

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.

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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 third quarter of 2020 (2020q3).

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.

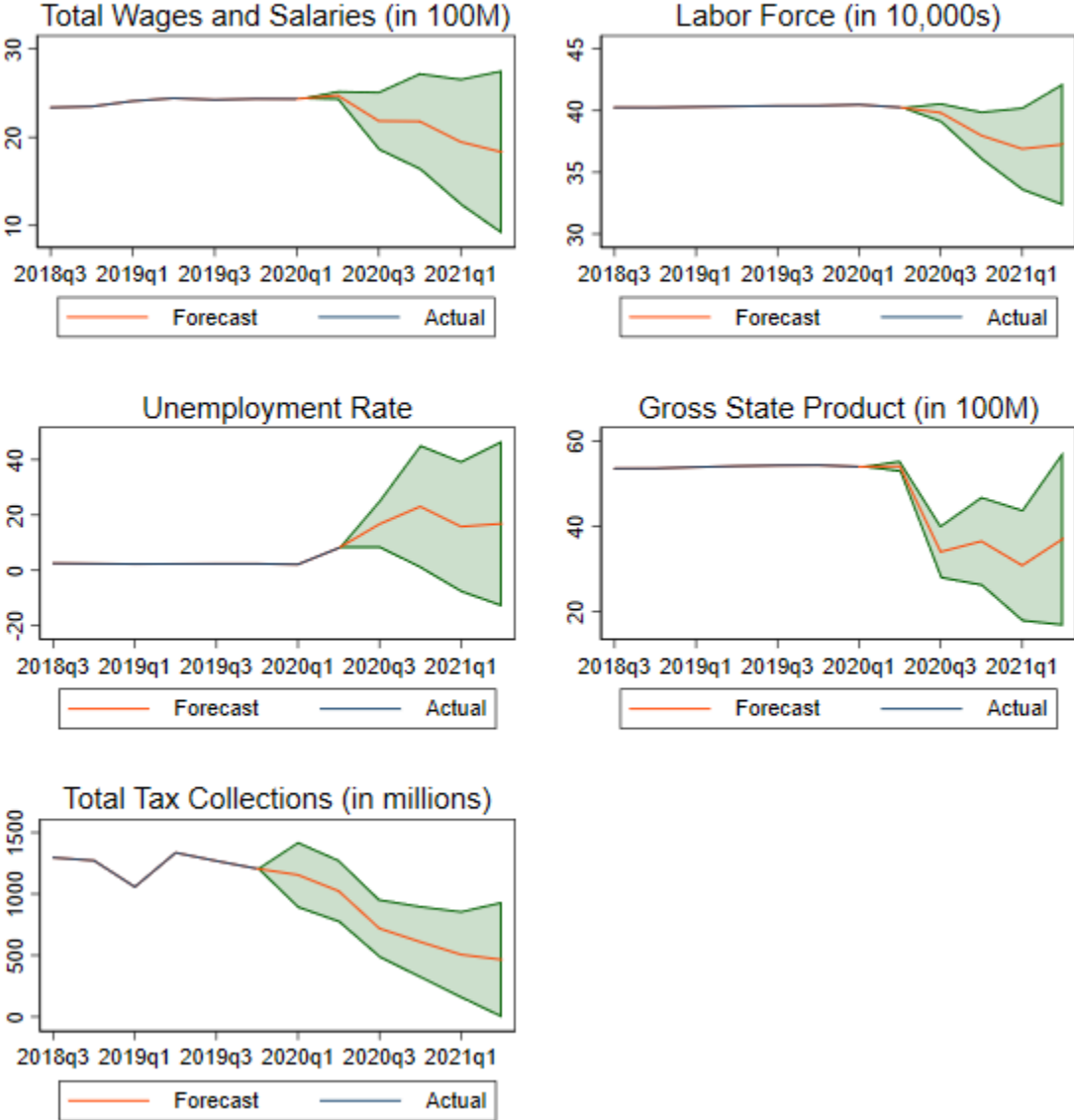
Key Points

- The North Dakota outlook shows signs of economic decline in the coming months, including reduced wages, declining labor force participation, rising unemployment, and significant decreases in gross state product and total tax collections. Similar effects can be seen for the metro areas.
- This report represents forecasts based on the most recently available data when the model was run in July 2020. (For some series, the most recently available data is from 2019.) These forecasts serve as a projection for how the economy will respond to current economic conditions based on historical data and trends.
- To see updated forecasts that incorporate economic shocks in national unemployment and falling oil prices, read the Economic Outlook Special Report: A forecast of the effect of COVID-19 on North Dakota.

Quarterly Outlooks

Figure 1

North Dakota Quarterly Outlook



North Dakota Outlook

