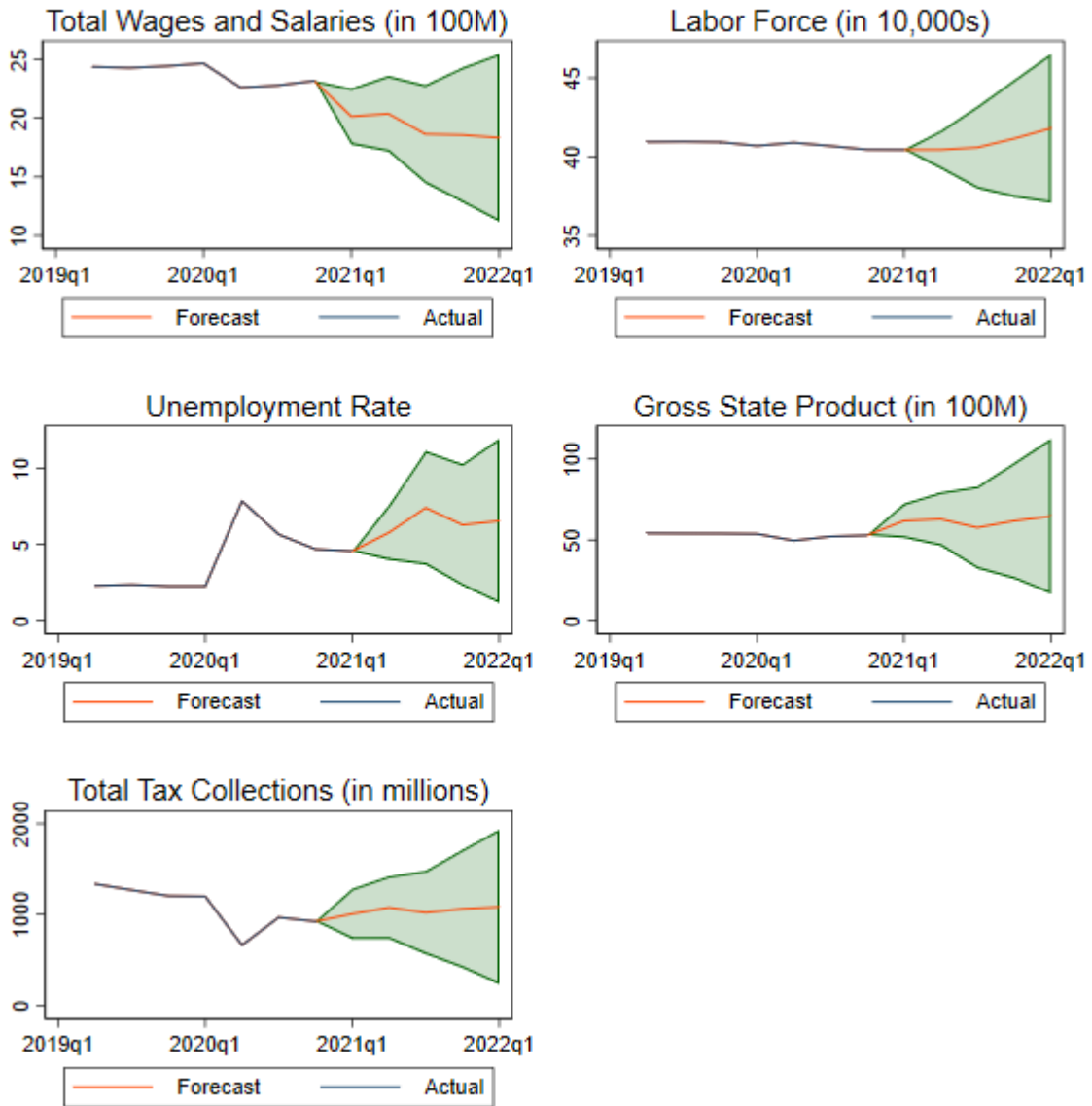
Key Points

- The North Dakota outlook shows signs of economic recovery and growth in 2021. This includes a growing trend for gross state product, a growing labor force, and a steady projection for total tax collections. The unemployment rate shows the possibility of increasing, demonstrating lingering difficulties in the labor market. These positive trends are joined by a projected decrease in total wages and salaries for the state.
- The Bismarck metro area has a positive outlook while both Fargo and Grand Forks show signs of struggling to rebound from the pandemic economy.
- This report represents forecasts based on the most recently available data when the model was run in May 2021. These forecasts serve as a projection for how the economy will respond to current economic conditions based on historical data and trends.

