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# **The Economic Base of North Dakota: A Measure of the State's Economy in 2012**

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This report is published as service to North Dakota. The data base reported here is updated annually as part of maintenance on the North Dakota Input-Output Model, and the work reported herein was not directly commissioned by any entity, organization, or agency.

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## Abstract

The growth and composition of the North Dakota economy can be measured using economic base analysis. Economic base is defined as the value of goods and services exported from an economic unit. Economic base also can be called a region's *export base* because industries (or 'basic' sectors) earn income from outside the area. North Dakota's economic base is comprised of those activities that produce a product or a service purchased by individuals, governments, and businesses located outside of the state.

Economic base estimates represent dollars coming into the economy in exchange for exported goods and services. By contrast, *economic impact* and *economic contribution* assessments for industries examine the net and gross in-state business volumes, respectively. **Comparisons of economic base estimates to economic contribution or economic impact assessments are not appropriate as those evaluations represent different economic measures.** Also, measuring the state's industries using *Gross State Product* does not provide comparable metrics to economic base, economic impact, or economic contribution assessments.

The numbers presented in this report are part of an ongoing data set used to measure export sales in North Dakota. That data base is often used to illustrate changes in the state's economy and differences in the relative sizes of industries in various regions of the state.

North Dakota's economy has traditionally been driven by natural resource-based activities, i.e., agriculture, coal, and petroleum. Growth in the state's basic sector industries has accelerated since 2000 with agriculture and energy providing the impetus for this expansion. Efforts to diversify the state's economy in the 1990s and early 2000s can be linked to the expansion of the state's economic base, as growth in previous periods was steady, but moderate. More recently, the development of shale oil in the Williston Basin has created the largest change in the state's economic base.

North Dakota's economic base has grown from \$8.3 billion in 1990 to \$42.3 billion in 2012 when measured in current (nominal dollars). In terms of constant dollars (removal of the effects of inflation), the state's economic base went from \$13.9 billion in 1990 to \$42.3 billion in 2012.

From 2011 to 2012, all economic base activities in the state grew in real terms except Federal payments. Agriculture grew by 13.7 percent from 2011 to 2012 (*please note that agricultural processing and farm input manufacturing are not included with the agriculture industry due to data limitations*). The petroleum sector grew by 100 percent from 2011 to 2012 (*gas and crude oil processing is included as data is available to estimate those activities separately from oil and gas production*). Manufacturing (*which includes agricultural processing and farm input manufacturing*) grew by 14.3 percent. Coal mining and conversion was nearly constant from 2011 to 2012, as growth was only 0.1 percent. Tourism grew in real terms by 3.3 percent from 2011 to 2012. Exported services, from 2011 to 2012, grew by 6.5 percent in real terms. Federal payments declined by 5.7 percent over the period. Overall, the state's exports from its basic sector industries increased by 25.2 percent in real terms from 2011 to 2012.

**Key Words:** North Dakota, economic base, export sales, basic-sector industries, sales to final demand, impact assessment, economic contribution

# **The Economic Base of North Dakota: A Measure of the State's Economy in 2012**

Randal C. Coon, Dean A. Bangsund, and Nancy M. Hodur\*

## **Introduction**

North Dakota's economy has changed considerably in recent years. Historically the state's economy has been dependent on agriculture and energy, but in the 1980s policy makers attempted to diversify the economy. Efforts were made to diversify the economy to better withstand the volatility present with industries that rely on commodity markets (e.g., agriculture, petroleum). Commodities can be influenced by weather, political disruptions, national policies, and cyclical price movements. Overall, these efforts were successful with many new rural developments including agricultural processing, manufacturing, and information-based technologies. Those additions to the economy resulted in moderate and sustainable growth for many years. However, since the mid-2000s North Dakota's economy has exhibited unprecedented growth. The state's economic growth has occurred during a period when the nation's economy has suffered through a long and deep recession, coupled with an extended and slow recovery. The impetus for this economic expansion has been energy and agriculture with the value of crude oil and crop production reaching record levels in 2012.

Quantifying the changes in the North Dakota economy can provide valuable information to government officials, business leaders, economic development professionals, and the general public. Numerous measures are available to describe an economy or an industry, including export sales, employment, personal income, taxable sales and purchases, gross state product, and population. The Department of Agribusiness and Applied Economics at North Dakota State University has used an economic base approach to estimate the state's economy since the late 1950s. This analysis provides a measure of the economy at the state and multi-county regional level. It also has provided the framework for additional analyses including economic impact analyses, economic contribution studies, and integrated socio-economic simulation models. In recent decades, many individual industries have requested research to determine their absolute and relative economic standing.