The model projects an overall decline in the economic outlook for North Dakota over the next year. This is a shift from the previous projections released last quarter. The changing outlook can largely be accounted for by the impact of COVID-19 on general economic outlooks and the inclusion of 2020q2 data in the forecast model. (For more information, see the Economic Outlook Special Report: A forecast of the effect of COVID-19 on North Dakota.)

According to the forecast, total wages and salaries are expected to decrease, from the most recent value of about \$2.4 billion, at a relatively constant rate through the end of 2020 and into 2021. The labor force is also projected to decrease, but by a smaller margin and with a levelling off by the first quarter of 2021 (2021q1). Unemployment is projected to dramatically increase to levels as high as nearly 20% by the end of 2020 with only a slight overall decline in 2021. However, the confidence interval surrounding unemployment is large, reflecting the heightened uncertainty and volatility of the economic effects of COVID-19. North Dakota's gross state product (GSP) is forecast to reduce by over one third from the current value of \$54 billion to around \$34 billion by 2020q3. According to the model, GSP is expected to remain low through the first quarter of 2021 (2021q1), with some fluctuation. This mirrors some of the trends reflected in national gross domestic product (GDP) shown in the National Outlook. All of these projections combine with additional factors to impact total tax collections. Tax collections are predicted to decline in 2020 and into 2021.

