

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 fourth quarter of 2020 (2020q4).

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.

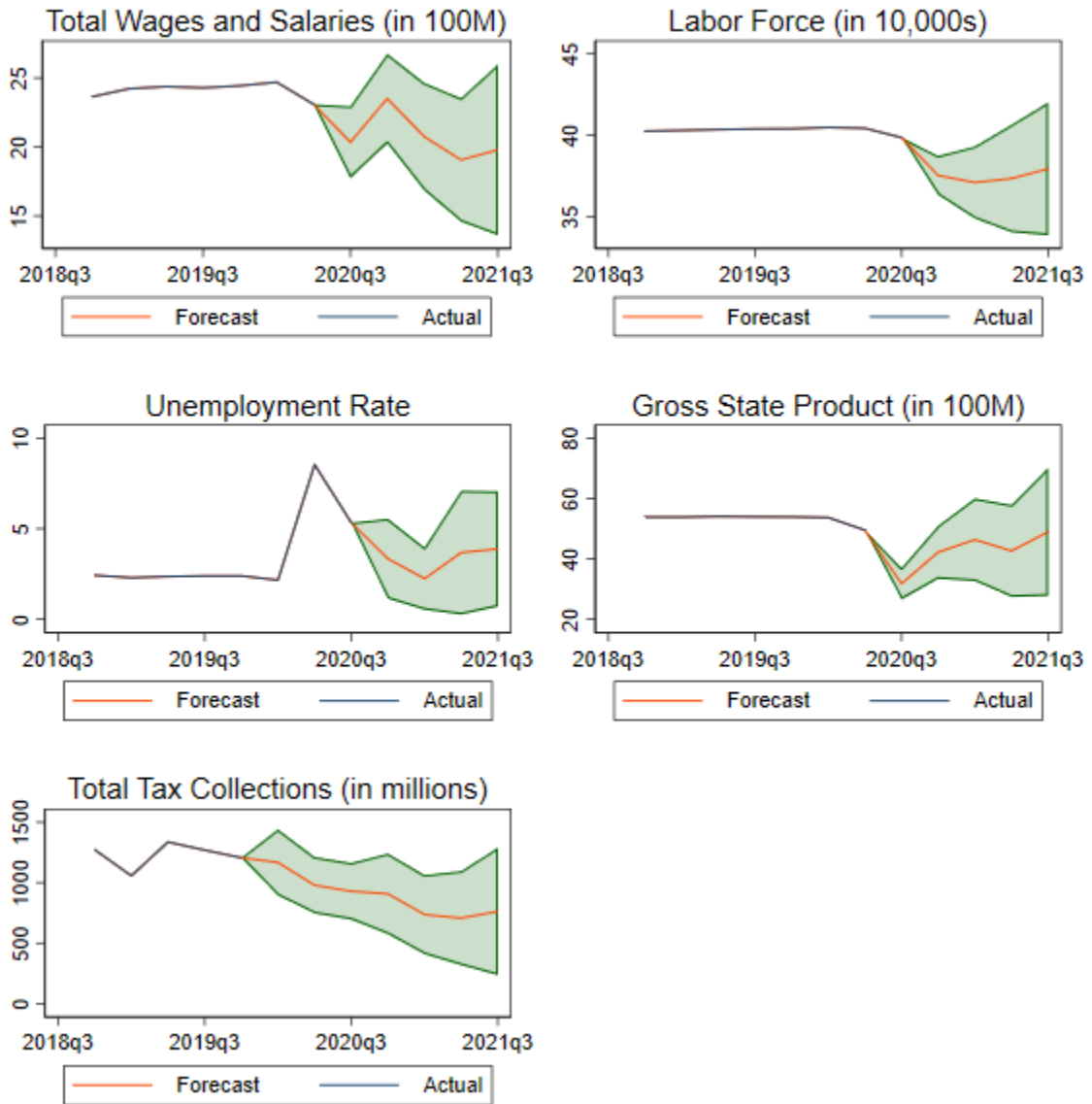
Key Points

- The North Dakota outlook shows signs of economic stagnation in the coming months. This includes minimal change in wages; declining labor force participation and total tax collections; and stagnation in the unemployment rate. However, some measures show signs of slight recovery, including in gross state product. Similar effects can be seen for the metro areas, with variances between different regions of the state.
- This report represents forecasts based on the most recently available data when the model was run in November 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.

Quarterly Outlooks

Figure 1

North Dakota Quarterly Outlook



North Dakota Outlook

The overall economic outlook for the state remains poor amidst the COVID-19 pandemic. However, incorporating the most recent data presents an improved economic outlook relative to previous reports.

