

Quarterly Forecast Report

Summer 2007

**Bureau of Business & Economic Research
College of Business & Public Administration
University of North Dakota**

Welcoming Remarks

*Message from Dr. Dennis Elbert
Dean, College of Business & Public Administration*

Welcome to the inaugural *Quarterly Forecast Report*. The report is produced by the UND Bureau of Business and Economic Research (BBER), which is located in the UND College of Business and Public Administration. This is an exciting development and represents the beginning of publicly available forecasts provided by the BBER. A new forecast will be produced each quarter to provide data vital to academic, government, and business communities. We are proud of this effort and feel that this forecast will provide a valuable service to many people and entities in the region. One of the objectives in the UND Strategic Plan is as follows:

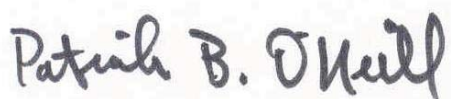
Serve the people of North Dakota, the region, the nation, and the world more effectively through applied and basic research, culture, and arts programming, and economic development programs as well as through a comprehensive array of educational and academic programs.

Many endeavors within the college address this portion of the strategic plan, but this report exemplifies our accomplishments in the area of economic development. My congratulations and many thanks go to the BBER Director, Dr. David Flynn, as well as to the faculty in the Economics Department chaired by Dr. Patrick O'Neill. This is a job well done.



*Message from Dr. Patrick O'Neill
Chair, Department of Economics*

On behalf of the Economics Department at UND I would like to welcome you to the first *Quarterly Forecast Report* from the BBER. This exciting development marks the end of several quarters of “behind the scenes” activity and the first of many quarters of publicly available forecasts. The BBER has been hard at work developing a forecasting model and this publication is the first fruits of that activity. This forecast marks a significant advance in the activities of the BBER and is in a real way a rebirth announcement. The BBER was active in the 1980s and 1990s with a primary mission of creating the *Statistical Abstract of the State of North Dakota* and providing research grants for UND faculty. After a period of inactivity the BBER was resurrected in the early 2000s through the generous support of the Dean of the CoBPA and UND President Kupchella. The current mission of the BBER includes forecasting and other data analysis for business and economic development policies as well as contract research in these areas. I want to offer my congratulations to the BBER Director, David Flynn, and the faculty in the Economics Department at UND who have been a part of the successful re-launching of the BBER, particularly Professor Lloyd Blackwell. We are looking forward to providing this important forecasting service for many quarters to come!



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Forecast Highlights

The highlights of this quarter's release include:

- The overall picture for the US economy looks quite strong, despite current issues in the housing and credit markets.
- Expectations of inflation are contained within the Federal Reserve's comfort zone and other measures such as industrial production appear strong.
- The prediction is for a slight increase in the unemployment rate over the next three years, due more to a strong economy bringing more individuals into the workforce than a downturn in business conditions.
- The state/regional results indicate strong growth in North Dakota, Wyoming and South Dakota nonfarm personal income will moderate in 2008 and 2009 and North Dakota unemployment will remain low and stable.
- The local area forecast predicts large gains for Fargo and Grand Forks nonfarm personal income that moderate significantly after 2008.
- Unemployment rates in Grand Forks and Fargo will be slightly higher than in 2006 over the next three years, but still well below the US unemployment rate.

Inside are further comments on specific predictions from the model as well as tables that include forecast results on an annual reporting basis and graphs examining our model performance.

US Forecast

Table 1. Annual forecast growth rates for key US variables

Year	GDP	INFL	PPI	BUSINV	INDPRO	UNRATE	RATE10Y	FFR
2007	2.74	1.75	2.32	1.39	2.42	4.56	5.18	5
2008	2.53	1.85	1.29	3.63	2.31	4.59	5.41	4.63
2009	2.60	1.96	1.90	0.90	1.67	4.81	5.00	3.99

Gross domestic product (GDP) Figure 1 (page 3) displays the performance of the forecast model over the last 15 years of data. As you can see, our predicted values do a good job of turning with the actual GDP series. Recently, model performance improved as far as amplitude of the fluctuations in the data. Our GDP forecast (from Table 1) is for continued strong growth of GDP for the current year and over the next two years as well, though the pace of growth for 2008 and 2009 is less than the current year. Despite this robust outlook there are clearly risks that may require adjustment of the forecast down. Chief among these concerns is a slowdown in activity due to a general credit contraction, stemming from the subprime mortgage lending meltdown this summer. The extent of the fallout from this situation is still not entirely clear and so remains a factor important to monitor. Other issues are important to follow, such as energy prices, international trade, and political factors as the 2008 Presidential election cycle heats up.

Inflation (INFL) Figure 2 (page 3) displays the performance of the forecast model for the rate of inflation measured by the personal consumptions expenditures price index (PCE). Overall, with the current model and data sources we expect, on average, our model will track well with the movements in the inflation rate and the level of inflation, but expect there will be the chance of understating inflation. It should be noted that in the last year our model has overstated or been right on target for inflation rates. Our inflation forecast (from Table 1) is that US inflation should be under the Federal Reserve's threshold of concern (2%) for 2007 overall and continue that pace into 2008 with only a modest increase. The outlook for 2009, currently 1.96%, draws very near to the level at which the Fed will consider increasing interest rates. Such an increase along with potentially accelerating output would be sure to draw increased attention and concern about increasing rates.

Producer Prices (PPI) The forecast for PPI displays the volatility characteristic of these markets currently. Factors such as energy & fuel prices, in addition to foreign demands for inputs such as metals have introduced a high degree of variability to the model in the last several quarters. The 2007 forecast for PPI is in excess of 2% while that rate is almost halved for 2008 due to anticipated adjustments in supply and demand factors.

Business Inventories (BUSINV) BUSINV will also experience widespread fluctuations over the next three years with strong growth forecast for 2008. Some of this will be to replenish drawn down stocks of goods, consistent with future GDP growth. As would be expected, after a boom year forecast in 2008 our forecast for 2009 is substantially lower.

