

# ECONOMIC OUTLOOK

---

## QUARTERLY REPORT

November 2022

**NDSU** PUBLIC CHOICE  
PRIVATE ENTERPRISE

### Prepared by

Jeremy Jackson, Ph.D.

Director, Center for the Study of Public Choice and Private Enterprise

Associate Professor, Department of Agribusiness and Applied Economics

North Dakota State University

Email: [jeremy.jackson@ndsu.edu](mailto:jeremy.jackson@ndsu.edu)

### 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.....	4
Quarterly Outlooks .....	5
North Dakota Outlook .....	6
Alternative Outlooks.....	6
Fargo, ND-MN Outlook.....	8
Bismarck, ND Outlook .....	9
Grand Forks, ND-MN Outlook .....	10
Minnesota Outlook .....	12
Minneapolis, MN Outlook .....	13
Commodity Outlook.....	14
National Outlook.....	16
Summary.....	17

## 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. Recently, Minnesota and the Minneapolis metropolitan area have been added to the model. This report details the results of the model for the fourth quarter of 2022 (2022q4).

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 continues to do well despite lackluster national trends. However, a recent decline in the labor force may be cause for concern. Growth trends are predicted for wages and salaries and gross state product. Tax collections remain strong.
- The economic outlooks for Fargo, Bismarck, Grand Forks, and Minneapolis are positive.
- The Minnesota economic outlook remains mixed. Trends in wages, labor force, and gross state product show possibility for growth or decline. Tax collections remain volatile.
- The national economy is showing signs that a recovery could be coming. However, the risk of recession still looms.
- This report represents forecasts based on the most recently available data when the model was run on October 27, 2022. 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 Outlook

The economic outlook for North Dakota continues to be positive. Total wages and salaries are forecast to continue growing in the near term. The labor force contracted by almost half a percentage point in the third quarter (2022q3). The model doesn't predict this trend to continue, but a downward dip in the labor force is troubling for a state that needs workers. The state unemployment rate has continued to fall and was just over 2.25 percent in the third quarter (2022q3). Expect the unemployment rate to hold steady in the near term. North Dakota's gross state product (GSP) has now fallen in each in of the previous three quarters with a year-over-year loss of 2.15 percent. While the model is predicting a return to growth in GSP for the upcoming quarters, recent forecasts of growth did not transpire. Much of the decrease in GSP is being driven by inflation as GSP is reported in real terms. Tax collections had an uptick in the second quarter (2022q2), as predicted. Tax collections will likely remain strong with projections of increasing wages and salaries.

## 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. With current trends in crude prices, the upper bound of the 90% confidence interval may be the most likely scenario.

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.

## Alternative Outlooks

These graphs demonstrate mild dependence of the North Dakota economy on crude oil 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 price just below \$50 per barrel). 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. The greatest impact of oil price trends is on total tax collections. Predictions of growth for wages and salaries, labor force, and gross state product remain even under worse case scenarios.

