

ECONOMIC OUTLOOK

QUARTERLY REPORT

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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.

Table of Contents

Table of Contents.....	2
Introduction.....	3
Limitations.....	3
Key Points.....	3
Quarterly Outlooks	4
North Dakota Outlook	5
Alternative Outlooks.....	6
Fargo, ND-MN Outlook.....	7
Bismarck, ND Outlook	8
Grand Forks, ND-MN Outlook	9
Commodity Outlook.....	10
National Outlook.....	11
Summary.....	12

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 third quarter of 2021 (2021q3).

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.

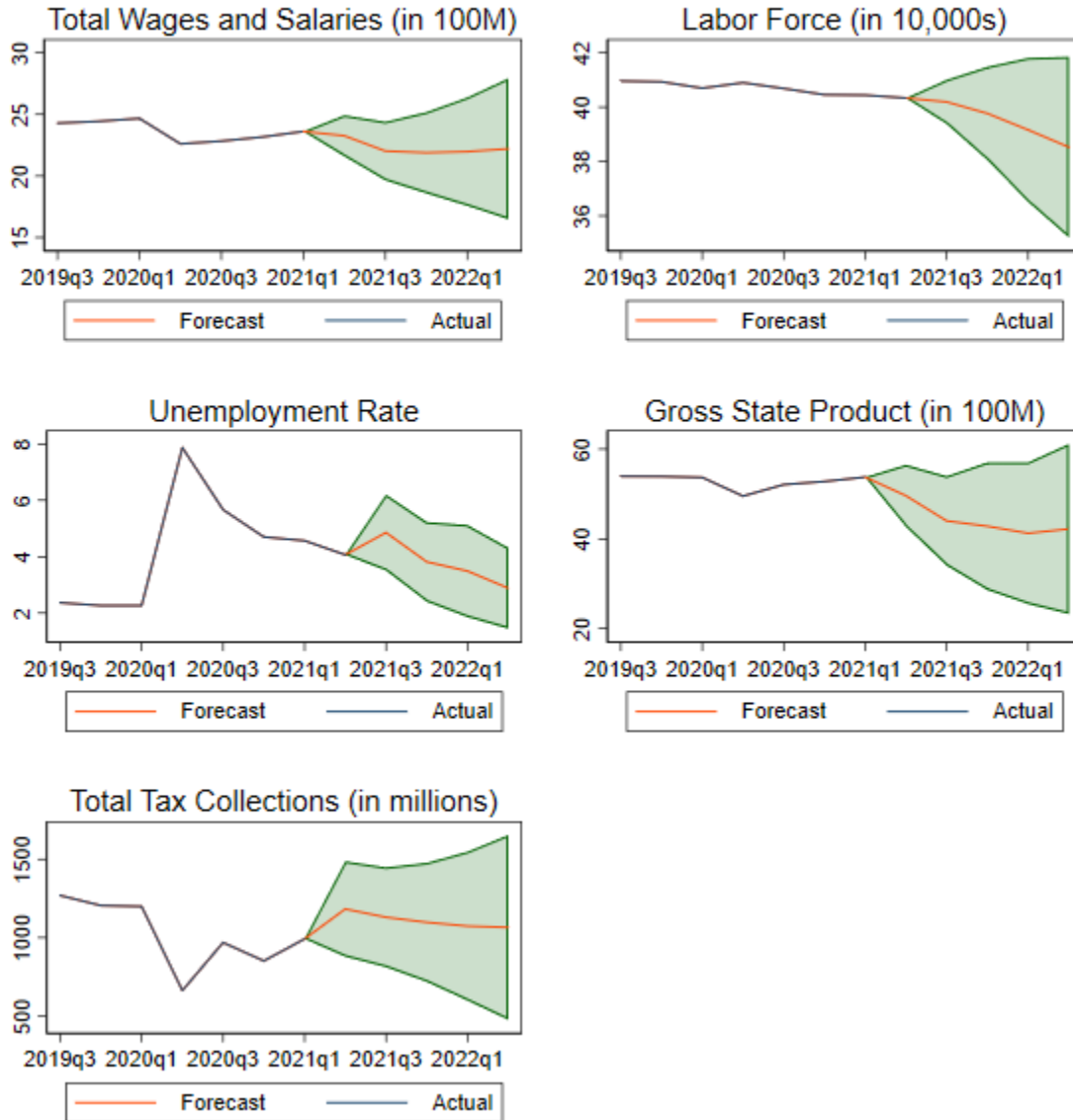
Key Points

- North Dakota's economy shows signs of stagnation and a slowing economic recovery. The North Dakota Forecast Model is predicting declines in gross state product, labor force participation, and total wages and salaries. Despite this, a steady trend for total tax collections is promising.
- The Fargo and Grand Forks metro areas show positive signs of recovery and growth, specifically in the labor force and housing prices. Projections for Bismarck have moderated since the previous report with most economic indicators expected to remain relatively unchanged.
- This report represents forecasts based on the most recently available data when the model was run in August 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 had been improving amidst the recovery from the COVID-19 pandemic, but the most recent data shows a state economy that is at risk of declining economic growth and labor force.

Total wages and salaries are expected to hold steady with a slight decline in the third quarter of 2021. The labor force is predicted to decline in the third quarter of 2021 with that trend continuing into 2022. The unemployment rate is projected to have a slight increase in the third quarter of 2021 and then return to its declining trend. The unemployment rate is slowly returning to pre-pandemic levels. North Dakota's gross state product (GSP) grew 1.85 percent in the first quarter of 2021. This is up from the growth rate of 1.33 percent from the previous quarter. While this growth is promising, GSP is forecast to decline as we head into 2022. This is a stark contrast to the economic conditions of the previous report. Despite the forecast decline in GSP, the model is predicting relative stability in total tax collections. The confidence interval surrounding the forecast tax collections remains large, demonstrating continued uncertainty in the economic recovery.