Total wages and salaries are expected to continue to fall from the most recent value of around \$2.3 billion, with some disturbance in the rate into 2021. The labor force is projected to continue to decrease, with a slight recovery after the first quarter of 2021 (2021q1). Yet, this growth likely won't restore the labor force to pre-COVID-19 levels until after the forecast period (2022). Unemployment is projected to remain relatively steady around and below the 5% mark into 2021, which is significantly below the peak level at nearly 9% that was reached in the second quarter of this year (2020q2). However, as the lower unemployment rate is reconciled with the corresponding decline in the labor force, it reveals a labor market that is continuing to struggle. North Dakota's gross state product (GSP) experienced a nearly 8% decline in 2020q2. The forecast for 2020q3 shows an even larger decline. Fortunately, GSP is then expected to grow throughout 2021, possibly recovering to near pre-COVID-19 levels. This improvement mirrors the general trend in the national gross domestic product (GDP) shown in the National Outlook section. All these projections combine with additional factors to impact total tax collections. Tax collections in North Dakota are predicted to decline through the rest of 2020 and into 2021, though at a lower rate than the model projected last quarter. Tax collection data remains unavailable for all quarters in 2020.

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

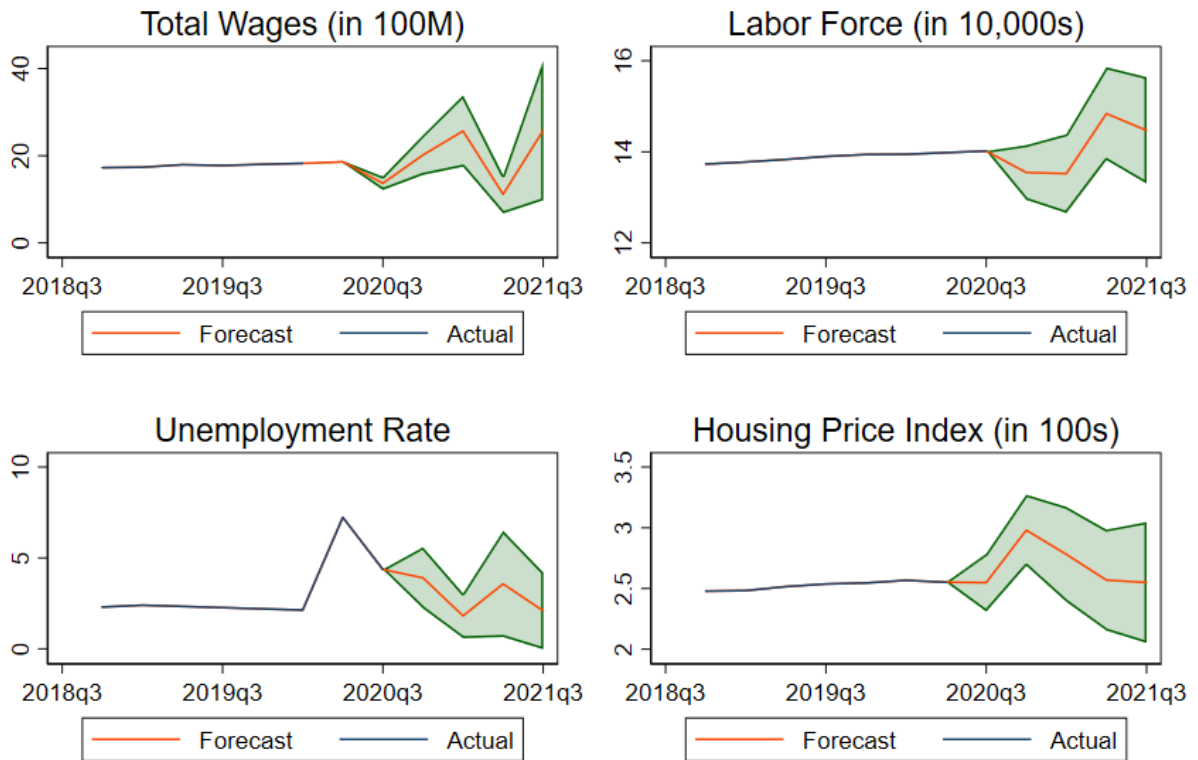


Alternative Outlooks

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 (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. Even in the most optimistic scenario, the North Dakota economy will experience slightly increased unemployment, slow recovery in gross state product, and decreased tax collections.