Quarterly Outlooks

Figure 1

North Dakota Quarterly Outlook



North Dakota Outlook

The overall economic outlook for the state has improved amidst recovery from the COVID-19 pandemic. The most recent data shows a state economy that should experience economic growth and steady tax collections in the near future.

Although the overall state economy is set to grow, total wages and salaries are expected to decline in the first quarter of 2021 with that trend continuing throughout the year. The labor force is predicted to experience slow growth through 2021. However, as the labor force is forecast to grow, so is the North Dakota unemployment rate. The unemployment rate is projected to increase early in the second and third quarters of 2021 before leveling off near 6.5 percent. The unemployment rate forecast has a wide confidence interval, reflecting continued labor market uncertainty. North Dakota's gross state product (GSP) grew at 1.33 percent in the fourth quarter of 2020, the most recent quarter with data available. GSP is forecast to experience growth into the first quarter of 2021 which will continue steadily over the year. Quarterly growth rates for 2021 are forecast at 8.5 percent, which reveals potential for strong economic growth. This potential for economic growth is also apparent in the national gross domestic product (GDP) shown in the National Outlook section. Although state tax collections were down in 2020, the model is predicting steady growth in total tax collections following the forecast trend in GSP. However, it should be noted that the confidence interval surrounding the forecast tax collections is large, demonstrating continued uncertainty in the economic recovery.