Figure 1. Actual and predicted period-over-period growth rates in US real GDP

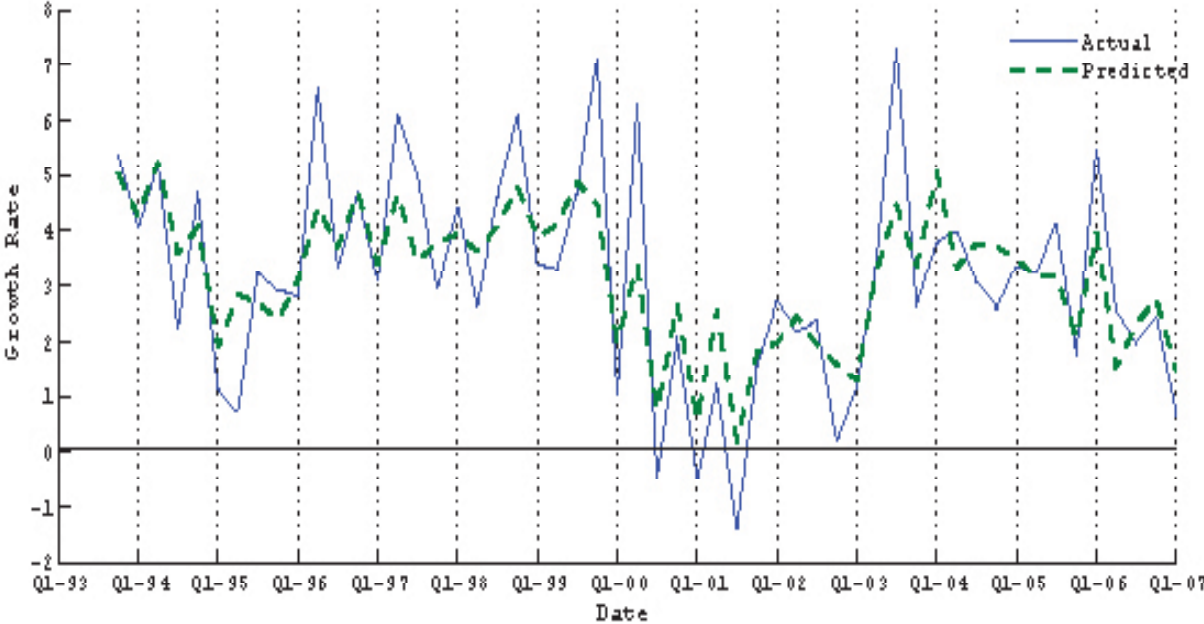
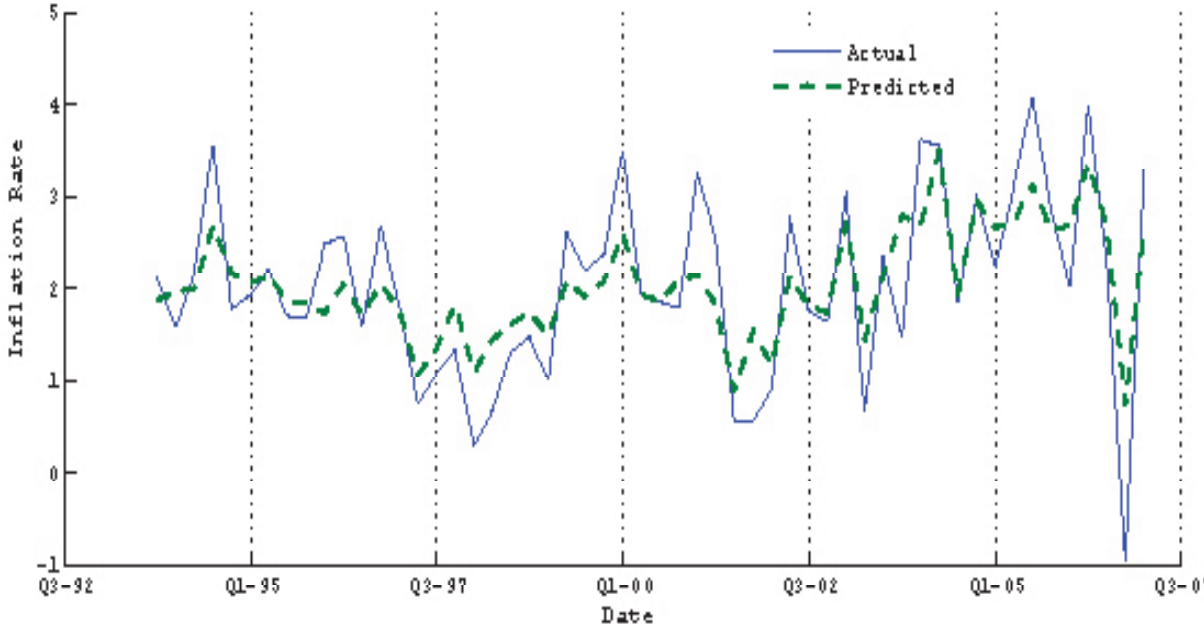


Figure 2. Actual and predicted inflation rates



US Forecast

Industrial Production (INDPRO) INDPRO is forecast to exhibit solid growth of 2% annually for 2007 and 2008 after which it experiences a 33% decline in 2009. Such a decline is not currently a cause for concern as there is ample time for adjustments to occur that may in fact provide for a continued growth level of better than 2%. For those worried about recession, since 1950 there has not been a recession in the US where INDPRO did not fall. Given the positive outlook for this and other variables it would seem that the probability of recession is currently minimal.

Unemployment Rate (UNRATE) Figure 3 (page 5) displays the performance of the model for UNRATE. The model does well tracking both the movements and the amplitude of the changes. The forecast for UNRATE shows the level staying around 4.6%, on average, for this year and for 2008. This is consistent with current levels, though clearly month to month fluctuations are possible, and very likely. The forecast shows an increase of 0.2% for 2009. There are always issues about which factors are driving the changes in UER, e.g. good market conditions can drive the rate up as it draws more people back into the labor force looking for jobs. Given the other forecast variables that display a robust economy this likely explains the forecast increase.