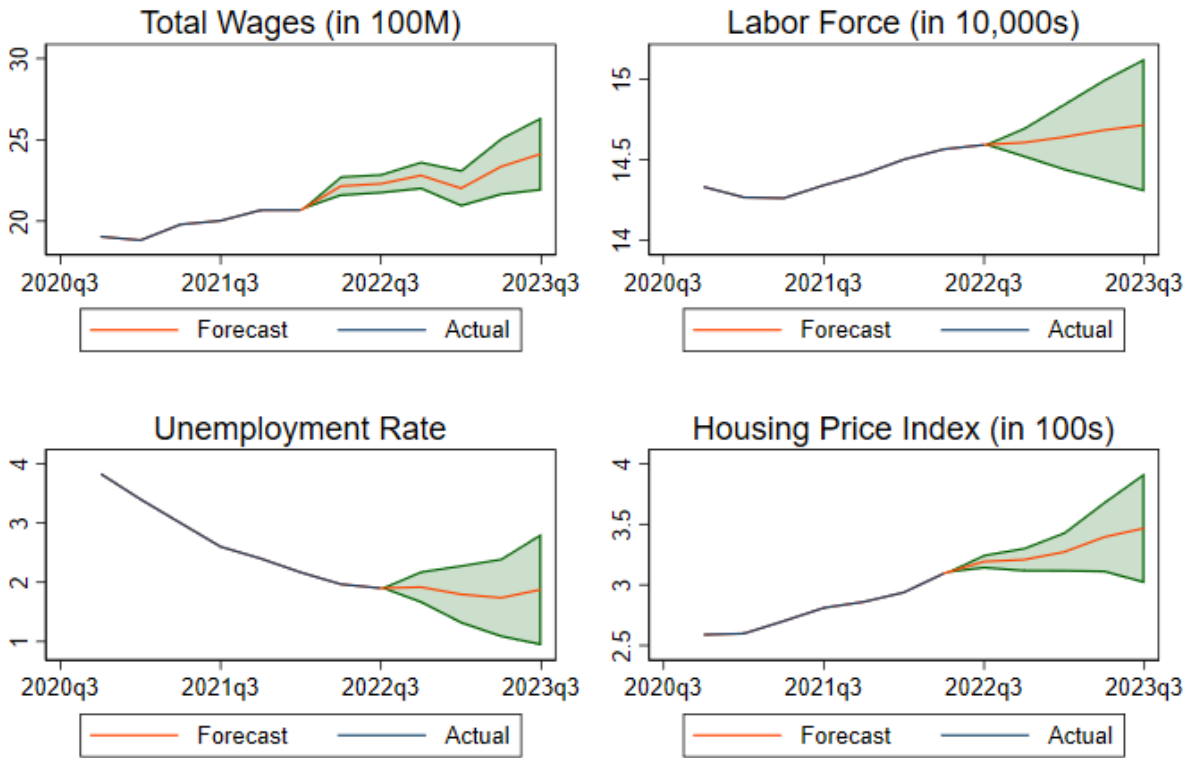
Figure 2

### North Dakota Quarterly Outlook - Alternate Scenarios



Figure 3

### Fargo Quarterly Outlook



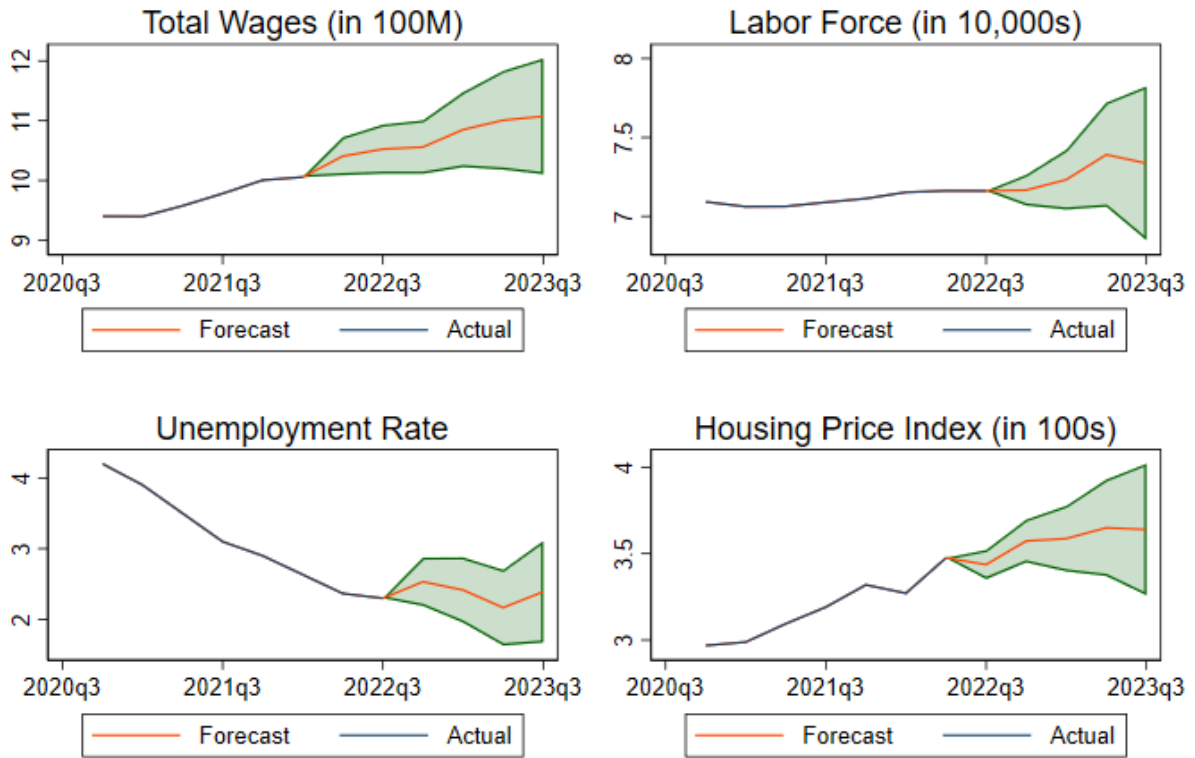
### Fargo, ND-MN Outlook

Figure 3 shows a continued positive economic outlook for Fargo, ND-MN. Total wages held constant in the first quarter of 2022. A growth trend is projected through 2022 into 2023. The Fargo labor force (the total number of people employed plus those seeking employment) grew modestly by 0.19 percent in the third quarter of 2022 and is forecast to continue its steady growth trend. The unemployment rate has continued to fall and was 1.9 percent in the third quarter of 2022. The unemployment rate is expected to remain steady through 2022 into 2023. Despite rising mortgage and interest rates, the Fargo housing price index rose by more than 5 percent in the second quarter of 2022. This growth trend is forecast to continue, but the growth rate may slow.