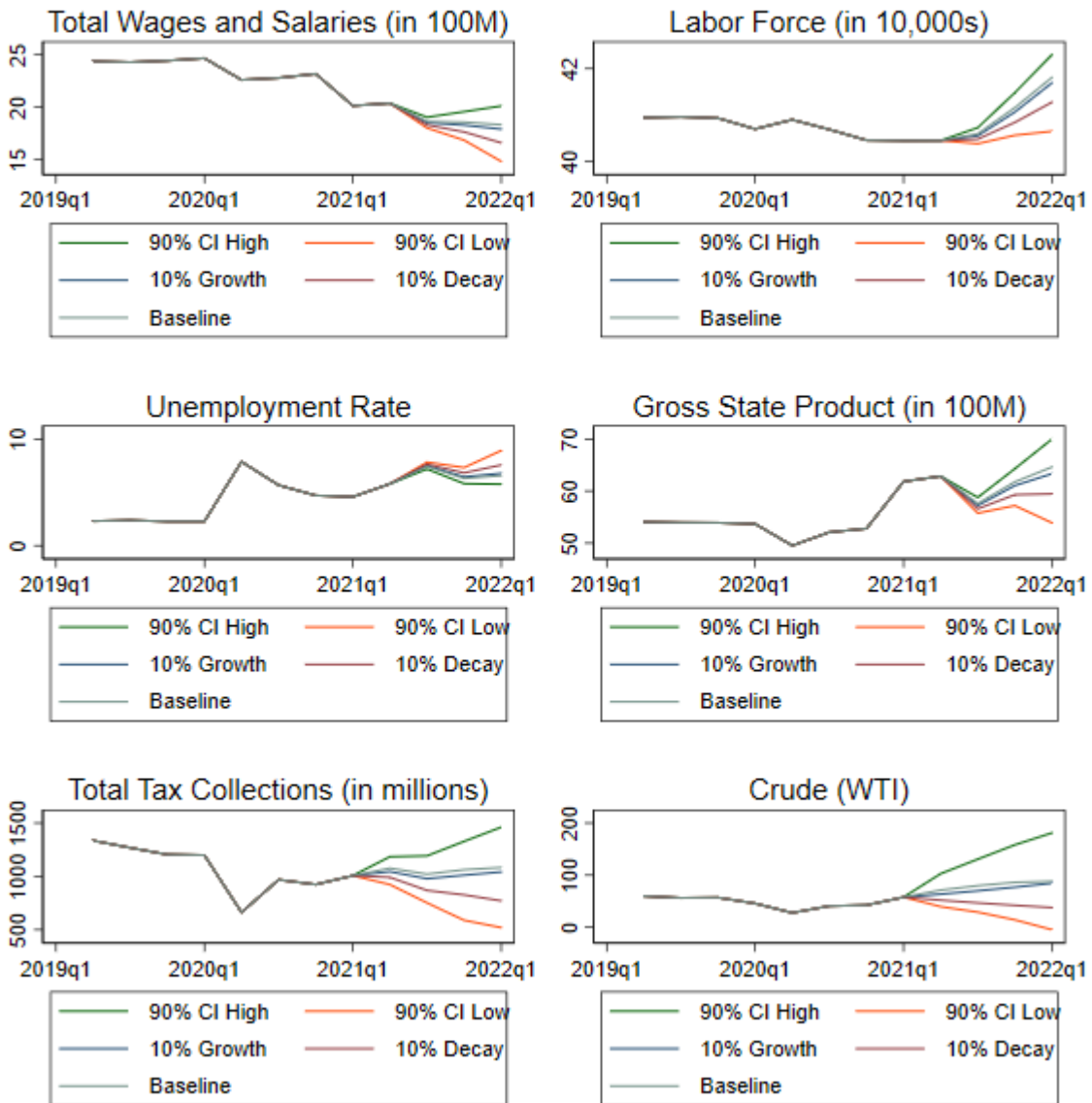
Alternative Scenarios for North Dakota

Because the North Dakota economy is heavily tied to petroleum extraction, we produced forecasts for the state under several different scenarios for the WTI price of crude oil to compare against the baseline path for crude oil as set by the forecast model. Scenarios for the path of the WTI crude price were: the upper bound of the 90% confidence interval, a 10% quarterly growth rate, a 10% quarterly decay, and the lower bound of the 90% confidence interval.

Figure 2 replicates the panels in Figure 1 with the addition of a graph for the different WTI price scenarios. Each line represents the path of forecasted variables under the different price scenarios.