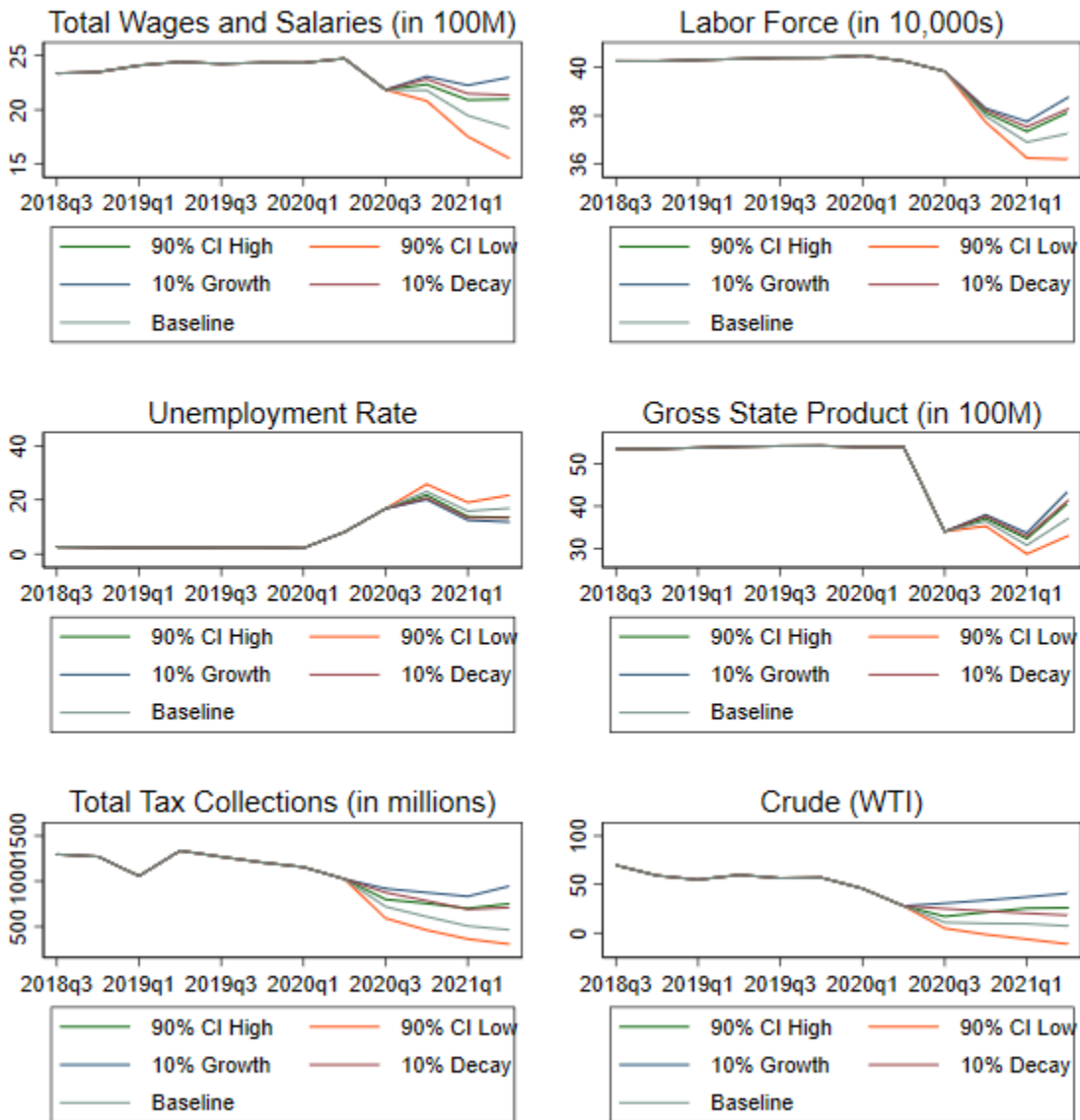
Alternative Scenarios for North Dakota

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

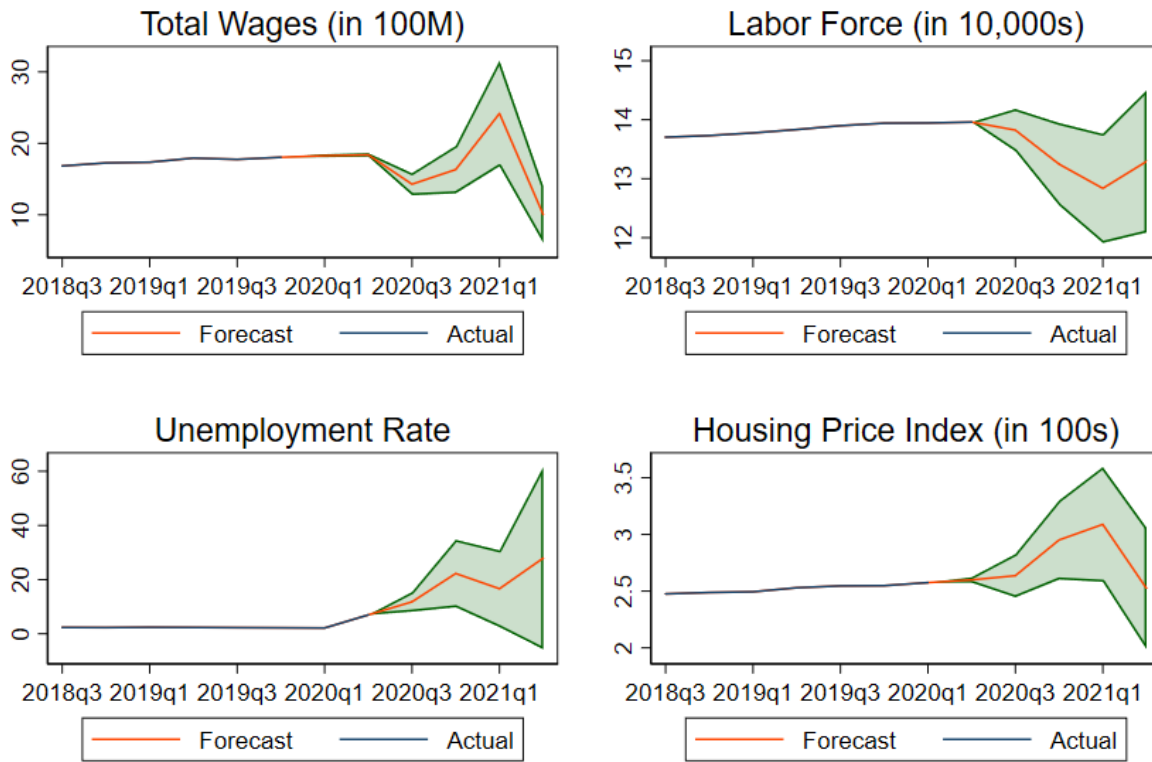


Alternative Outlooks

Changes in the price of crude oil can have large impacts on key North Dakota variables. Unsurprisingly for North Dakota, but contrary to the national economy, higher oil prices positively influence variable trends while lower prices have adverse effects. 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. This scenario demonstrates the level of damage that could be seen if the oil price further collapses. The dark blue line represents a 10% growth rate for the WTI price, which is the most optimistic scenario considered. Even in this optimistic scenario, the North Dakota economy will experience increased unemployment and a dramatic decline in gross state product. For more alternative outlooks, see the Economic Outlook Special Report.