Figure 4

### Bismarck Quarterly Outlook

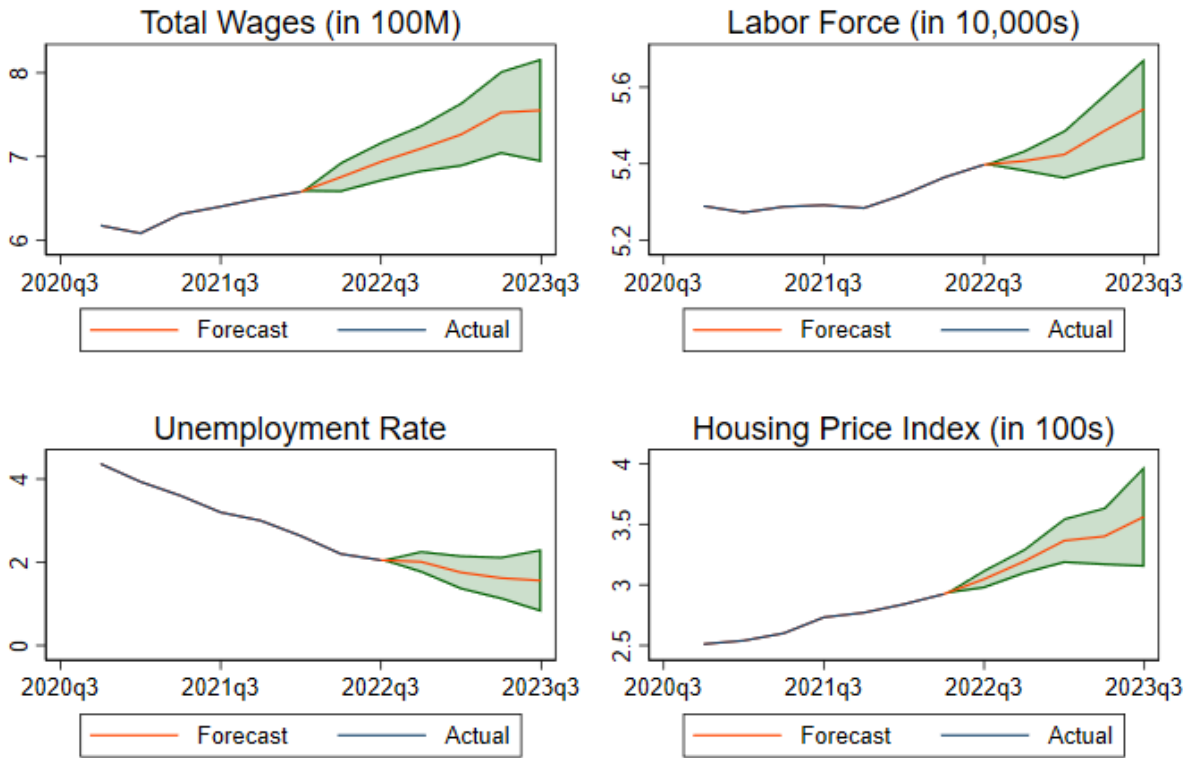


### Bismarck, ND Outlook

The Bismarck, ND, metro area has a positive economic outlook. Total wages are expected to grow in the second quarter of 2022 and continue that growth trend through 2023. The labor force is expected to hold constant in the fourth quarter of 2022 and then grow in 2023. Expect the unemployment rate to remain near the current rate of 2.3 percent. The Bismarck housing price index fell by more than 1.5 percent in the but then posted growth of more than 6 percent. It is now showing a mild growth trend over the coming year.

Figure 5

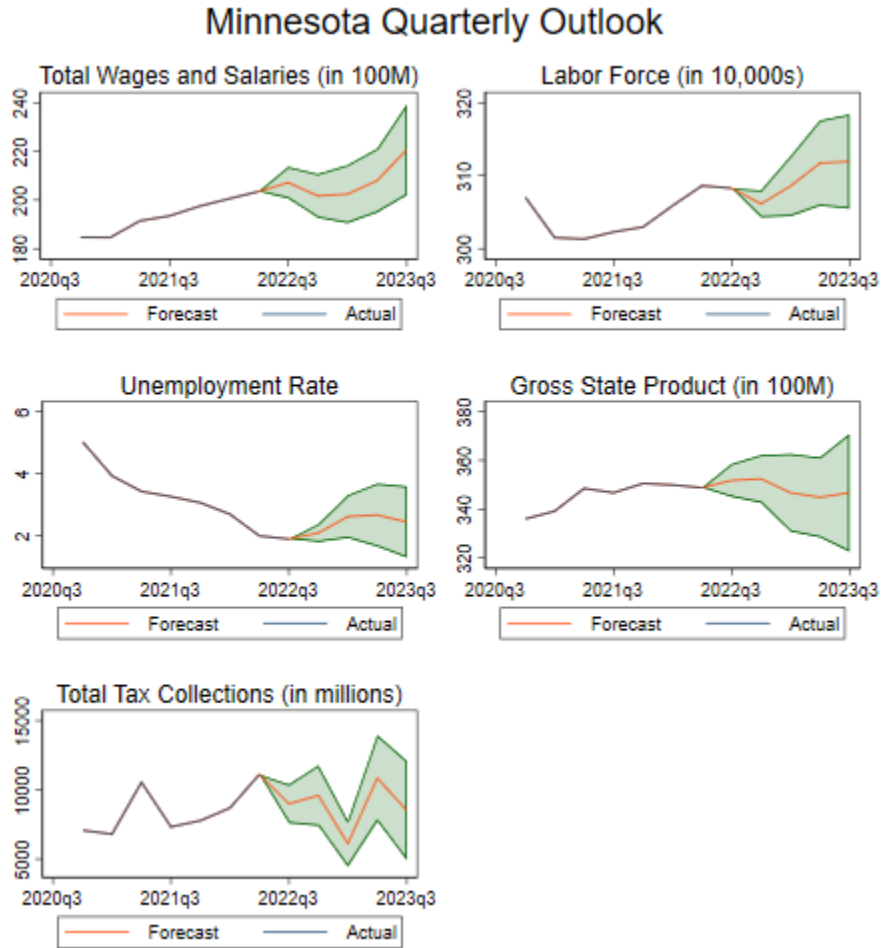
### Grand Forks Quarterly Outlook



### Grand Forks, ND-MN Outlook

The Grand Forks, ND-MN, metro area has a positive economic outlook. Total wages have been growing, and that trend is expected to continue through 2022 and into 2023. The Grand Forks, ND-MN, labor force grew in the third quarter of 2022. That growth is expected to continue through 2023. The unemployment rate in the third quarter was 2.05 percent, down from 2.2 percent in the previous quarter. The unemployment rate is projected to continue to fall through 2023. The Grand Forks housing price index experienced strong growth in recent quarters, including growth of nearly 3 percent in the second quarter of 2022. This growth is expected to continue through the remainder of 2022 and into 2023.