10 yr. Treasury Bond Yield (RATE10Y) The yield on the 10yr treasury note is a key rate in the economy, used often as the benchmark rate for instruments such as adjustable rate mortgages (ARMs). Therefore, this is a closely watched rate and worth forecasting. Figure 4 (page 5) displays the model performance and shows the model tracking both the turn in rates and the level quite well. The average rate for 2007 is forecast to be just under 5.2% with an increase to just under 5.5% in 2008. Currently, concerns in the wider financial markets focus on a credit crunch initiated by excesses in the subprime sector. The resolution of this issue is important as it has consequences for housing markets and financial institutions with significant adjustable rate lending exposure. Higher rates imply fewer potential borrowers qualifying for mortgage loans and therefore potentially longer waits for sellers in the housing markets. The other issue is that financial institutions may actually experience higher default rates. The forecast also calls for a retreat of the 10 year yield to 5.00% in 2009. See the FFR discussion below for a brief central bank policy discussion.

Federal Funds Rate (FFR) FFR is the major monetary policy tool in the economy. Consistent with recent Fed statements the model predicts an easing of monetary policy over the next three years, starting at the end of this year, and possibly by the next meeting of the Open Market Committee on September 18th. However, it is more likely that the Fed removes their neutral bias in September and actually cuts rates in October. By 2009 the FFR should be at a more neutral level neither encouraging nor discouraging growth. The major aim of Fed policy at this time is stability of inflation. Credit market outcomes are an important area to watch right now with the injection of liquidity by central banks around the world indicative of at least temporary frictions that may create further problems. There is also likely some concern about credit derivatives positions in the financial system and who bears the ultimate risk from subprime defaults.

Figure 3. Actual and predicted US unemployment rates

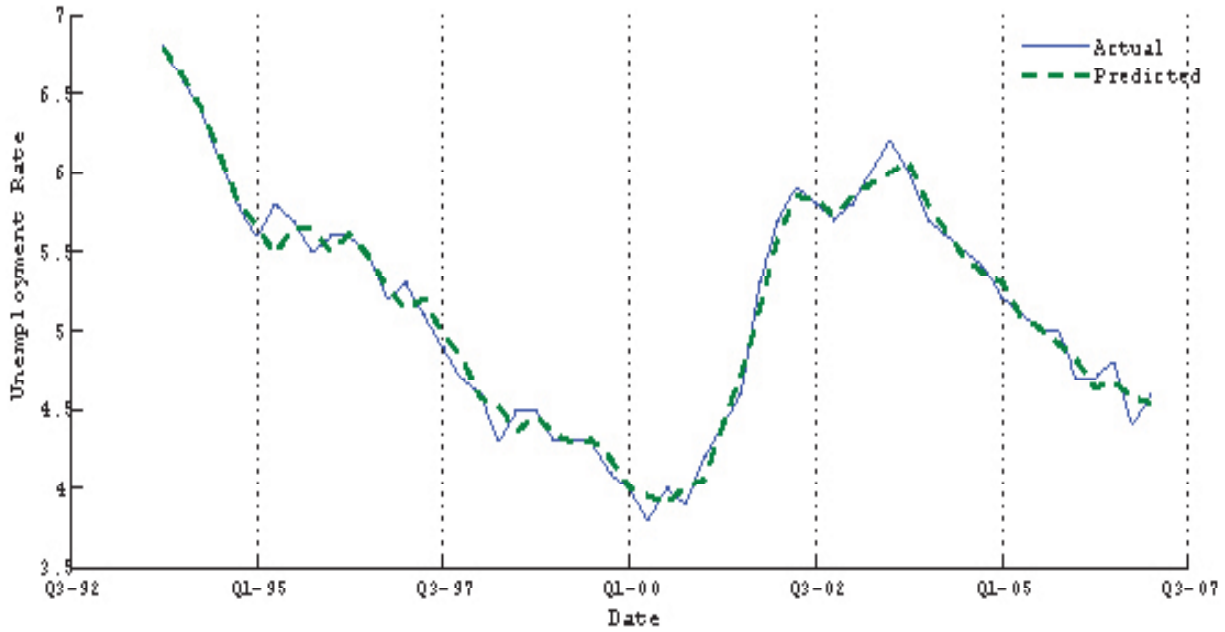
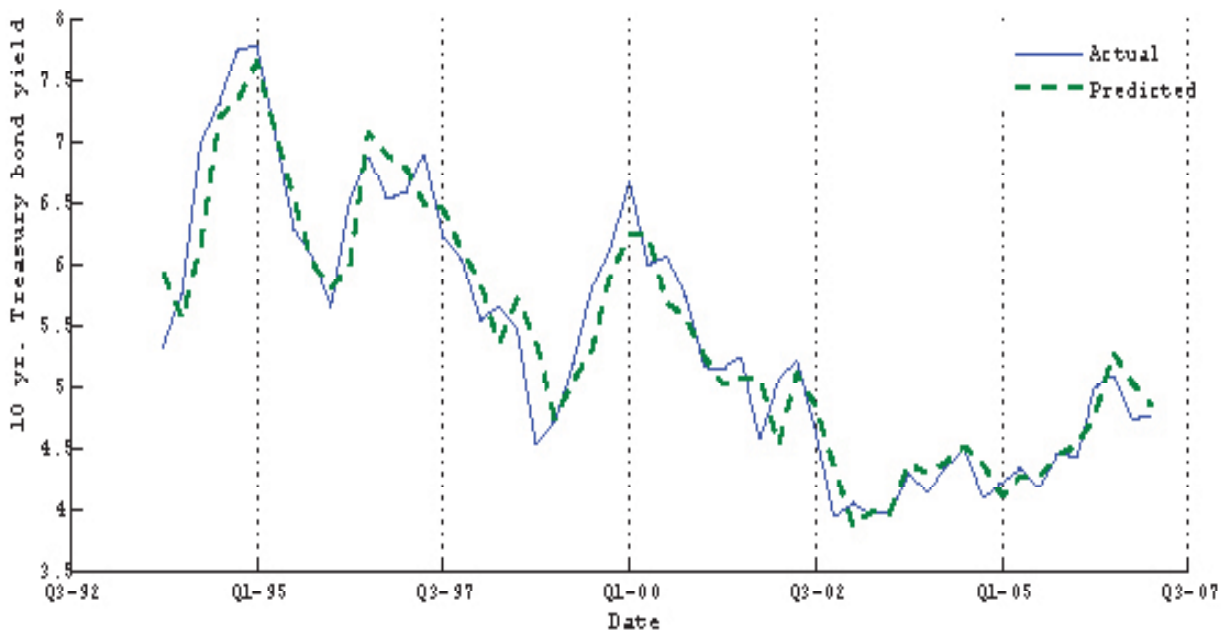