Figure 3

Fargo Quarterly Outlook

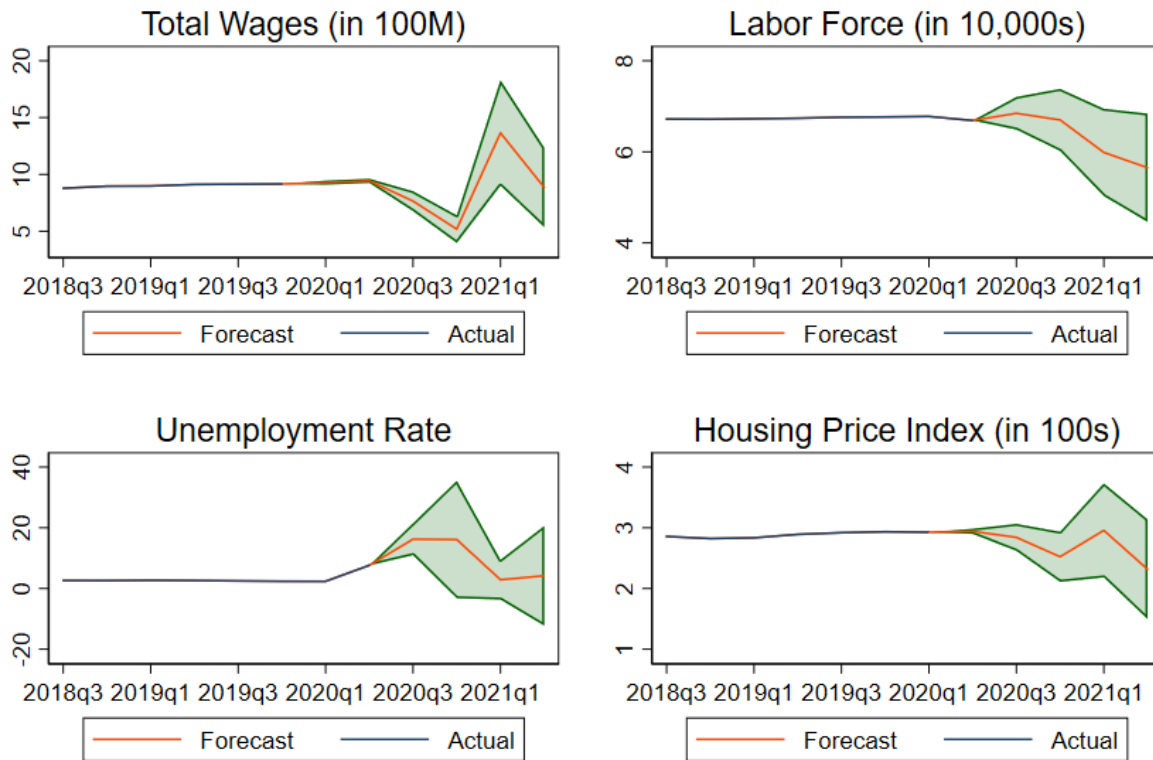


Fargo, ND-MN Outlook

The economic outlook for Fargo, ND-MN, is largely negative. Total wages are forecast to fluctuate before eventually decreasing over the next year. Wage growth is projected to decline in the short term, increase into the first quarter of 2021 (2021q1), and then decline below the current rate. The Fargo labor force (the total number of people in the area working) is projected to decrease over the next three quarters from nearly 140,000 people to fewer than 130,000 people in 2021q1. A decline in the labor force demonstrates a weakening local economy. This sentiment is supported by the dramatic increase in unemployment forecast for the coming quarters. The unemployment rate is expected to increase to a level greater than 20% during the fourth quarter of 2020 (2020q4). However, the confidence interval surrounding the unemployment rate is large, reflecting significant uncertainty. The last economic indicator – Housing Price Index – measures price changes of residential housing, showing the strength of the housing market in the area. Over the next few quarters, the housing price index is expected to climb and then falter to a rate near the current values. Overall, these projections indicate the Fargo economy will face adverse trends in the coming months, including higher unemployment, lower wages, and a decrease in the labor force. Only the relatively strong short-term housing price index offers a positive sign for the metro area.