The purpose of this report is to provide an evaluation of the state's economic base or its export base. Data in this report show the amount of export activity associated with each of the state's basic economic sectors. The database covers five decades (1958-2012) and illustrates how the state's economy has grown and changed in composition during that period.

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## What is Economic Base?

Economic base is defined as the value of goods and services exported from an economic unit. Economic base also can be called a region's export base because industries (or 'basic' sectors) earn income from outside the area. North Dakota's economic base is comprised of those activities that produce a product or service purchased by individuals, governments, and businesses located outside of the state. Dollars coming into the respective basic sectors are also termed 'sales for final demand.'

Economic base data were collected in conjunction with the development of the North Dakota Input-Output Model. Research and development of the North Dakota Input-Output Model was initiated in the 1960s. The model was developed to analyze the inter-sector relationships within the North Dakota economy. Expenditures data for various economic sectors were collected and a table of technical input-output interdependence coefficients was created. These coefficients, commonly known as multipliers, measure the number of times an original dollar of basic economic activity 'turns over' in the economy. For a complete discussion of the North Dakota Input-Output Model, see Coon et al. (1985).

Since the inception of the North Dakota Input-Output Model and its supporting databases, economic base activity for North Dakota has included agriculture (livestock and crop production plus government payments for agricultural programs), mining (coal and petroleum), manufacturing, tourism, and federal government outlays in North Dakota, and more recently has included exported services. These activities are classified into industrial categories called economic sectors. The North Dakota Input-Output Model contains 17 sectors, with 11 basic and 6 non-basic sectors. Economic base theory suggests non-basic sectors of the economy essentially exist to serve and support the basic sectors.

### Description of Economic Base Sectors and Industries in North Dakota

North Dakota's export sales are initially measured using 11 economic sectors: *Agriculture, Livestock; Agriculture, Crops; Construction; Agricultural Processing and Miscellaneous Manufacturing; Retail Trade; Business and Personal Services; Households; Coal Mining; Coal Conversion; Petroleum and Natural Gas Exploration/Extraction; and Petroleum Refining.*

North Dakota's export sales also can be aligned into 7 industrial classifications. Data for the 11 economic sectors can be grouped into: *Agriculture* (livestock and crop sales, federal farm program payments), *Federal Activities* (intergovernmental transfers to households, federal construction, federal payrolls), *Tourism* (purchases in retail trade and service sectors of out-of-state visitors), *Coal* (mining and electricity production), *Petroleum* (oil and gas production, gas processing, crude oil refining), *Manufacturing* (farm equipment, construction equipment, energy equipment, industrial and consumer food-grade products, and renewable energy), and *Exported Services* (telemarketing, data processing, reservation centers, bank service centers, and software service centers).

**The measure of exports by economic sector or by industrial classification represent point estimates.** These point estimates are compiled from secondary data, and are not the result of an econometric model or statistical analysis. Due to the nature of the export base estimates representing point values that lack data variability, statistical testing to estimate

variance, standard deviation, statistic significance between industries, and confidence intervals is not appropriate or applicable (Doetskott 2014).

Data used to estimate the economic base, or sales for final demand, were obtained from a wide variety of sources. [For a detailed description of data sources and methodology, see Hertsgaard et al. (1977), Coon and Leistritz (2000), and Coon and Leistritz (2001)].

### *Agriculture, Livestock*

Gross receipts from the sales of livestock and livestock products (e.g., milk) produced in the state comprise this sector. All livestock and livestock products produced in North Dakota are assumed to be exported from the state. Processing of livestock products (i.e., miscellaneous livestock slaughtering and milk processing) are included in the agricultural processing and miscellaneous manufacturing sector. Due to the limited number of processing plants in the state, agricultural processing and miscellaneous manufacturing data were typically not published to avoid disclosing proprietary information. Because of limited agricultural processing data and the relatively small amount of total livestock products processed in the state, gross livestock receipts were not reduced to compensate for processing activities. Also, bison production and processing were not included in this sector due to the proprietary nature of the industry data.