Figure 2

North Dakota Quarterly Outlook - Alternate Scenarios

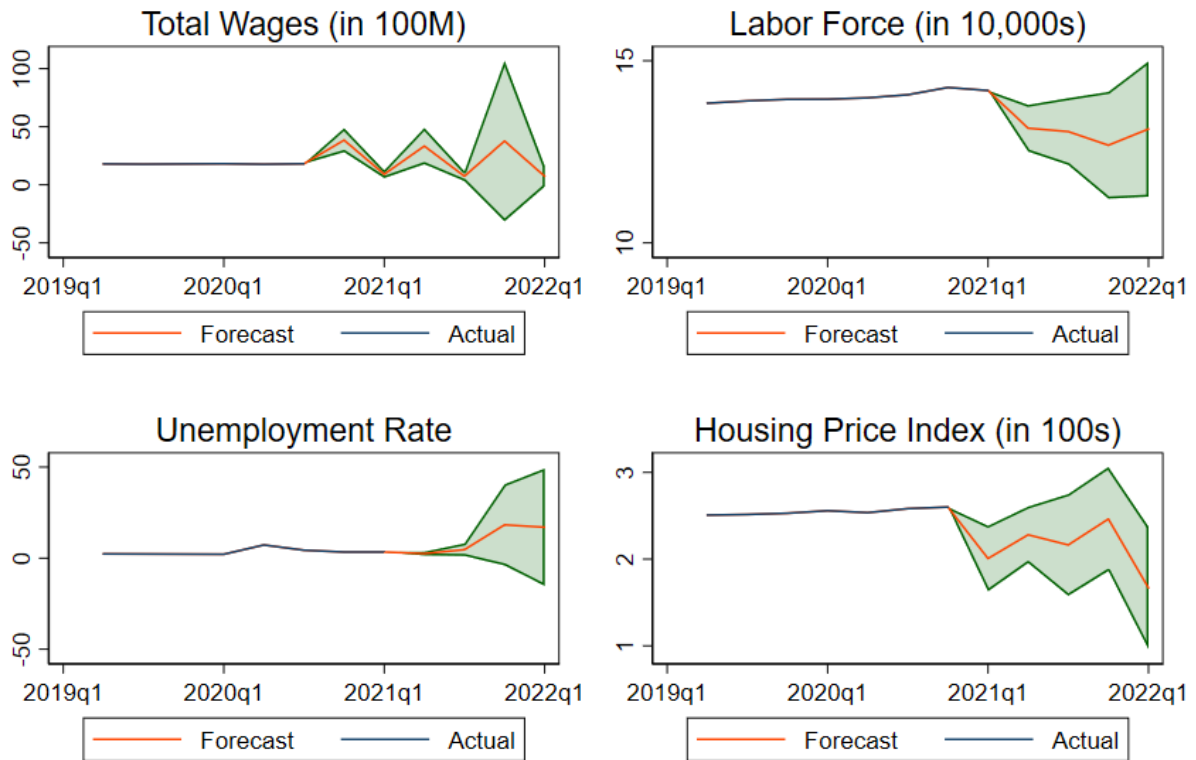


Alternative Outlooks

These graphs demonstrate that North Dakota’s current economic path is not immune to trends in the price of crude oil. The greatest impact of oil price trends is on total tax collections where lower WTI crude prices lead to a lower forecast. Lower WTI crude prices also lower forecasts for total wages and salaries, labor force, and gross state product. The red lines in Figure 2 represent the worst-case scenario with the WTI price falling to the 90% lower bound of its projected confidence interval (a near zero price). The green line represents the 90% upper bound of its projected confidence interval. The maroon line represents a 10% rate of decay for the WTI price, and the dark blue line represents a 10% growth rate.