Figure 6

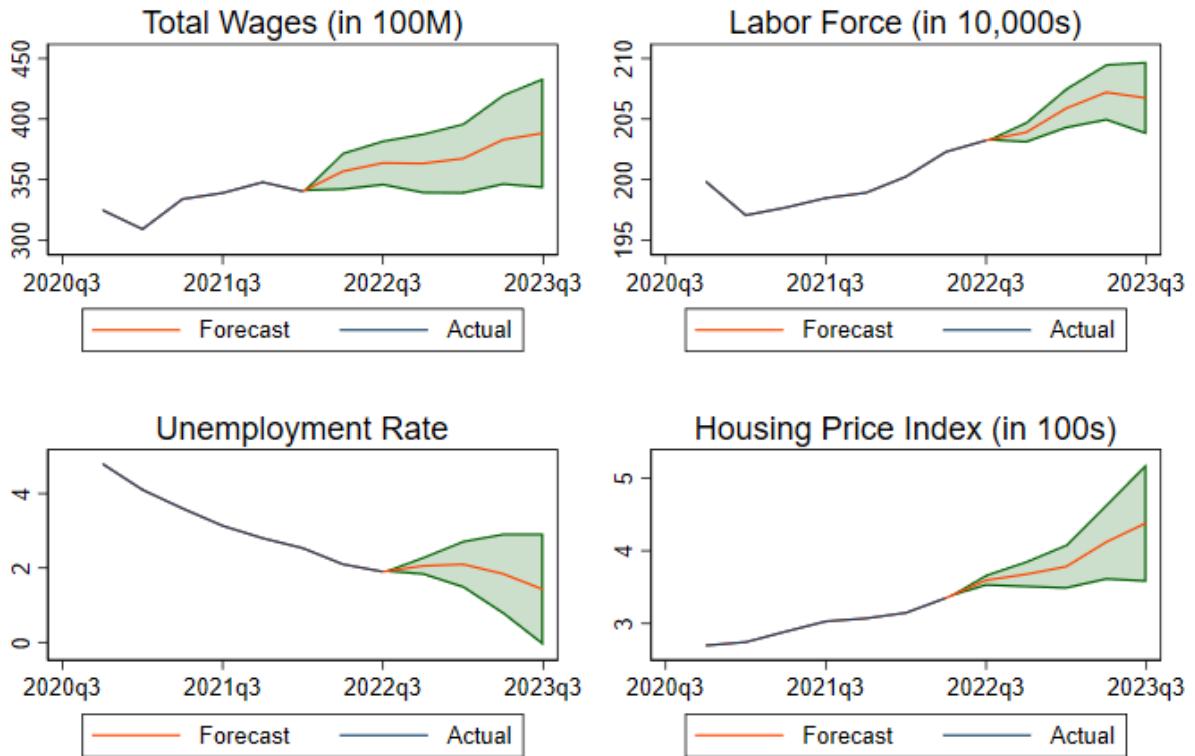


## Minnesota Outlook

The economic outlook for Minnesota remains mixed. Total wages and salaries grew by nearly 1.5 percent in the second quarter of 2022. However, the forecast for wages and salaries shows a U-shaped trend for the end of 2022 into 2023. The labor force was flat in the third quarter (2022q3) with a forecast decrease moving into the fourth quarter of 2022. Labor force growth may resume in 2023. The unemployment rate fell in the third quarter and is now below 2 percent. Expect the Minnesota unemployment rate to be relatively flat moving forward. Minnesota's gross state product (GSP) fell for the second quarter in a row. GSP in the second quarter fell by 0.33 percent. GSP is expected to be relatively flat, but a risk for further declines remain. Recent volatility in total tax collections is expected to continue. Total tax collections grew by 28 percent in the second quarter (2022q2), but they are expected to decline in the coming quarters.