### *Agriculture, Crops*

The *Crops* Sector is comprised of the gross receipts from the sale of crops grown in the state and includes federal government farm program payments. Crop insurance has become a popular risk management tool for North Dakota grain growers. The insurance generally guarantees the producer a per acre value of production. If weather or prices result in a lower value of production, crop insurance can compensate for the difference. Beginning with the 2012 economic base, net (indemnities less premiums) crop insurance payments to North Dakota producers were included in the crops sector. Government payments for the Conservation Reserve Program are not included in this sector, but were included in the *Household* Sector.

Crops produced in a specific year are assumed to be sold in that respective year. Crop sales are treated similar to livestock sales in that all products are assumed to be exported from the state. Some of the state's minor crops with limited acreage were not included because of data availability.

Some of the agricultural production in the state is processed in-state. Agriculture processing activities are accounted for in the *Agriculture Processing and Miscellaneous Manufacturing* Sector. Agricultural processing activities in the state include corn (ethanol and sweeteners), potatoes, sugarbeets, durum wheat, spring wheat, and sunflowers, in addition to other more minor crops. Data to measure the level of value-added processing the respective crops were not available. Gross crop receipts were not reduced to reflect crops processed in-state because of a lack of data regarding the value and destination of the processed goods. Also, crops from other states come into North Dakota for processing

including corn, durum wheat, sugar beets, and sunflowers. Sales of processed crop products to in-state market would not be considered economic base activity.

For purposes of compiling the economic base data set, it is difficult to determine how much of the state's crop production has been converted to end-use products in the state. For some industries, such as sugarbeets, it is understood that the crop is raised and processed in the region. North Dakota is surrounded by other agriculturally-oriented states that produce similar crops, which also come into the state for processing. Value of crop production was based on market-year average prices which may understate the total value of production because it cannot take into account forward contracting, hedging, and marketing plans.

### *Construction*

The economic base for the *Construction* Sector consists of federal government expenditures for construction projects. Historically, the largest federal construction expenditures have been for highway construction, but also have included various military projects (i.e., projects occurring at the two Air Force Bases and National Guard and Air National Guard facilities) and Environmental Protection Agency projects. One of the largest federal government construction projects in the state was the building of the Anti-ballistic Missile Site in the Langdon area. Other federal construction projects include flood mitigation and federal water resource projects (e.g., Garrison Dam, Baldhill Dam).

Local residential and commercial building construction is excluded, as is local and state road construction, as it is assumed those activities do not represent new dollars flowing into the state. Recent large-scale construction projects associated with expansions in the petroleum sector (Bangsund and Leistritz 2007, 2009, 2010, Bangsund and Hodur 2013) (e.g., new gas plants, pipelines, housing projects) and the renewable energy sector (e.g., ethanol plants, wind farms) (Coon et al. 2012) represent a mix of local and out-of-state investment dollars and are not included in the economic base.

### *Agricultural Processing and Miscellaneous Manufacturing*

Value of output from wholesale trade, agricultural processing, and miscellaneous manufacturing comprise the economic base for the *Agricultural Processing and Miscellaneous Manufacturing* Sector. Several large-scale manufacturing operations are located in the state and produce farm equipment, construction equipment, wind turbines, and industrial and consumer food-grade agricultural products. Production of renewable fuels from agricultural products also is included in this sector. Currently, plants in North Dakota have the capacity to produce over 300 million gallons of ethanol from corn annually (Coon et al. 2012).

Data were not available to determine the volume, value, or destination of both farm commodities and processed agricultural goods. For these reasons, to avoid the possibility of understating livestock and crop sales by North Dakota producers, the *Crops and Livestock* Sectors' gross sales were not reduced to reflect in-state processing.

Wind generated electricity is a relatively new industry in North Dakota. By 2012, 991 wind turbines were operating in the state with 1,672 MW generating capacity (Lein 2014) and produced over 5 billion kilowatt hours of electricity (Strombeck 2014). Wind turbines produce electricity that is exported from the state, so the industry was added to the economic base in 2012. The value of wind generated electricity exported from North Dakota was included in the *Agricultural Processing and Miscellaneous Manufacturing* sector because the industry more closely aligned with that sector than the *Coal Conversion* sector where coal-fired electricity is generated.