Figure 3

Fargo Quarterly Outlook



Fargo, ND-MN Outlook

Figure 3 shows a positive economic outlook for Fargo, ND-MN. Total wages are forecast to fall in the third quarter of 2020 (2020q3) before facing a general upward trend beginning in the fourth quarter of 2021 (2021q4). However, this upward trend may come amidst fluctuation. The Fargo labor force (the total number of people in the area working) is expected to fall by 3.35% in the fourth quarter of 2020 (2020q4). It will then hold steady before increasing in the second quarter of 2021 (2021q2). Although there was a dramatic increase in unemployment in 2020q2, the rate is forecast to decline overall in the coming quarters to a near normal rate throughout 2021. The Fargo Housing Price Index is forecast to increase in the fourth quarter of 2020 (2020q4) and then come back down to normal levels moving into 2021. Overall, these forecasts indicate that the Fargo economy will face trends reflecting moderate improvements and recovery in the coming months, with increases in total wages, a declining unemployment rate, and a relatively strong housing price index into 2021.

Figure 4

Bismarck Quarterly Outlook

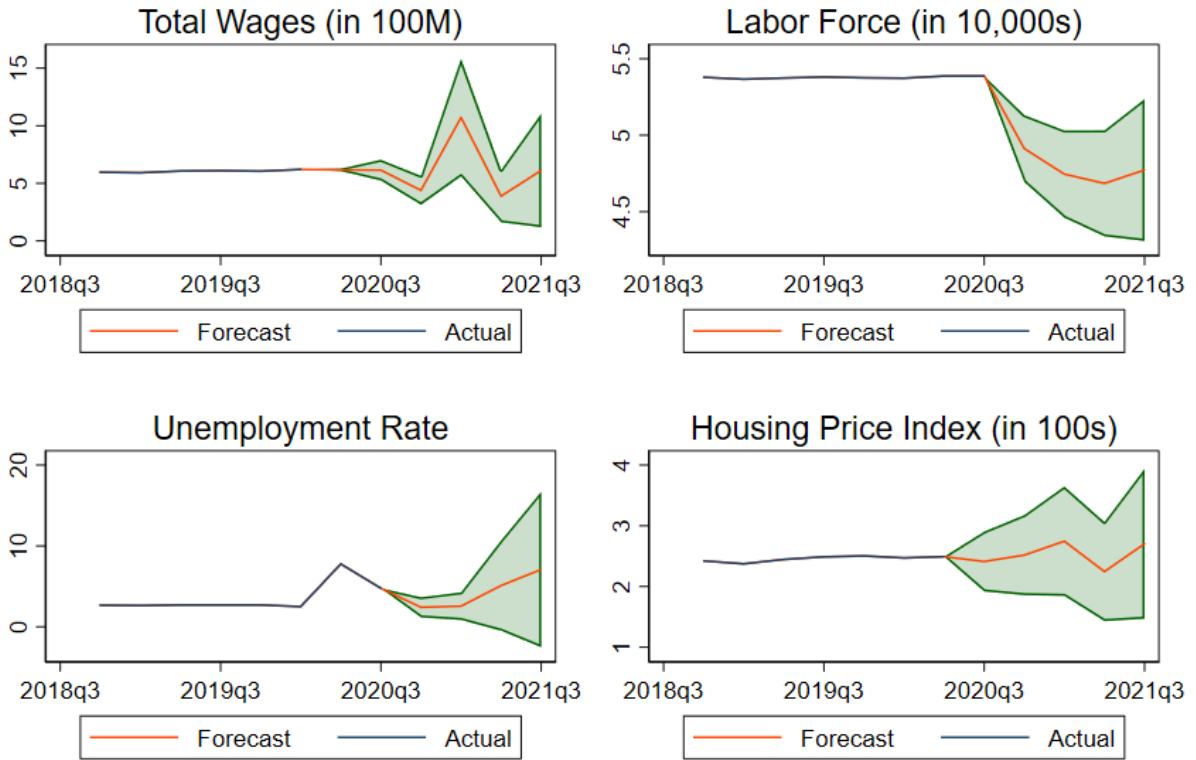


Bismarck, ND Outlook

The Bismarck, ND, metro area has a mixed economic outlook with a lot of uncertainty in the forecast. Total wages are projected to fluctuate in the fourth quarter of 2020 (2020q4) but are expected to level off slightly below current levels, which are around \$900 million. The size of the labor force is forecast to decline to around 60,000 through the next two quarters into 2021. The confidence interval surrounding the unemployment rate projection is large, reflecting a large uncertainty regarding labor market conditions. The Bismarck housing price index is expected to decline over the coming year.