Figure 7

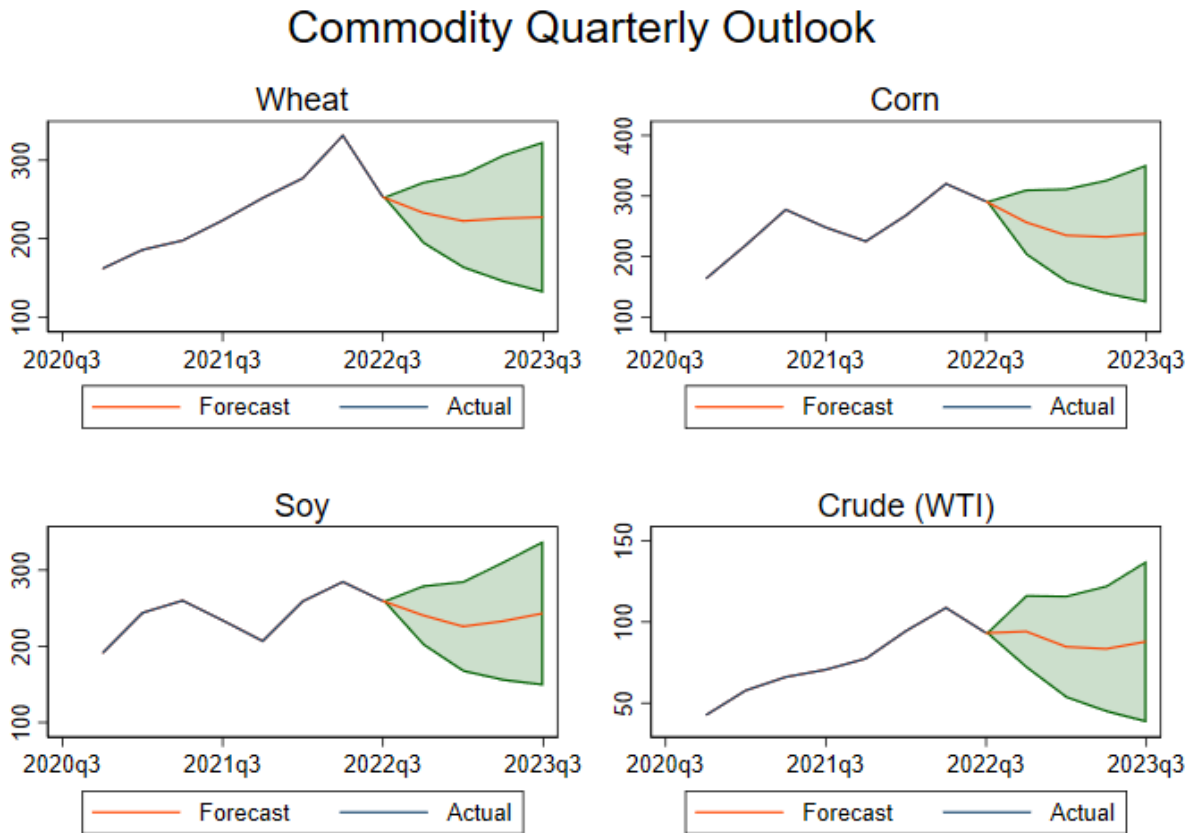
## Minneapolis Quarterly Outlook



### Minneapolis, MN Outlook

While the Minnesota outlook is mixed, the outlook for Minneapolis remains promising. Despite a forecasted growth trend in total wages, total wages declined by more than 2 percent in the first quarter of 2022. This trend is expected to return to growth in the coming quarters. The Minneapolis labor force grew by nearly 0.5 percent in the third quarter and is projected to continue growing. The unemployment rate in Minneapolis fell below 2 percent. Expect the unemployment rate to be flat in the near term. The Minneapolis housing price index rose 6.5 percent in the second quarter of 2022. Look for the housing price index to continue growing through 2022 into 2023.