Figure 4

Bismarck Quarterly Outlook

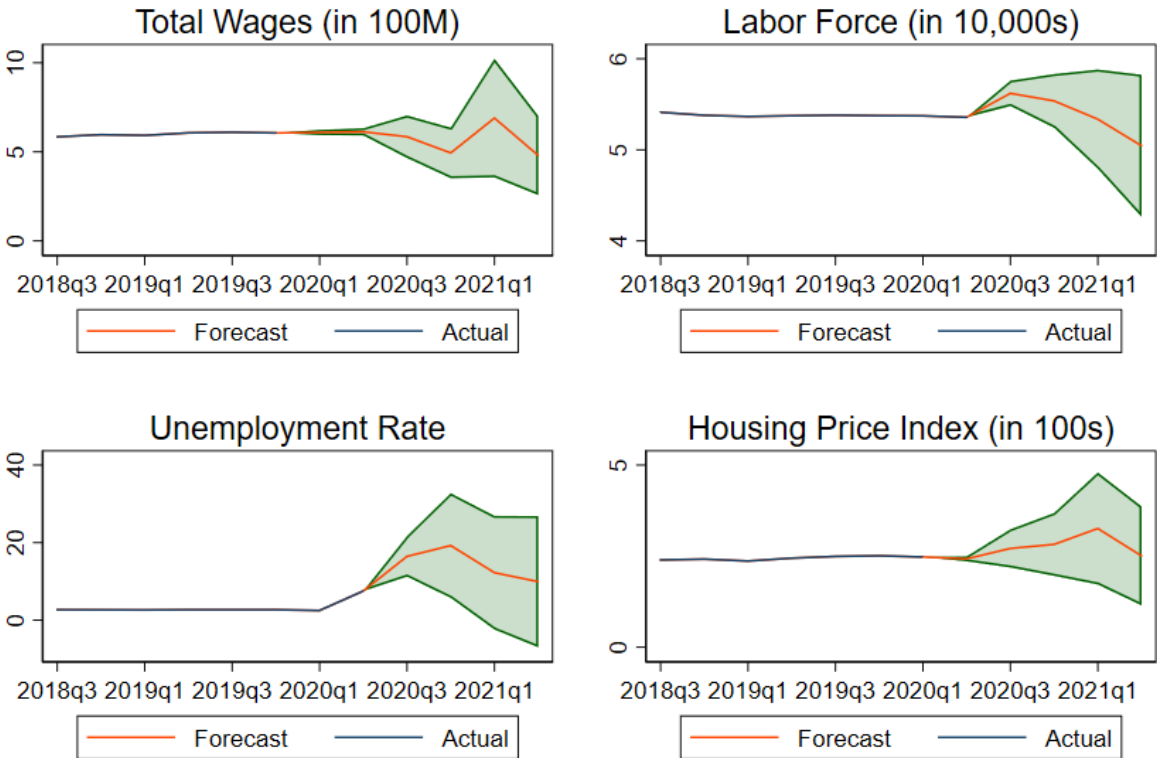


Bismarck, ND Outlook

The Bismarck, ND, metro area has a negative economic outlook, though its economic indicators appear more measured than other metro areas. Total wages are projected to fluctuate with consecutive decreases of about 19% and 32% in 2020q3 and 2020q4, respectively, before rising next year and returning to current levels in mid-2021. The Bismarck labor force is forecast to decrease through the next three quarters to around 55,000 people. The unemployment rate in Bismarck is expected to mirror other metro areas but with a smaller increase. Unemployment is projected to reach a rate of nearly 15% in 2020q3 before dropping to below the current rate in 2021. Unlike the Fargo metro area, the Bismarck housing market is expected to fall in the coming months. When compared to Fargo or Grand Forks, the economic outlook for Bismarck, ND, shows a better overall economic scenario with a lower unemployment rate and smaller reductions in total wages and labor force participation.