Figure 4. Actual and predicted 10 year treasury bond yields



State Forecast

Table 2. Annual forecast values for ND

Year	NFPI	NDUER
2007	1.55	2.93
2008	1.08	2.92
2009	1.08	3.12

Nonfarm Personal Income (NFPI) The distortions that can occur due to farm programs and price support mechanisms dictate the use of real per capita nonfarm personal income to measure growth in ND. Figure 5 (page 7) shows the BBER model changes direction consistently with the actual data values and that recent predicted values for growth have been extremely close to the actual values. The forecast for 2007 (Table 2) on average is for growth on the order of 1.5%, a good increase and one that, as will be seen later, places North Dakota in the middle of the region in terms of growth. However, the forecast for 2008 and 2009 represent a 30% decline from the 2007 level, and move North Dakota to lowest growth level in the region. An important upside factor to consider is that the substantial increase in western North Dakota incomes due to oil prices, as well as the increased pace of investment in alternative energy production, have not completely entered the data yet. It may take a few more quarters before the data can completely reflect the potentially significant change in economic structure due to these investments. This raises the potential for upward revisions in income forecasts in the future. This assumes that oil prices persist at or near their current levels and that government policies remain the same, neither of which is certain.

Unemployment Rate (NDUER) Figure 6 (page 7) shows the BBER model does an excellent job predicting unemployment rates in North Dakota. The forecast (Table 2) for annual unemployment in ND is for slightly higher than 2.9% in 2007 and 2008 with a slight increase to 3.12% in 2009. This is around 1.5% lower than the national unemployment rate. Certainly low numbers of unemployed is good, however there is an extent to which it represents a mixed blessing. Low unemployment could hamper efforts at attracting businesses to North Dakota due to a perceived lack of locally available labor at cost-effective prices. Such concerns discourage firms from moving into a region. This is not an argument to adopt a policy that increases unemployment, simply an observation that other statistics need to be made available to overcome this potentially negative number. As an example consider that the unemployment rate does not give us an indication of the under-employed, those working more than one job to make a sufficient income. In many situations these workers would prefer to work at one job that pays more and could be a significant source of labor for new employers in the region. Estimation of these numbers could counteract the low unemployment figures.

Figure 5. Actual and predicted growth rates for ND nonfarm personal income

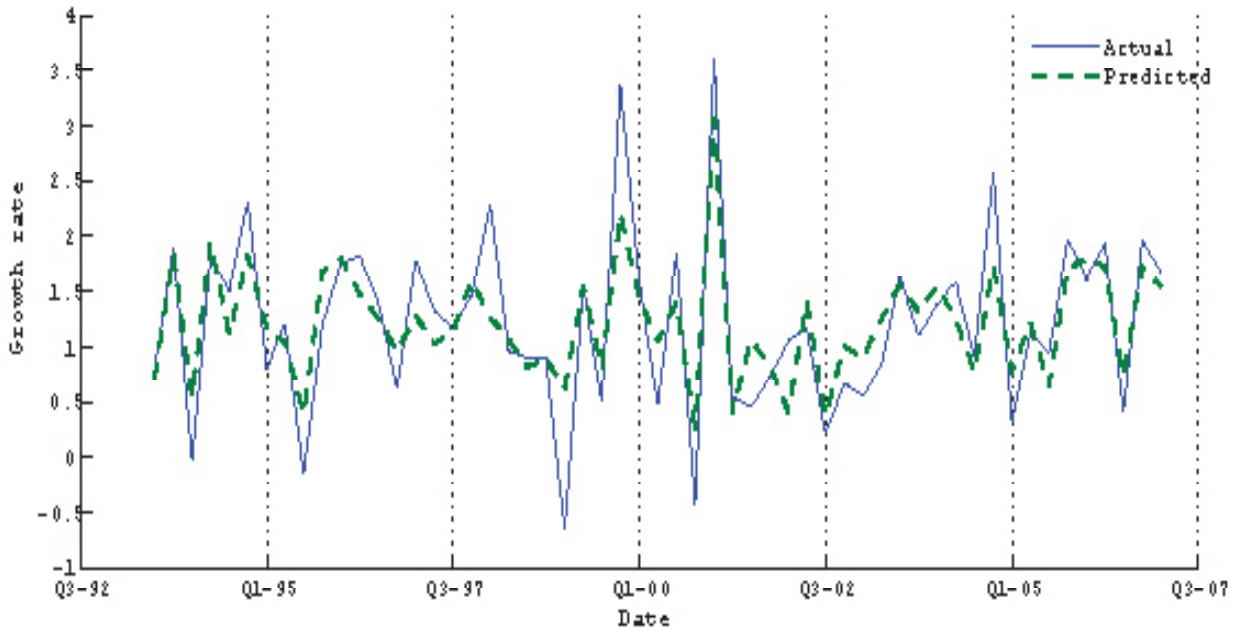
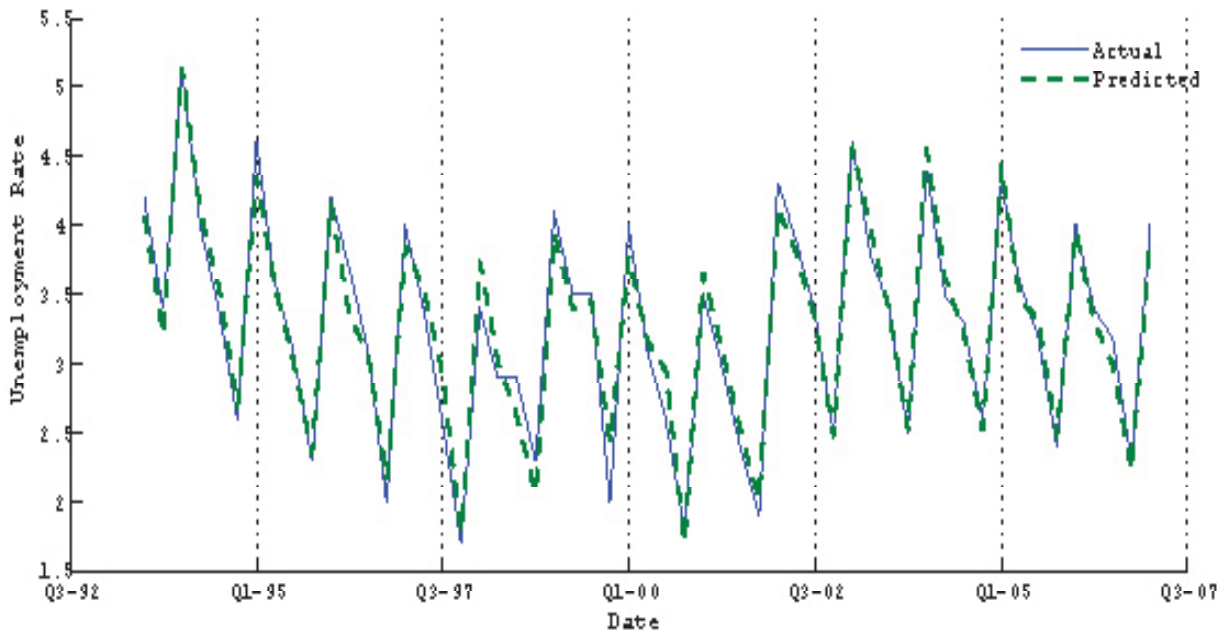