Figure 8

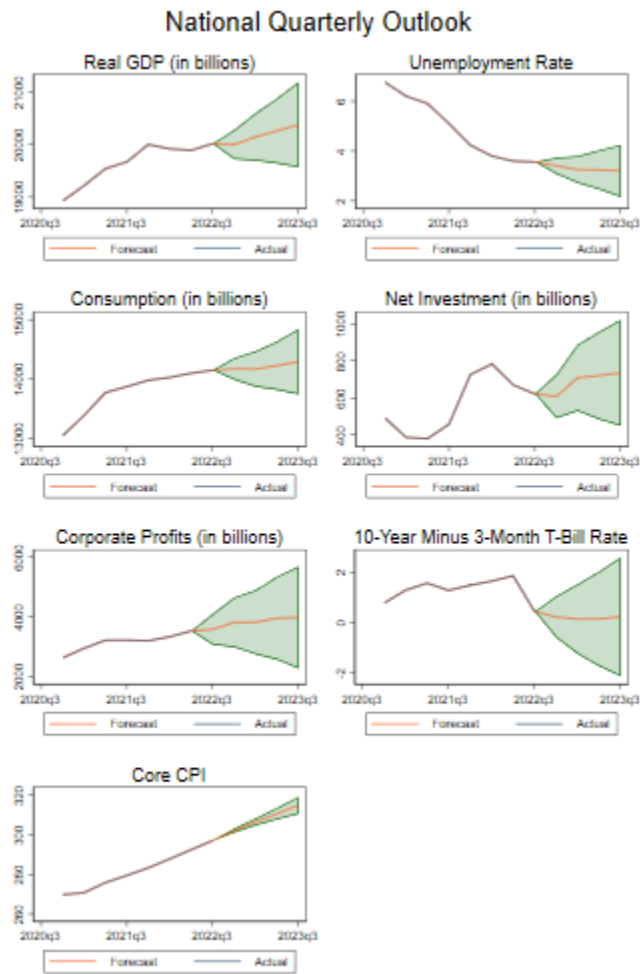


### Commodity Outlook

The commodity outlook has changed significantly. Wheat, corn, soy, and crude prices seem to have peaked in the second quarter of 2022. Trends in future quarters remain relatively flat with slight downward pressure on prices. While historically high commodity prices have contributed to North Dakota’s income and GSP, they have also contributed to record inflation.

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.

Figure 9



## National Outlook

The national economic outlook is improving with reduced signs of an impending recession. Real GDP, the inflation-adjusted value of the goods and services produced by all labor and assets in the United States, fell in the first two quarters of 2022 but grew by 0.64 percent in the third quarter. While risk for further GDP declines lingers, the forecast is projecting growth throughout 2023. The unemployment rate, which was 3.5 percent in the third quarter of 2022, continues to fall. The unemployment rate is forecast to decline at a slow rate through 2023. Consumption grew by 0.35 percent in the third quarter and is forecast to continue this slight growth through 2023.

Net investment (the total amount of investment in capital by the business sector used to expand the capital stock) fell by 7 percent in the third quarter. This trend is forecast to continue into the fourth quarter of 2022 before turning to growth in 2023. Corporate profits grew by 5.8 percent and are forecast to continue growing into 2023. While falling commodity prices are a good sign for inflation in general, Core CPI is predicted to continue growing. Core CPI is different from the standard CPI because it does not include food and energy prices.

The 10-year to 3-month treasury bill spread fell significantly in the third quarter of 2022. This spread is a commonly used leading indicator for the national economy. The spread historically goes negative (higher short-term bond yields compared to long-term) just before the economy transitions to recession. While this spread is still positive, the yield on 6-month and 12-month treasury bills now exceed the yield on 10-year treasury bills, indicating that inversion of the yield curve is taking place. This is an indicator that we may be heading toward a recession.



## 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 October 27, 2022.

### **North Dakota**

Despite lackluster gross state product in recent quarters, economic forecasts for North Dakota show a positive outlook. Forecasts show increasing wages and salaries and a low unemployment rate. Recent declines in the labor force are a concern.

### **Fargo, ND-MN**

The Fargo, ND-MN, metro area is continuing to show signs of economic growth. Wages, labor force, and housing prices are forecast to follow their recent growth trends.

### **Bismarck, ND**

The Bismarck, ND, metro area has a positive economic outlook. Wages, labor force, and housing prices are forecast to grow.

### **Grand Forks, ND-MN**

The Grand Forks, ND-MN, metro area has a positive economic outlook. Wages, labor force, and housing prices are forecast to continue their recent growth trends.

### **Minnesota**

The Minnesota economic outlook is mixed. Wages, labor force, and gross state product could move toward decline or growth. The unemployment rate has continued its decline, but that trend is expected to reverse. Total tax collections look to remain volatile.

### **Minneapolis, MN**

The outlook for the Minneapolis, MN, metro area is positive. Wages, labor force, and housing prices are forecast to follow a growth trend.

### **National**

The national economy just had its first quarter of economic growth in 2022. Consumption, net investment, and corporate profits are expected to grow. Forecasts for inflation and inversion of the treasury yield curve prevent the forecast from being too positive.