Electricity and synthetic natural gas produced from North Dakota's lignite coal was not included in the *Agricultural Processing and Miscellaneous Manufacturing* Sector, but rather is included in the *Coal Conversion* Sector. Likewise, North Dakota crude oil refined in the state is included in the *Petroleum Refining* Sector. Products and materials produced in North Dakota but sold to in-state markets also were not included.

Many activities comprise the *Agricultural Processing and Miscellaneous Manufacturing* Sector. **Limitations in the data and methodologies used to estimate export sales of manufactured products prevent disaggregation of various components of this sector such as farm equipment, construction equipment, wind turbines, and industrial and consumer food-grade agricultural products.**

#### *Retail Trade*

The economic base for the *Retail Trade* Sector consists of 75 percent of the estimated tourism expenditures in the state. (The other 25 percent is assigned to the *Business and Personal Services* Sector). Only expenditures by out-of-state visitors who have come to North Dakota for activities such as shopping, vacationing, hunting and fishing, casino visits, athletic events, concerts, and other attractions and events are considered tourism expenditures. Spending from North Dakota residents for travel and tourism activities within the state are not considered economic base activity, nor is other general retail trade associated with expenditures from in-state businesses or individuals.

#### *Business and Personal Services*

As previously stated, 25 percent of tourism expenditures were allocated to the *Business and Personal Services* Sector. *Business and Personal Services* include expenditures for food and lodging accommodations, guides/tour services, and transportation (e.g., airlines, taxi, car rentals). Exported services were added to this sector in 1998 due to growth in those activities in North Dakota. Exported services include telemarketing, data processing, reservation centers, bank service centers, and software service centers. Business and personal services for in-state residents is not considered economic base activity. Some firms in North Dakota (e.g., consulting firms, engineering firms) also may provide services to out of state entities, but data to quantify those exported services are not available.

### Households

The *Households* Sector represents economy-wide personal income. Federal government payrolls and transfer payments represent new dollars flowing to households in North Dakota. Total federal transfers and payments to North Dakota were calculated by subtracting all federal construction expenditures (as previously discussed) and agricultural program payments from estimates of total federal government outlays to the state. Conservation Reserve Program payments were added to this sector in 1987. Lease-bonus and royalty payments associated with mineral leases on private property were added to this sector in 1979. Common federal transfers include social security, medicare, medicaid, and other federally funded programs providing financial assistance to individuals. Income from investments and assets located out-of-state but owned by North Dakota residents are excluded in the economic base estimations.

### Coal Mining

Total receipts from sales of coal to non-local markets comprise the *Coal Mining* Sector's economic base. The value of coal mined in the state and used to generate electricity or synthetic natural gas at plants in North Dakota is captured in the *Coal Conversion* Sector. Coal sold to in-state markets for use in processing, manufacturing, or other energy-generating operations is not considered to be part of the economic base.

### Coal Conversion

The economic base for the *Coal Conversion* Sector consists of the production of electricity and synthetic natural gas from lignite coal mined in North Dakota. Only the sales of electricity and synthetic natural gas, generated in North Dakota from coal, to out-of-state markets is included. Over 28.2 billion kilowatt hours of coal-fired electricity were generated in North Dakota in 2012, an increase from the 27.1 billion generated in 2011 (Strombeck 2014).

The value of electricity produced from coal-fired power plants in North Dakota consumed in-state is excluded from the economic base figures. Not included in the economic base is hydro-electric power generated by Garrison Dam as it is federally-owned electricity.

### Petroleum and Natural Gas Exploration and Extraction

The value of crude oil production in North Dakota comprises the economic base for this sector. Since some crude oil produced in North Dakota is refined at the state's only refinery (located in Mandan), adjustments to the economic base in this sector are performed to avoid double counting of the oil that is processed in North Dakota. Lease-bonus and royalty payments are part of the *Petroleum* Sector but are included in the *Households* Sector. Lease-bonus and royalty payments are more likely to work their way through the economy (by the multiplier process) similar to receipts to the *Households* Sector rather than returns to the *Petroleum and Natural Gas Exploration and Extraction* Sector.

The value of natural gas processed in the state has historically been excluded from the economic base because the state has been a net importer of natural gas. Recent expansion of oil production in the Bakken/Three Forks Formations has resulted in much larger volumes of natural gas produced in North Dakota. In 2012, natural gas production reached 258,568 million cubic feet, and the state became a net exporter (U.S. Energy Information Administration 2012). Because North Dakota has become a net exporter of natural gas, the value of natural gas exported from the state was added to the state's 2012 economic base and was added to this sector.