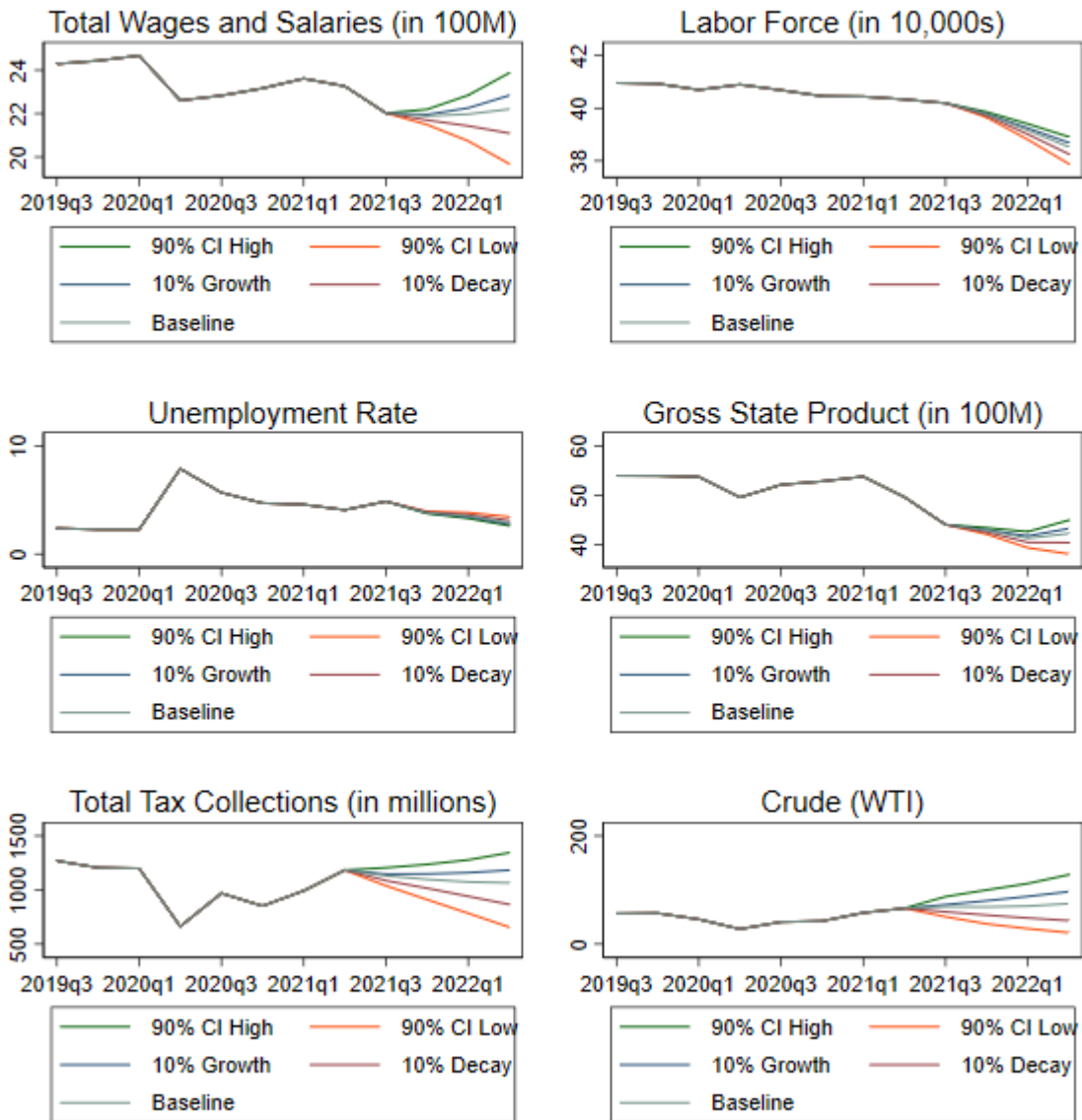
Alternative Scenarios for North Dakota

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

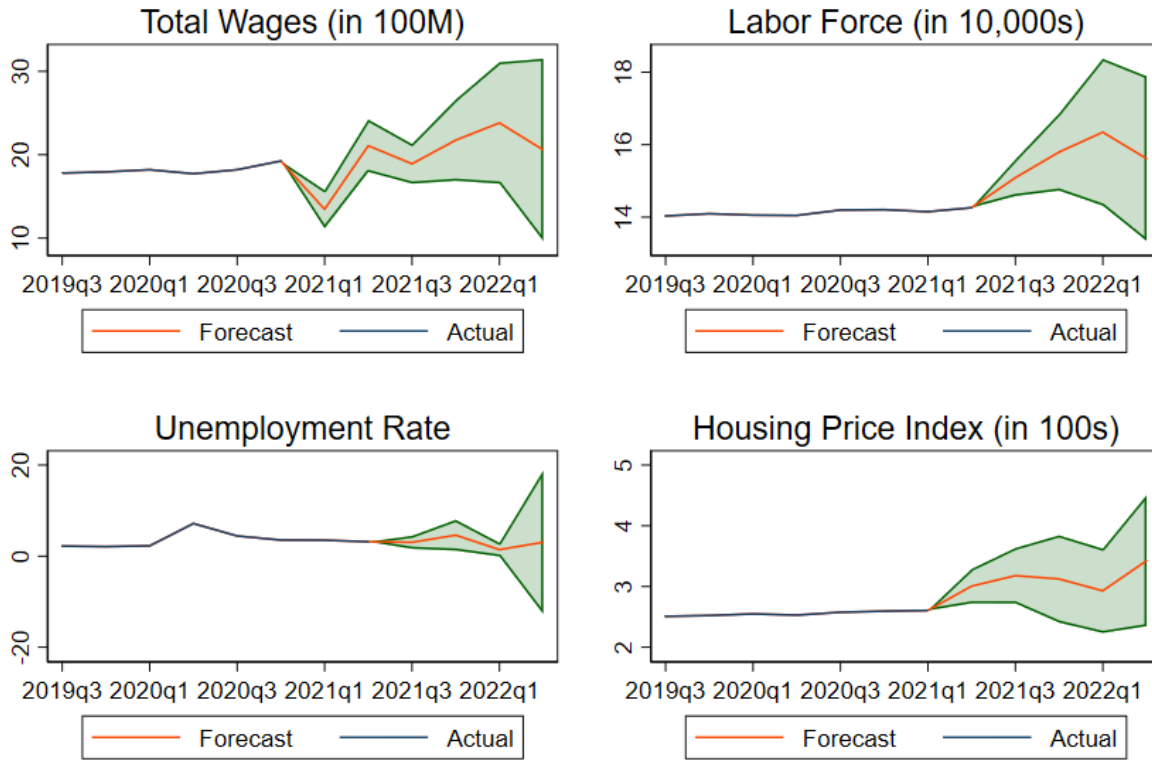


Alternative Outlooks

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 and total wages and salaries. Each of these have forecasts that follow potential trends of crude oil prices. Other forecast indicators are less influenced by potential crude price trends. 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