Figure 6. Actual and predicted unemployment rates for ND



Regional Income Forecast

Table 3. Annual forecast growth rates for NFPI in region

Year	MN	MT	ND	SD	WY
2007	1.15	1.48	1.55	1.63	2.22
2008	1.18	1.16	1.08	1.37	1.34
2009	1.33	1.31	1.08	1.35	1.51

Regional Outlook Table 3 provides the forecast growth in real per capita nonfarm personal income for states in the region. The strongest growth seems likely to come in Montana and South Dakota. As mentioned before, the 30% reduction in growth for North Dakota moves the state from the middle of the group as far as NFPI growth to last. This outcomes warrants scrutiny. It also prescribes some regional growth strategies for North Dakota:

- Compete, when at all possible, with the states exhibiting growth.
- Use other states' growth as an opportunity by seeking to supply their growth sectors or make them suppliers for new industries in North Dakota.

North Dakota cannot perfectly replicate the economy of other states due to different resource endowments and constraints. However, the state can seek to exploit differences and develop strategic advantages to capitalize on a strong regional economy. A failure to do this entails potentially serious consequences for North Dakota, such as continued out-migration of the working age population to states with higher income growth.

South Dakota South Dakota is forecast to be the second highest growing state in the region, behind only Wyoming. Figure 7 (page 9) shows the model predicting quite well the recent turns in the data and the level of growth for South Dakota.

Montana The Montana model gets better over time and looks to be fairly accurate by the end of the sample period, as evidenced by Figure 8 (page 9). The forecast places Montana in the middle of the pack in terms of regional growth over the next three years. As with North Dakota, there remain some questions about the extent to which energy price increases have fully integrated themselves into the data. Overall, the forecast for Montana displays solid growth over the next three years.

Figure 7. Actual and predicted growth rates for SD nonfarm personal income

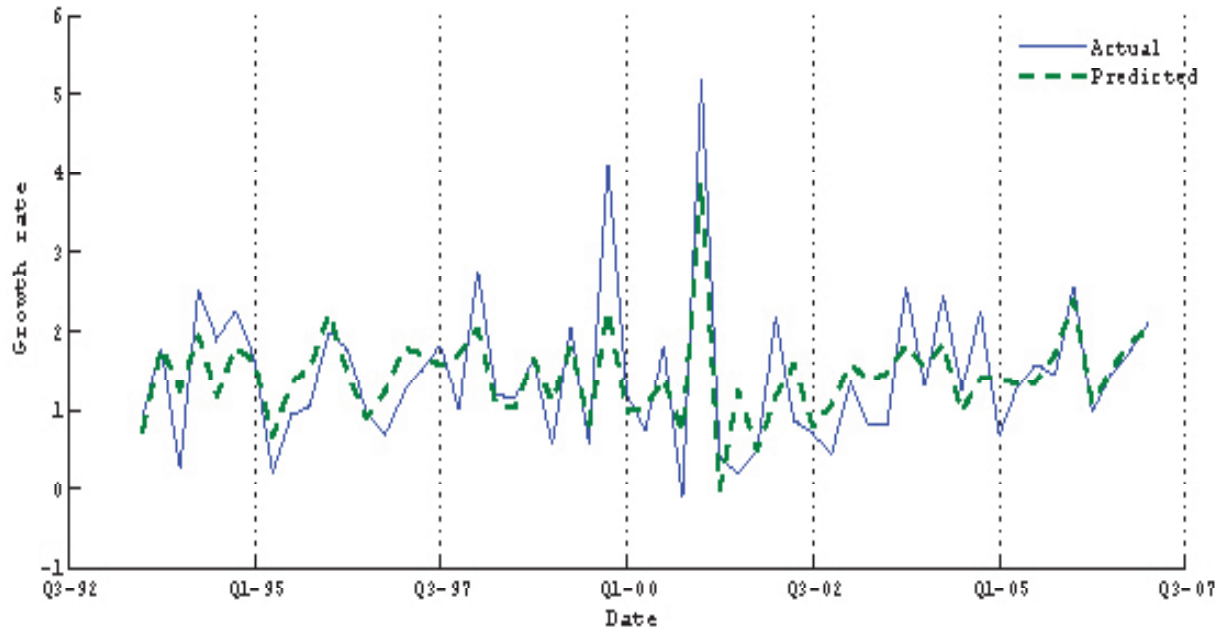
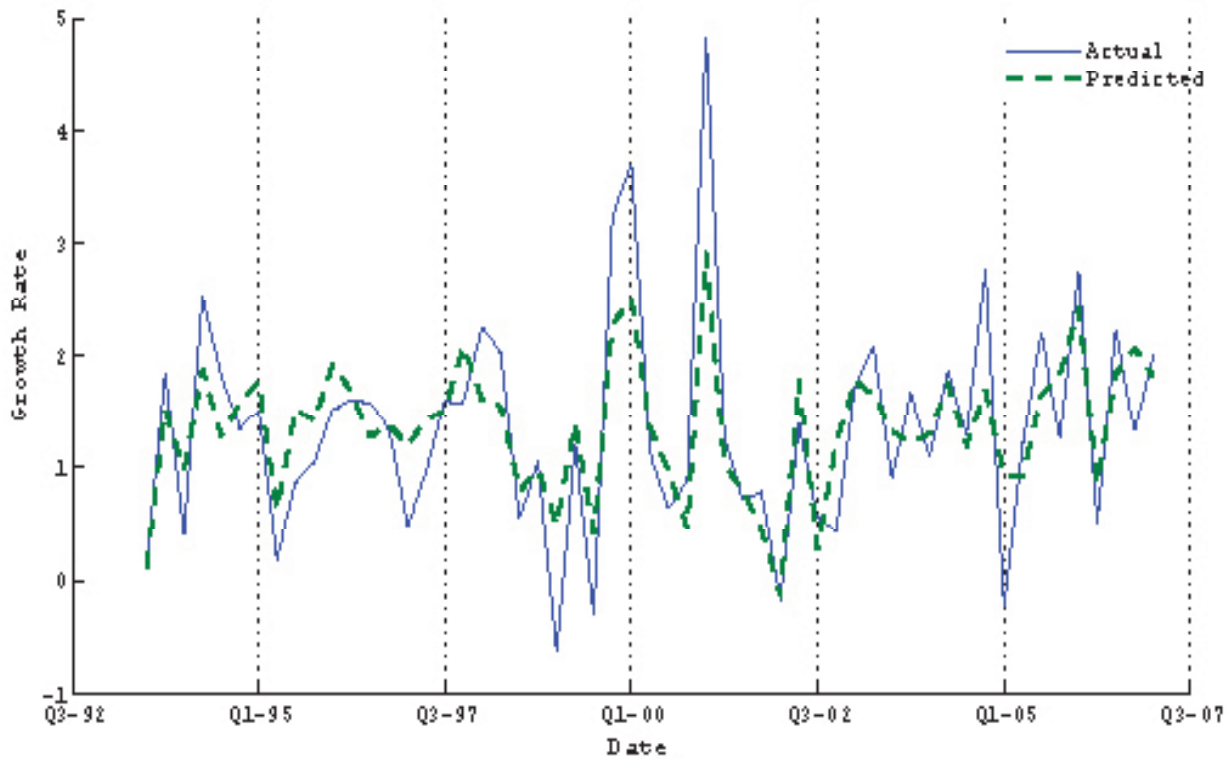