Figure 5

Grand Forks Quarterly Outlook

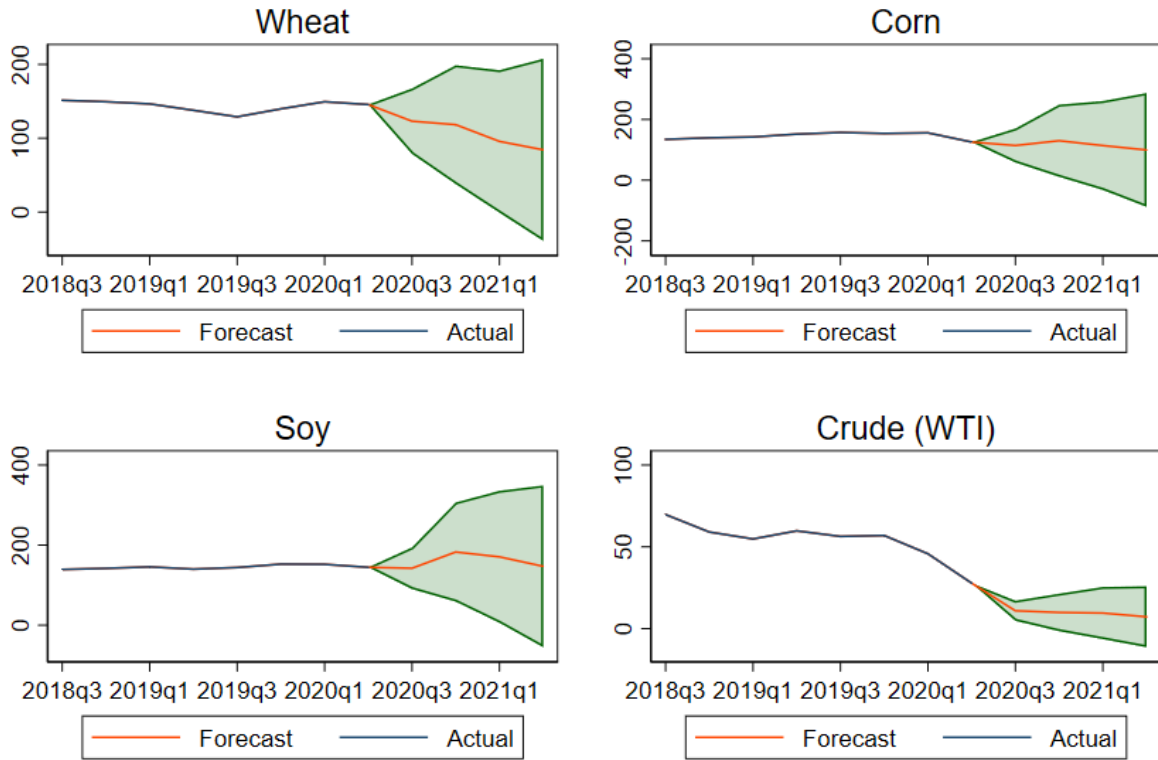


Grand Forks, ND-MN Outlook

Similar to the other metro areas, the forecast shows negative growth in the economic outlook for Grand Forks, ND-MN. Total wages are projected to decrease from the most recent value of \$600 million to less than \$500 million in 2021q1. The labor force in Grand Forks shows a trend similar to Bismarck, with a slight short-term increase followed by a gradual decrease. In the second quarter of 2021 (2021q2), the model forecasts around 50,000 people will belong to the workforce, which is down from the most recent value of 54,000 people. Over the next few months, this model projects a slight decline in the size of the labor force. The unemployment rate is also expected to mirror trends in Bismarck, with a gradual increase to about 15% before declining in the following months. However, the actual values through the first quarter of 2020 (2020q1) are above the projections to date, which is a positive sign. Finally, the housing price index shows relative stability. The model predicts the index will grow into the first quarter of next year (2021q1) and then start to return to current levels.