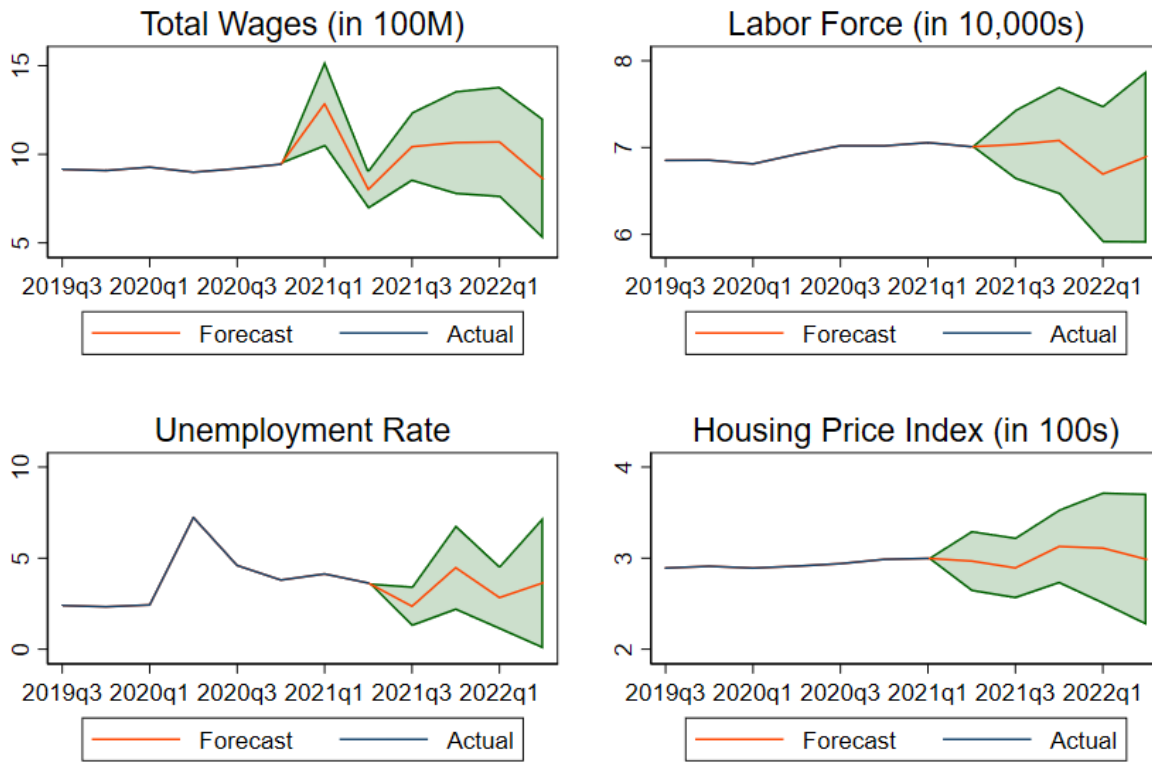


Fargo, ND-MN Outlook

Figure 3 shows a generally positive economic outlook for Fargo, ND-MN. Total wages grew by 5.77 percent in the fourth quarter of 2020, the last quarter with available data. This is increased from the 2.72 percent growth in total wages from 2020q3. While total wages are forecast to fall in the first quarter of 2021, the trend shows strong wage growth toward the end of the year (2021q4). The Fargo labor force (the total number of people employed plus those seeking employment) is expected to increase throughout the remainder of 2021 with a growth rate of about 4.5 percent per quarter. While the labor force is growing, the unemployment rate is expected to hold relatively constant. The unemployment rate for quarter two in 2021 (2021q2) was 3.17 percent, which was down from 3.5 percent in the previous quarter. The Fargo housing price index was relatively flat in 2020. It is forecast to increase substantially over the remaining quarters of 2021.