Figure 8. Actual and predicted growth rates for MT nonfarm personal income



Local Area Forecast - Income

Table 4. Growth rate in real per capita nonfarm personal income growth by metropolitan area*

Year	Fargo	Grand Forks
2006	2.90	1.18
2007	1.50	1.47
2008	3.94	1.57

***Data Note** Data for local area nonfarm personal income ends in 2005 and therefore requires the forecast of values for 2006. As a result the forecast continues to be for three years, but therefore only goes through 2008.

Fargo Table 4 indicates excellent growth for Fargo, consistently at or above the state growth rate. Figure 9 (page 11) displays the accuracy of the model with predicted values consistently close to the actual values. The consistency and the level of growth in Fargo make it the leading force in state growth. There are risks however. Fargo, like Grand Forks, Bismarck and Minot has benefitted in recent years from a rural depopulation that brought workers into their local labor force. How long this trend can continue is a major question, though it seems clear that reductions are already occurring. Additional issues include the city's ability to continue to expand and the stresses being placed on public service provision. The biggest threat may be from the responses to Fargo growth from large cities like Bismarck and Grand Forks, as well as smaller ones such as Jamestown. If these cities develop effective strategies, built around their own comparative advantages and with an eye to exploiting Fargo's growth, they could present significant competition to Fargo.

Grand Forks Figure 10 (page 11) shows the BBER model also does an excellent job predicting movements in per capita nonfarm income in Grand Forks. The forecast (Table 4) shows 2006 growth in Grand Forks at less than half the level in Fargo. Growth in 2007 is almost identical between the two cities and then Grand Forks again is forecast to be less than half the level of growth in 2008. Comparison to Fargo is natural though at the same time it should be realized that 2008 growth is 0.1% higher than in 2007 and that 2007 growth is almost identical to the state growth rate, and 2008 growth is forecast to be almost 50% higher than the state growth rate. Local policy remains a critical focus if the desire is to increase growth rates. City level strategic planning has been successful in the last few years with major events creating the "destination city" atmosphere touted by city officials. A more concerted effort to study Fargo's growth as an opportunity, rather than a threat, could also yield potential benefits. Grand Forks faces many of the same threats as Fargo, but possibly to a more significant degree. In particular, the available pools of workers in rural areas willing to relocate to Grand Forks so that the city can augment the labor force is unclear. In addition, the diversification of employment and income sources in Grand Forks has been on the decline since 1996 and 1997. While it has improved somewhat in recent years this factor requires additional attention from policy authorities. Grand Forks has recovered from the BRAC and 1997 flood, but the time has come for smart, planned growth rather than growth for the sake of growth.