Figure 3

Fargo Quarterly Outlook

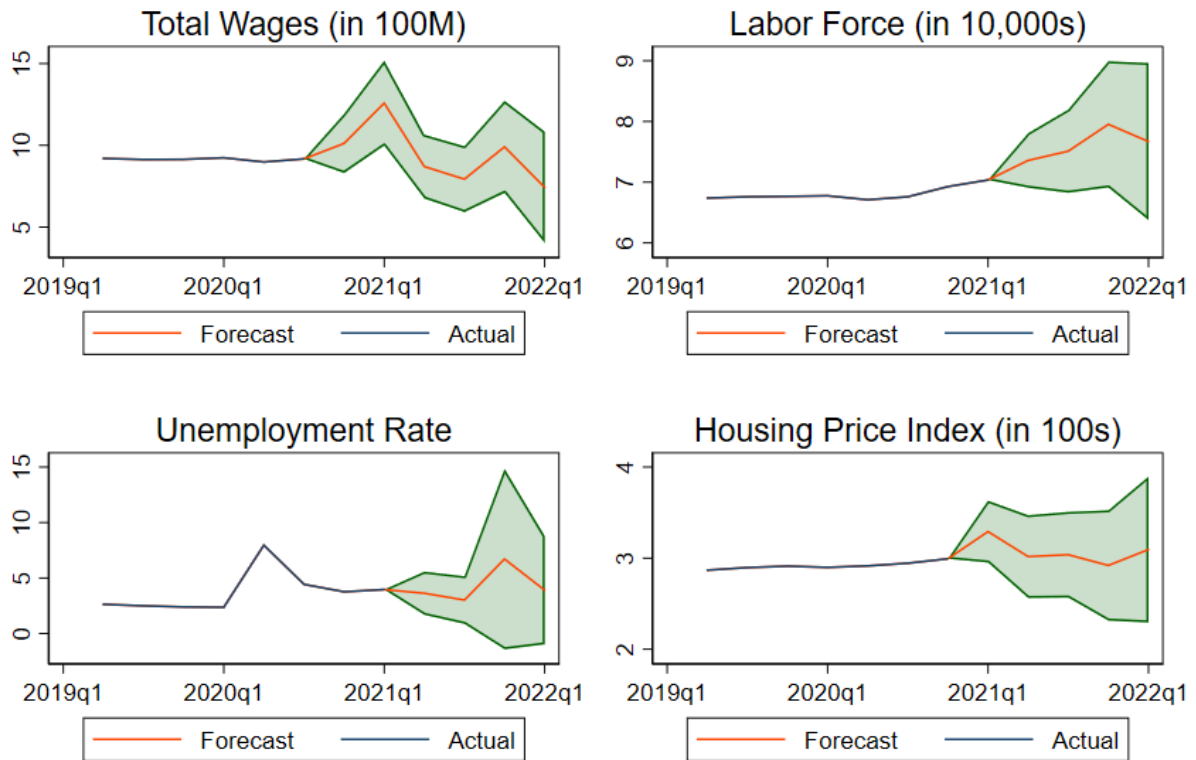


Fargo, ND-MN Outlook

Figure 3 shows a mixed to negative economic outlook for Fargo, ND-MN. Total wages grew by 2.5 percent in the third quarter of 2020, the last quarter with available data. From there, the model created an erratic forecast with a large confidence interval. Wages are forecast to have a general growth trend through 2021. The Fargo labor force (the total number of people employed plus those seeking employment) is expected to fall by over 7 percent in the second quarter of 2021. This declining trend is forecast to continue into early 2022. While the labor force is declining, the unemployment rate is forecast to increase. A fall in the unemployment rate in quarter two of 2021 is followed by large increases in the rest of 2021. However, there is a very large confidence interval about the unemployment rate forecast, reflecting much uncertainty. The Fargo housing price index is forecast to decline over the year 2021. Overall, these forecasts indicate that the Fargo economy may experience some difficulty in the coming months. In particular, forecasts of a declining labor force and increasing unemployment rate may indicate a weakened labor market.