Figure 4

Bismarck Quarterly Outlook

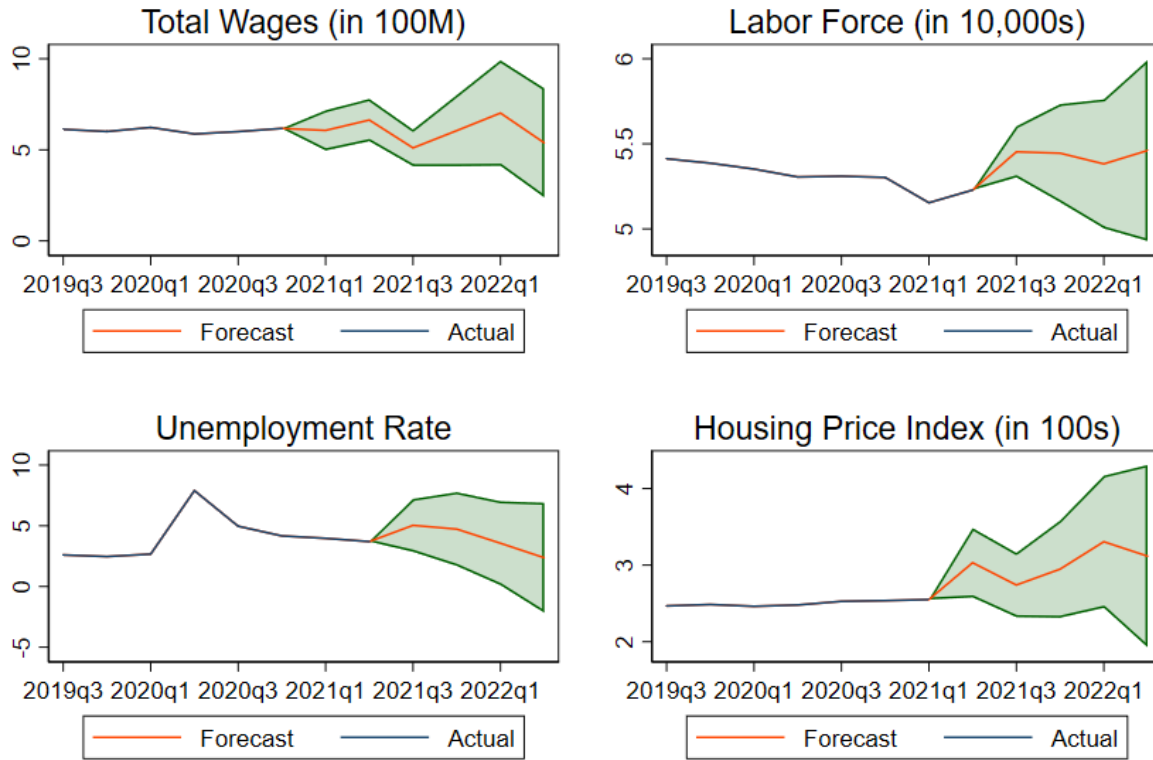


Bismarck, ND Outlook

The Bismarck, ND, metro area has a neutral economic outlook. Total wages increased by just over 2.7 percent in the fourth quarter of 2020. Total wages are expected to fluctuate over 2021 with little to no growth at year-end. The size of the labor force is forecast to hold steady throughout 2021. The unemployment rate was 3.63 percent in the second quarter of 2021, which was down from 4.13 percent in the first quarter. The unemployment rate is forecast to have some volatility but continue this decreasing trend. The Bismarck housing price index is expected to remain about relatively constant over the course of the year with mild growth at the end of 2021.