Figure 9. Actual and predicted growth rates for Fargo nonfarm personal income

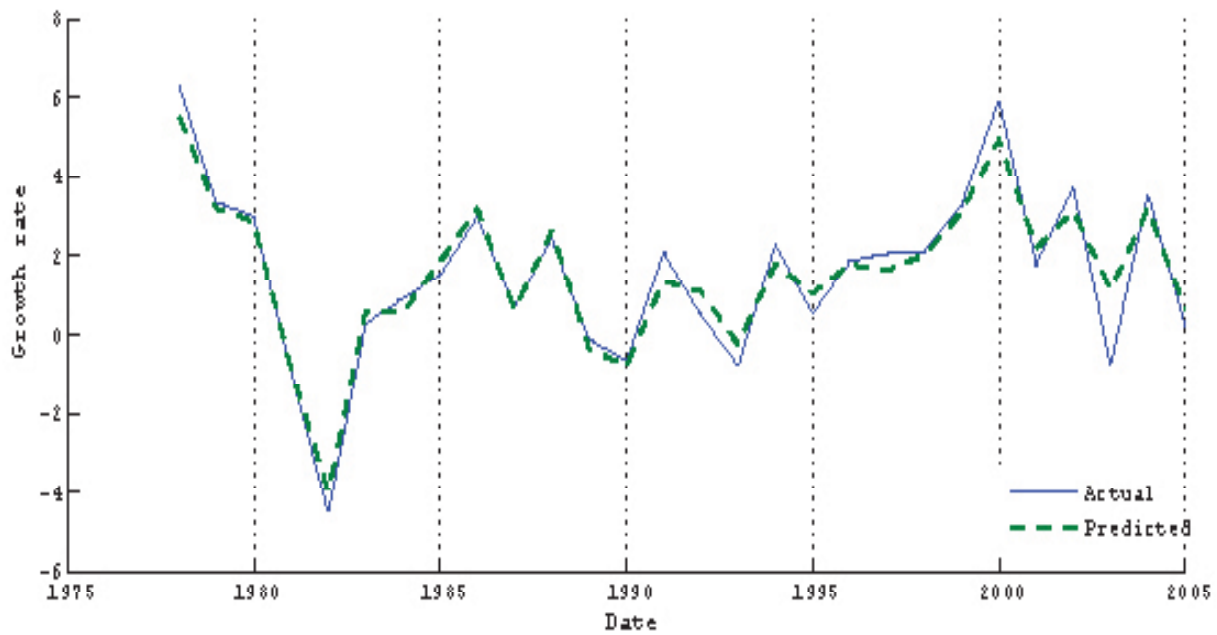
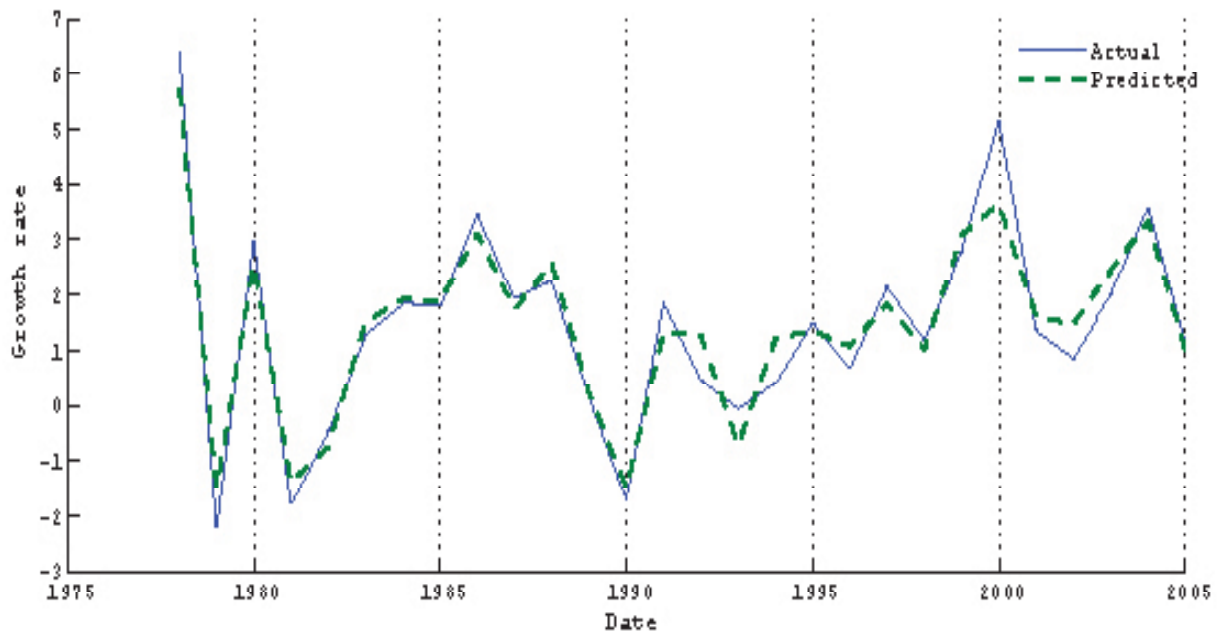


Figure 10. Actual and predicted growth rates for Grand Forks nonfarm personal income



Local Area Forecast - Unemployment

Table 5. Unemployment rate by metropolitan area

Year	Fargo	Grand Forks
2007	2.72	3.54
2008	2.72	3.56
2009	2.74	3.59

Fargo Table 5 indicates an incredibly low unemployment rate for Fargo, well below the national average, the state level, and the level found in Grand Forks. Figure 11 (page 13) displays the accuracy of the model over time and illustrates the adjustment the model undergoes as it learns from its past errors. Fargo's unemployment numbers are consistent with the growth rate forecast, but there are some risks. The complicated dynamic between economic growth and development is evident here, as low unemployment may persist if the trend of rural depopulation slows, however it could reduce the number of businesses locating in Fargo which may put pressure on job creation and eventually raise unemployment and cause a stagnation in income growth. Despite these concerns it is still evident that Fargo's economic engine is primed and that growth is surging ahead.

Grand Forks Figure 12 (page 13) shows the BBER model also does an excellent job predicting movements in per capita nonfarm income in Grand Forks. The forecast (Table 5) shows the annual unemployment rate fluctuating in a tight range between 3.54% and 3.59%. These rates are consistent with the 3.5% rate for 2006 reported by the Bureau of Labor Statistics. The Grand Forks unemployment rate is higher than the state average, but the spread between the two does narrow over the forecast horizon, and the Grand Forks rate is more than a point below the national forecast average. The comments made earlier still apply: at this time Grand Forks should consider careful growth, targeting industries or employers that represent a diversification of the overall employment picture to provide a more balanced employment portfolio. This would enhance the economic foundation for policy proposals and likely increase the chances and duration of economic growth and development.