Figure 4

Bismarck Quarterly Outlook

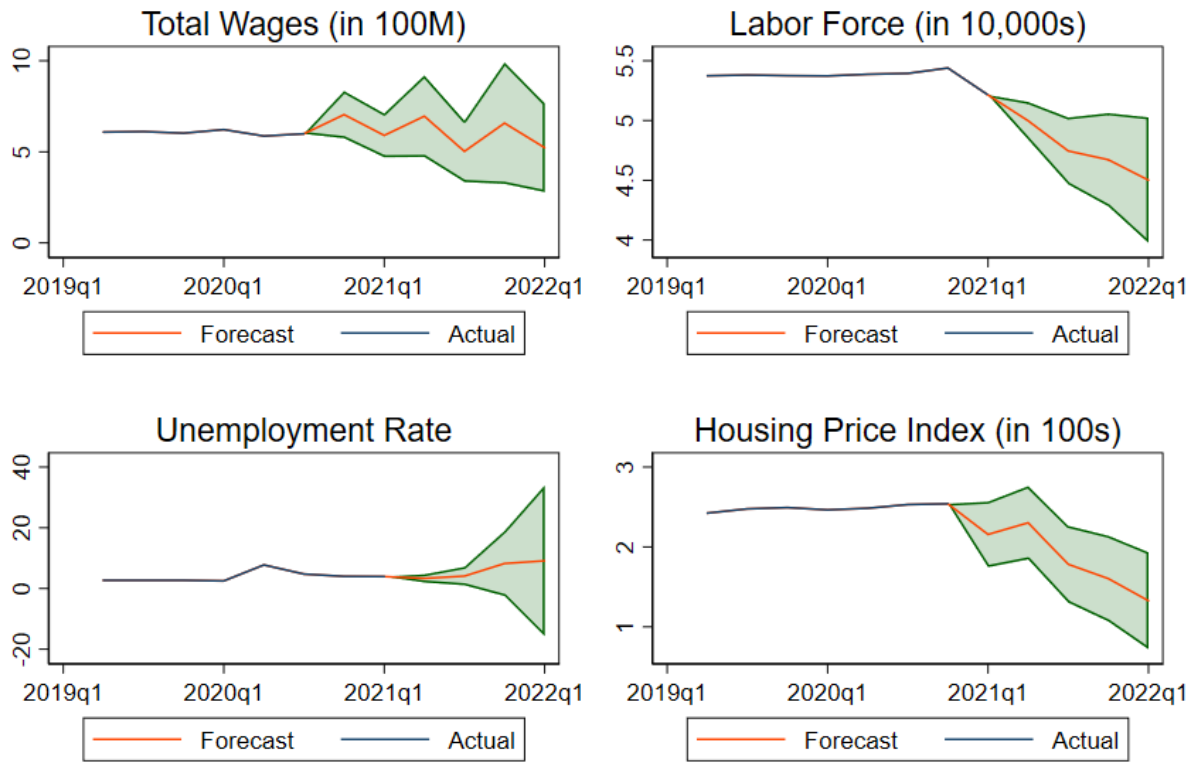


Bismarck, ND Outlook

The Bismarck, ND, metro area has a positive economic outlook. Total wages increased by just over 2 percent in the third quarter of 2020, the last quarter for which this data is available. From there, total wages are expected to fluctuate with an increasing trend followed by a decline. Overall, the trend indicates total wages will hold steady over 2021. The size of the labor force is forecast to grow throughout 2021. The unemployment rate is generally forecast to hold steady throughout 2021. This, along with the labor force trends, continue to show a recovering labor market. The Bismarck housing price index has fluctuations in the forecast but is expected to remain about constant over the course of the year.