Figure 5

Grand Forks Quarterly Outlook

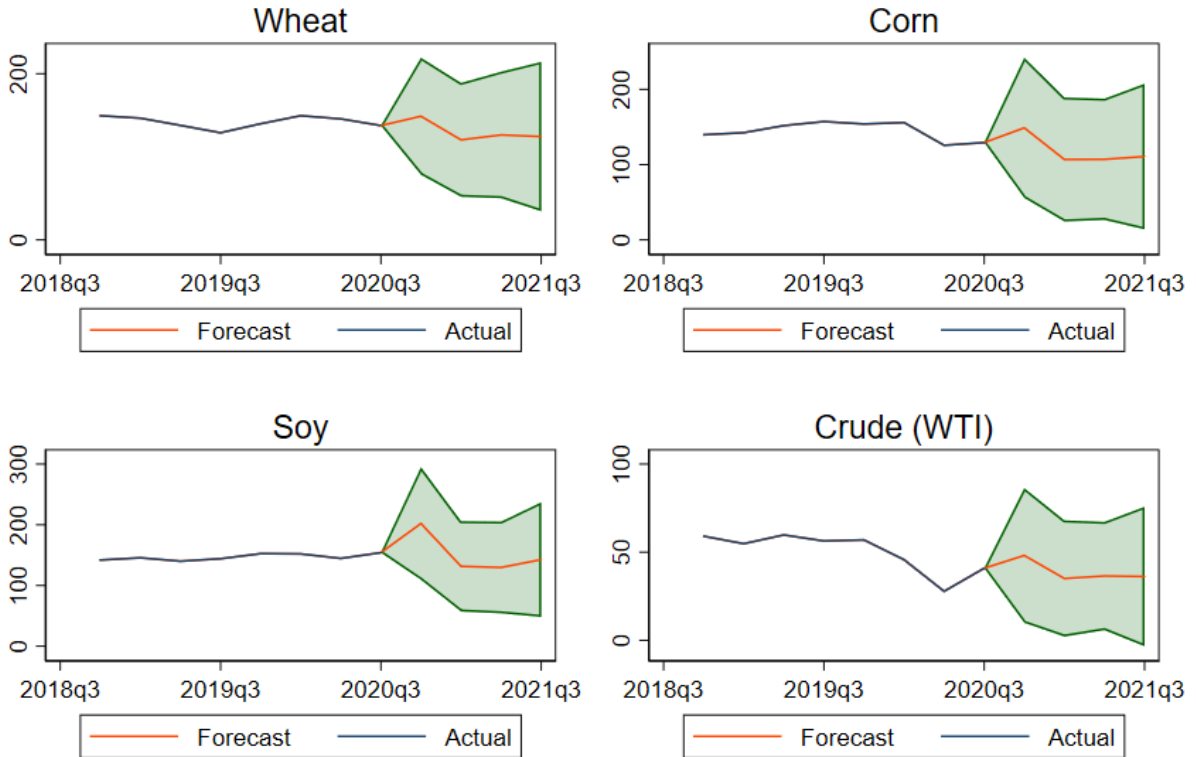


Grand Forks, ND-MN Outlook

The Grand Forks, ND-MN, metro area outlook is mixed. Total wages are projected to dramatically fluctuate in the first quarter of 2021 (2021q1) but remain around the most recent value of \$600 million into the third quarter of 2021 (2021q3). The labor force in Grand Forks, ND-MN, is forecast to decline dramatically in the fourth quarter of 2020 (2020q4) before beginning to recover in the second half of 2021 (2021q3). The unemployment rate is expected to decline slightly at the end of 2020 and then increase into next year. Finally, the housing price index shows relatively stable housing prices.