Figure 5

Grand Forks Quarterly Outlook

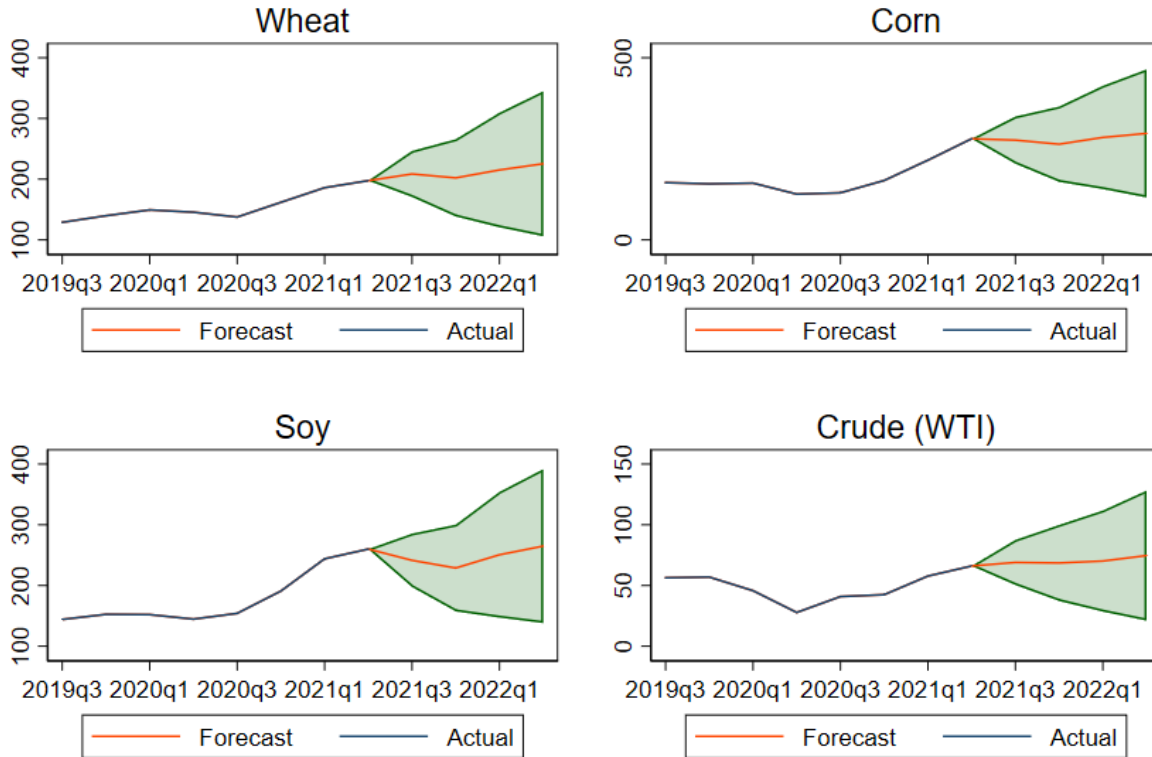


Grand Forks, ND-MN Outlook

The Grand Forks, ND-MN, metro area outlook is positive despite a relatively flat forecast for total wages. The labor force in Grand Forks, ND-MN, grew by 1.45 percent in the second quarter of 2021 after declining by 2.81 percent in the previous quarter. More growth in the labor force is possible in the coming quarters. The unemployment rate was 3.7 percent in the second quarter of 2021, which is down from 3.97 percent in the previous quarter. Unemployment can be expected to stay at similar levels over the remainder of 2021 with the possibility of a slight increase. The housing price index is forecast to experience strong growth throughout 2021. Notably, the confidence interval about this trend is large.