Figure 5

Grand Forks Quarterly Outlook

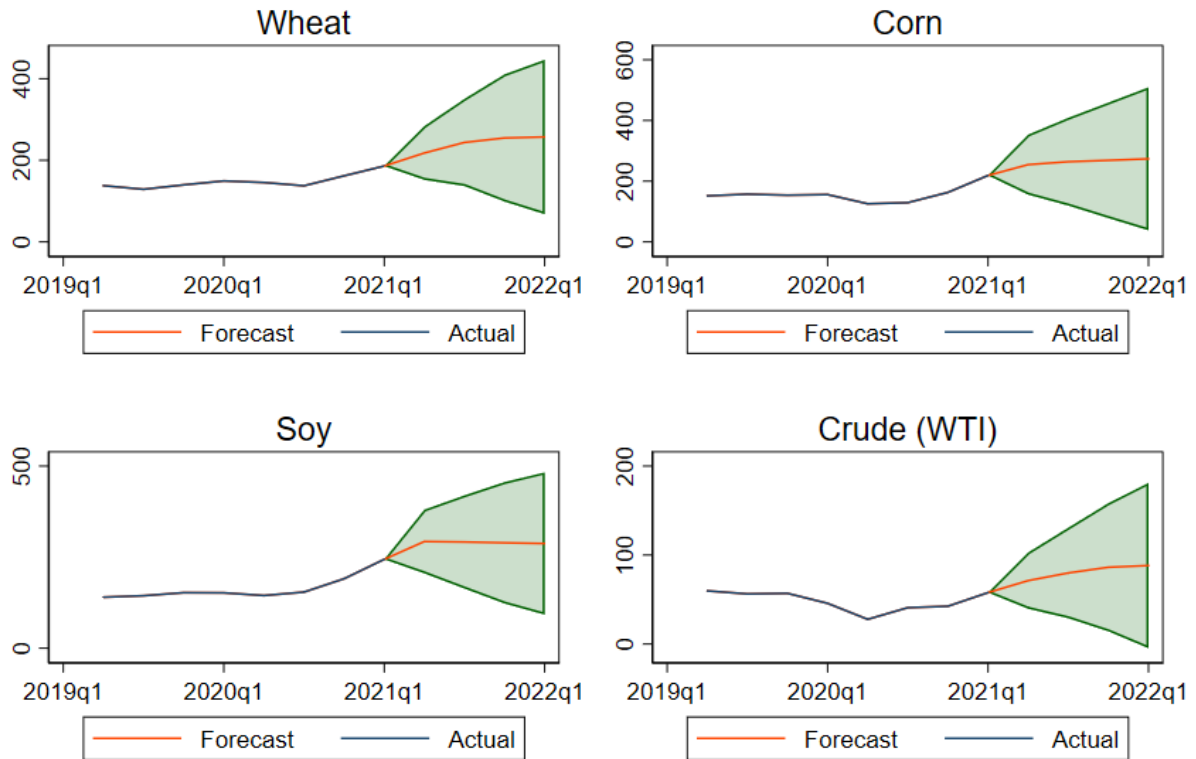


Grand Forks, ND-MN Outlook

The Grand Forks, ND-MN, metro area outlook is mixed to negative. Total wages are projected to hold relatively steady for 2021 with no clear growth or declining trend. The labor force in Grand Forks, ND-MN, is forecast to fall throughout 2021. This continues the 4 percent decline in labor force reported in the first quarter of 2021. There is a lot of uncertainty regarding the movement of the unemployment rate. There is a trend suggesting that the unemployment rate may increase. A decline in the labor force combined with an increasing unemployment rate show that the Grand Forks labor market may be weakening. The housing price index shows a significant decline in 2021. Notably, the confidence interval about this trend is large.

Figure 6

Commodity Quarterly Outlook



Commodity Outlook

Commodity values show an increasing trend for the coming year. This model uses a producer price index for wheat, corn, and soy prices. A producer price index measures the average changes in prices received by domestic producers for their output. The price of crude is the average daily price of West Texas Intermediate (WTI) futures contracts. The confidence intervals surrounding all commodity price trends are large, reflecting a high level of uncertainty in pricing trends. Although crude oil prices are improving, the market remains highly volatile and subject to substantial price risk.

Figure 7

National Quarterly Outlook



National Outlook

The above charts display the national quarterly outlook. The first chart, Real GDP, is the inflation-adjusted value of the goods and services produced by all labor and assets in the United States. The model predicts that real GDP will increase by just over 2 percent in the second quarter of 2021, following the reported growth rate of 1.5 percent in the first quarter of 2021. This growth trajectory is forecast to continue through 2021. The unemployment rate is expected to continue its current decline, reflecting a return to the workforce by Americans as COVID restrictions lift and unemployment rates return to pre-pandemic levels. The third panel, Consumption, is the measure of the value of personal household consumption. Consumption estimates for the next year mirror real GDP projections.

Net investment (the total amount of investment in capital by the business sector used to expand the capital stock) is expected to decline in the second quarter of 2021 but experience growth for the rest of 2021. This private investment is due in part to forecast increases in corporate profits. However, there is an exceptionally high level of uncertainty around forecast net investment and corporate profits, as shown by the large confidence intervals around each.

Summary

The forecasts in this report use historical data to predict future trends. The model used to generate the forecasts was run using data available on May 4, 2021.

North Dakota

Economic forecasts for North Dakota continue to show a state that is approaching a possible recovery from the economic impacts of the COVID-19 pandemic. The current forecast shows a continuation of positive outlooks shown in previous reports. Over the forecast time period, increases are expected for the labor force and gross state product. Total tax collections may grow slightly but will generally hold steady. There is a forecast decline in total wages and salaries.

Fargo, ND-MN

The Fargo, ND-MN, metro area is showing signs of a struggling economy. Wages are forecast to fluctuate yet follow a slight growth trend. The labor force and housing prices are forecast to fall while the unemployment rate may increase slightly.

Bismarck, ND

The Bismarck, ND, metro area economy is continuing to show signs of a recovery. Total wages and the labor force are expected to fluctuate in the near-term. The labor force is forecast to grow while the unemployment rate will hold steady. Housing prices are projected to remain relatively unchanged into 2022.

Grand Forks, ND-MN

The Grand Forks, ND-MN, metro area is showing signs of a struggling economy. Wages are forecast to fluctuate and follow a slight declining trend. The labor force and housing prices are forecast to fall while the unemployment rate may increase.