Figure 6

Commodity Quarterly Outlook

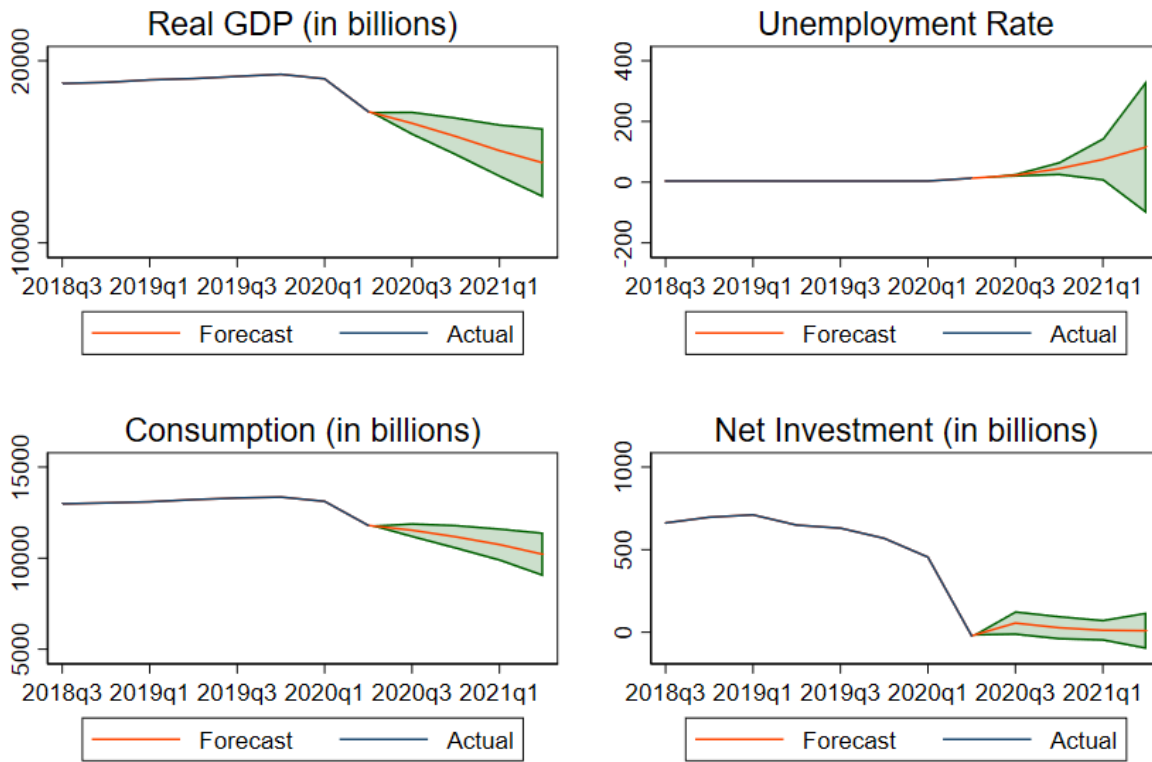


Commodity Outlook

Commodity values, with the exception of soy, show a slight decline in the coming year. This model uses a producer price index for each of the commodities to make its predictions. A producer price index is an index that measures the average changes in prices received by domestic producers for their output. Over the next few quarters, corn, wheat, and WTI crude show price declines. Notably, the price of crude has dropped dramatically since the first quarter of 2020 (2020q1). Soy shows a small increase in the upcoming quarters. This means prices for producers are forecast to decrease slightly for wheat, corn, and crude and possibly increase for soy.

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 shrink from a value of \$17.205 trillion at a rate ranging from 3.5% to 5% per quarter through 2020q2. The second indicator is unemployment as a percentage rate. This indicator shows unemployment is expected to dramatically rise from the most recent rate of around 13%. (Because the model incorporates data only from the previous quarters, its projection for unemployment is likely exaggerated.) The large confidence interval surrounding the unemployment rate reflects the uncertainty and volatility of this projection. The third panel, Consumption, is the measure of the value of personal household consumption. Consumption estimates over the next three quarters look to follow a similar trajectory to the decline in real GDP over the same period; both are forecasted to decrease at a constant rate. Lastly, net investment totals (the total amount of investment in capital by the business sector used to expand the capital stock) are expected to remain flat after falling significantly in the first quarter of 2020 (2020q1).

Summary

The forecasts in this report use historical data to predict future trends. Due to time lags in the model and the availability of data when the model was run (July 2020), these forecasts incorporate only some of the economic conditions brought on by the coronavirus pandemic. For an updated economic outlook for the state of North Dakota that incorporates rising national unemployment and falling oil prices, read the Economic Outlook Special Report: A forecast of the effect of COVID-19 on North Dakota.

North Dakota

Overall, economic forecasts for the state of North Dakota show a negative outlook. Over the next few quarters, wages and gross state product are projected to decrease. The labor force is expected to decline, and unemployment is projected to rise. Total tax collections could also fall dramatically.

Fargo, ND-MN

Forecasts suggest the Fargo metro area will experience negative growth in the coming months. Wages and labor force participation are projected to fall; unemployment is projected to rise; and the strength of the housing markets is expected to fluctuate.

Bismarck, ND

Forecasts for the Bismarck metro area demonstrate a shrinking local economy. The unemployment rate is expected to increase, and the housing index and size of the labor force are projected to fall. Wages are projected to increase slightly over the next few quarters. Economic conditions are expected to mirror Fargo and Grand Forks but with more measured effects.

Grand Forks, ND-MN

Forecasts predict a decline in local economic conditions for the Grand Forks metro area, including rising unemployment and decreases in wages, labor force participation, and the strength of the housing market.