Figure 6

Commodity Quarterly Outlook

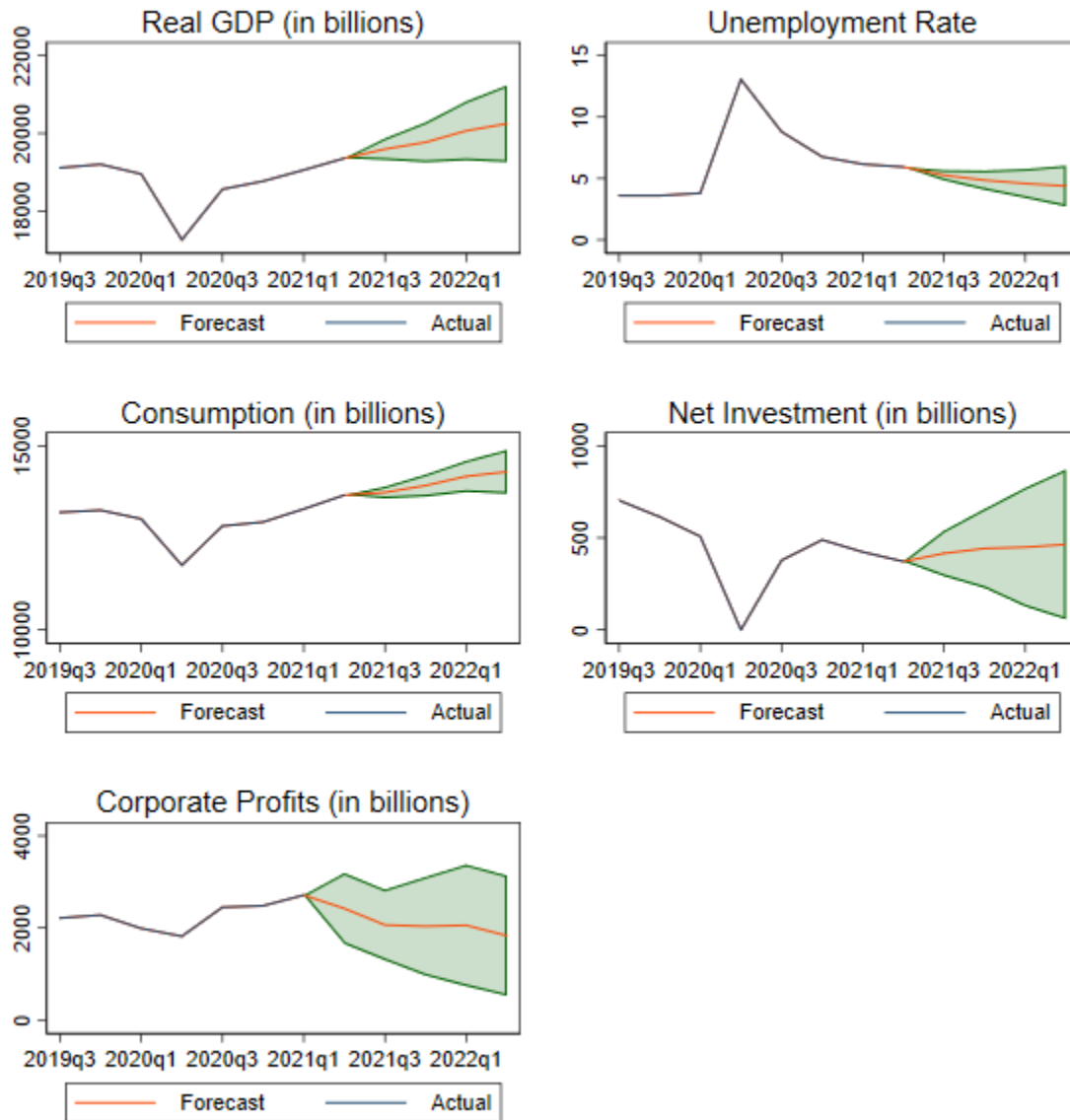


Commodity Outlook

Commodity values continue to show an increasing trend for the coming year. However, growth patterns are more measured than in the previous report. This is especially true for soy. The 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. Real GDP increased by 1.59 percent in the second quarter of 2021 and is predicted to grow by 1.22 percent in the third quarter. This mild growth trend is forecast to continue. The unemployment rate is expected to continue its current decline. Consumption grew by 2.84 percent in the second quarter, and this growth is expected to continue.

Net investment (the total amount of investment in capital by the business sector used to expand the capital stock) is expected to experience growth for the rest of 2021. While investment is forecast to increase, corporate profits are predicted to follow a decreasing trend over 2021. 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 August 4, 2021.

North Dakota

Economic forecasts for North Dakota show a trend toward stagnation and a slowing recovery. Declining trends are forecast for total wages and salaries, the labor force, and gross state product. Despite this, a steady trend for total tax collections is promising.

Fargo, ND-MN

The Fargo, ND-MN, metro area is showing signs of continued recovery. Wages are forecast to fluctuate yet follow a slight growth trend. The labor force and housing prices are forecast to increase.

Bismarck, ND

The Bismarck, ND, metro area economy has lost some of its steam but is projected to hold steady. All of the forecast indicators are projected to remain relatively unchanged into 2022.

Grand Forks, ND-MN

The Grand Forks, ND-MN, metro area is showing signs of continued recovery. Wages are forecast to fluctuate but remain relatively unchanged over the coming year. The labor force and housing prices are forecast to increase.