Figure 6

Commodity Quarterly Outlook

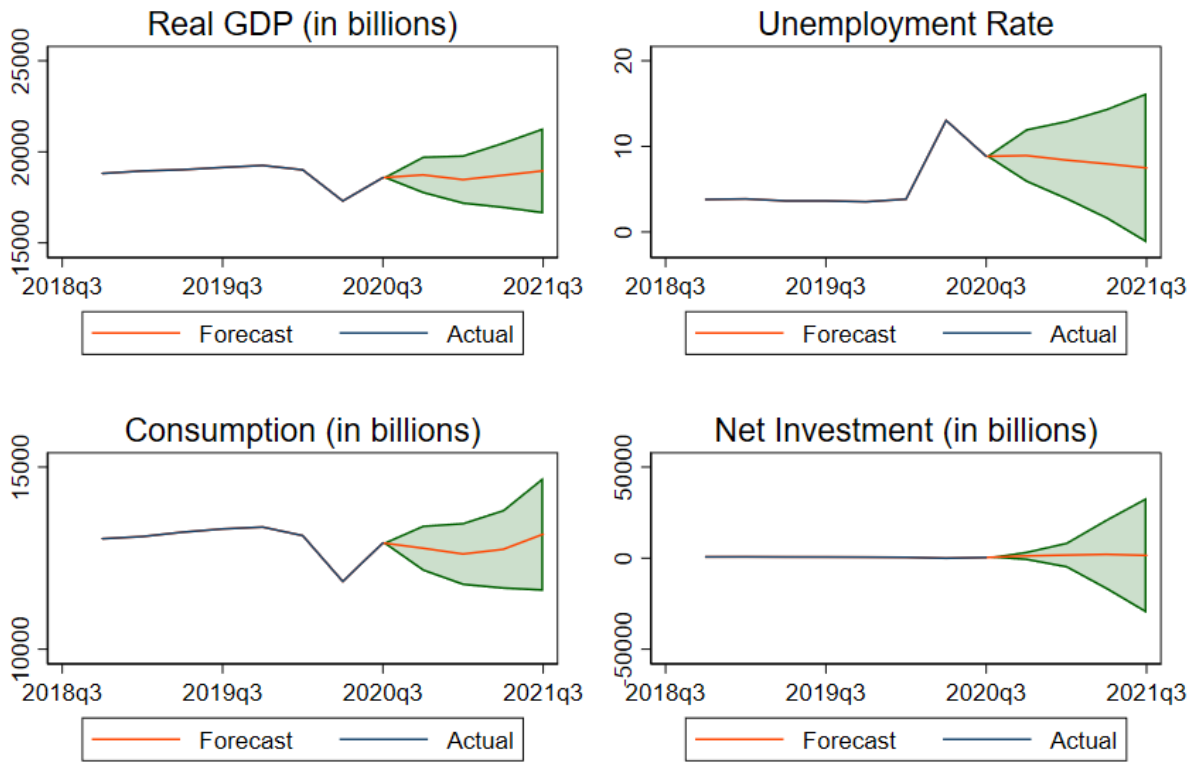


Commodity Outlook

Commodity values show a slight decline in 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. Over the next few quarters, corn, wheat, soy, and WTI crude show price declines after an expected uptick across all of the commodities in the coming quarter (2020q4). Notably, the price of crude has recovered after a significant drop in the first and second quarters of 2020 (2020q1, 2020q2). Overall, these charts show that prices for producers are forecast to decrease slightly for wheat, corn, soy, and crude into 2021.

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 remain relatively constant, around the value of \$18.5 trillion, with slight increases into the third quarter of 2021 (2021q3). This trajectory will be highly dependent on the continued national and worldwide response to the COVID-19 pandemic. The unemployment rate is expected to continue its current decline, reflecting a return to the workforce by Americans as COVID restrictions lift. However, the decrease in the national unemployment rate is expected to drop slowly and will not return to previous levels in the forecast time period. 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 for the next year appear to mirror real GDP projections but with a more positive trajectory. Lastly, net investment (the total amount of investment in capital by the business sector used to expand the capital stock) is expected to grow in the next quarter and into the next year. However, there is a high level of uncertainty around forecast net investment, as shown by the large confidence interval.

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 November 2, 2020.

North Dakota

Economic forecasts for North Dakota show a state that is continuing to struggle amidst the COVID-19 economy. However, the current forecast notably shows improved outlooks compared to previous reports. Over the forecast time period, declines are expected for total wages and salaries, labor force participation, gross state product, and total tax collections. Although a declining labor force is not good for the North Dakota labor market, there is evidence that the state unemployment rate will remain low and approach pre-COVID-19 levels.

Fargo, ND-MN

The Fargo, ND-MN, metro area will experience a slight recovery in the coming months. Wages and labor force participation are projected to rise; unemployment is projected to fall; and housing prices are expected to increase slightly and then come back down to the current level.

Bismarck, ND

The Bismarck, ND, metro area economy is expected to contract in the near term. Total wages may experience a short-term increase before falling below current levels. Housing prices and the labor force are both projected to fall.

Grand Forks, ND-MN

The Grand Forks, ND-MN, metro area has a mixed forecast. Wages and housing prices will fluctuate but remain close to current levels. The labor force will experience a sharp decline, which will coincide with a declining unemployment rate, before beginning to rise in the middle of 2021. This indicates a continued weak labor market.