Figure 11. Actual and predicted unemployment rate for Fargo nonfarm personal income

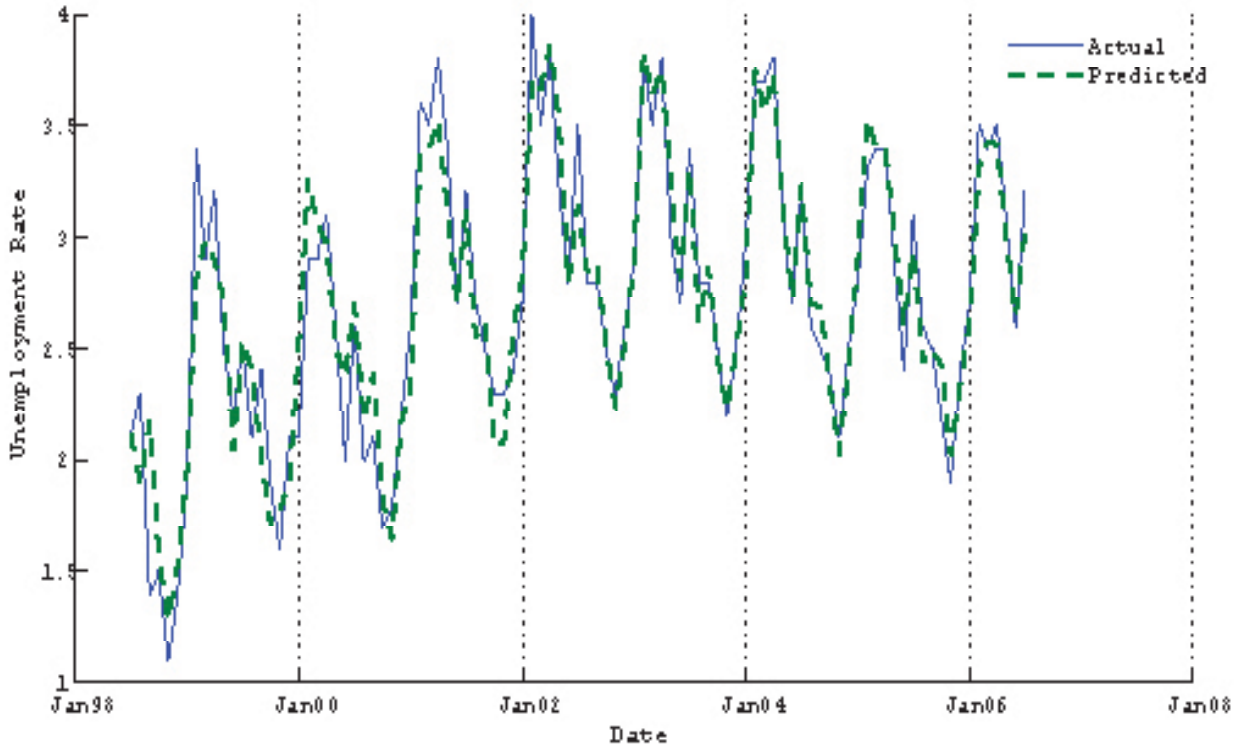
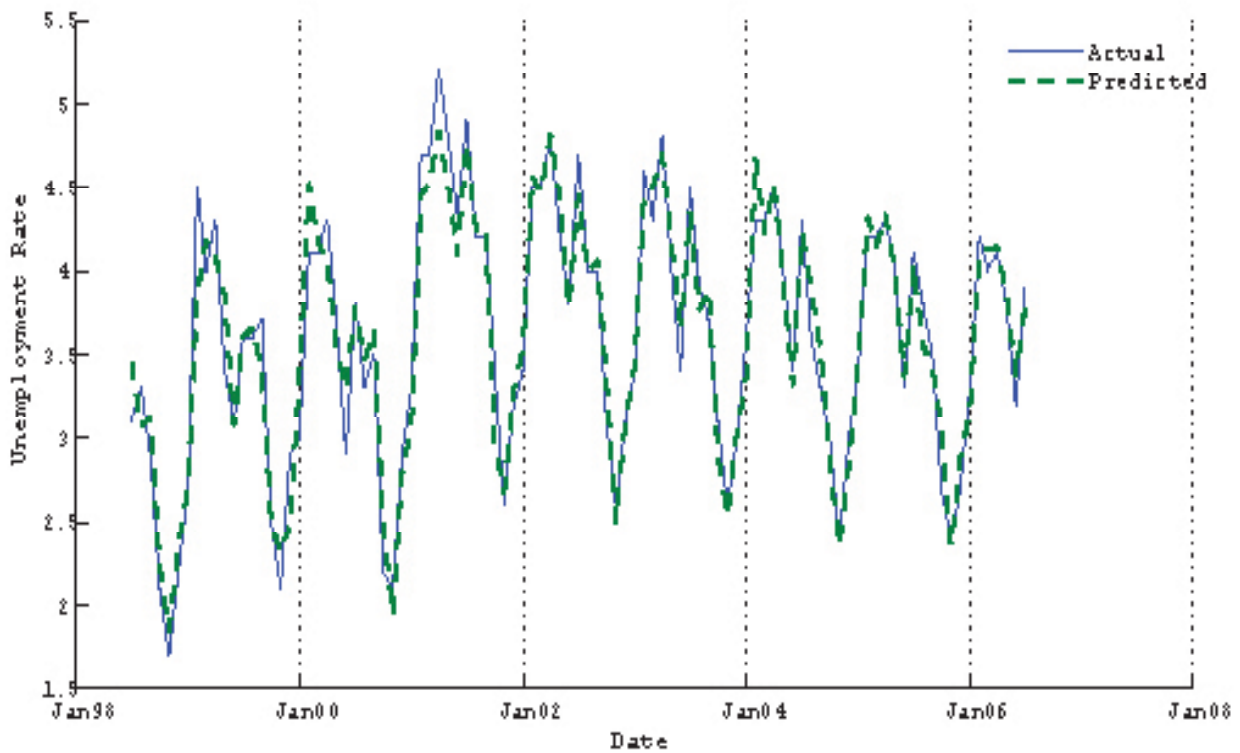


Figure 12. Actual and predicted unemployment rate for Grand Forks



Data Sources

The data employed in the forecasting model are publicly available from a variety of sources. The most comprehensive resource for the macroeconomic variables is the FRED database at the St. Louis Federal Reserve Bank web site (www.stlouisfed.org). Much of the macroeconomic data are available also from the Bureau of Economic Analysis (www.bea.gov) the Bureau of Labor Statistics (www.bls.gov), both of which are an excellent resource for state and local data.

Next Forecast Release

BBER updates its forecast models on a continuous basis as data become available. The next scheduled *Quarterly Forecast Report* will be in November.



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