Estimating the economic base for petroleum and natural gas exploration and extraction is relatively straightforward when output from the industry is stable. The economic base assessment will still be subject to commodity price fluctuations, much like what is observed with agricultural enterprises, but the majority of dollars flowing into North Dakota will be associated with oil and gas sales. However, depending upon global and domestic factors within the industry, measuring the industry using only sales of crude oil and natural gas may overstate the industry's economic base. Overstatement can occur when revenue from the sale of oil and gas produced in North Dakota is largely redirected by oil firms (many firms are operating in numerous states) to provide investment in oil developments and other uses outside of North Dakota. These dynamics are always changing as output of oil and gas from various formations goes through periods of high productivity early in the life of an oil field and then slowly declines over time as the oil field is depleted. Opportunities to develop new formations occur all over North America as technology, economics, and geologic information changes.

Just as the economic base for petroleum activities may be overstated when the industry is redirecting sales from North Dakota to other states, the opposite can occur when the industry is looking to develop an oil field in North Dakota. Understatement of the size of the petroleum sector using economic base estimates is likely occurring in North Dakota. The economic base values for the industry do not directly capture the investment dollars injected into the North Dakota economy related to infrastructure development (e.g., well drilling, gas plants, oil field gathering systems, pipeline enhancements, rail shipping facilities, office and oil-related commercial buildings, and housing). Value of oil production exported from the state determines the economic base, but not all of the dollars from those sales return to North Dakota. The issue is that investment in oil field development and related infrastructure, which represents new dollars flowing into the state, does not track with sales of crude oil and natural gas. **Data to estimate the investment dollar flows into the North Dakota economy for purposes of updating the economic base data set are not available.** Current oil and gas industry investment in oil field development and infrastructure is not included in the economic base figures. Instead, those dollars have been documented in other studies that use an economic contribution analysis to evaluate the petroleum sector (Bangsund and Leistritz 2007, 2009, 2010; Bangsund and Hodur 2013).

### *Petroleum Refining*

North Dakota currently has one operating petroleum refinery located in Mandan. The gross value of all of the refined products from the Mandan facility is included in the economic base figures. Barrels of crude oil shipped to the Mandan refinery were deducted from the state's total production to avoid double counting. The Mandan refinery expanded in the late 1970s, and recently completed another expansion project in 2012, as a result of the



state's increased oil production. The desire to expand oil refining capacity has been linked to the development of the Bakken/Three Forks formations, and to expectations for substantial increases in the long-term supply of crude oil in North Dakota. Planned expansion for this industry includes a 20,000 barrels per day refinery near Dickinson currently under construction. Four additional refineries with a 20,000 barrels per day capacity are in various stages of planning, including a refinery on the Fort Berthold Reservation owned by the Three Affiliated Tribes of the Fort Berthold Reservation; one near Watford City owned by Quantan Energy Inc.; one near Trenton owned by Dakota Oil Processing; and one in Devils Lake owned by Michigan based American Energy Holdings.

### **Adjustments to the Economic Base**

Estimates of North Dakota's economic base represent a comprehensive measure of the value of exports from the state's economy. In-state sales and intra-state transfers do not qualify as economic base activities, as discussed in the previous section. Economic base, by definition, excludes output from basic sector industries if that output is consumed within the state rather than being exported. Other exclusions may represent omissions of economic activity, which for various reasons, were not included in the economic base figures.

#### **Additions to the Economic Base**

The North Dakota Input-Output Model and the corresponding economic base data set have been updated over the years as the state's economy has diversified. Originally, the North Dakota Input-Output model consisted of 13 sectors, but was expanded to 17 sectors in the 1970s as energy development became a bigger factor in the state's economy. Added to the model were four sectors: Coal Mining; Coal Conversion; Petroleum and Natural Gas Exploration and Extraction; and Petroleum Refining (Hertsgaard et al. 1977). Export base data were collected to coincide with the expanded input-output model. In 1998, an exported services component was added to the Business and Personal Services sector as telemarketing, reservation centers, data processing, and financial centers were attracted to the state.

For the 2012 economic base data set, three additional changes have been incorporated. These changes include: inclusion of net crop insurance payments in the *Agricultural Crops* sector; adding wind generated electrical production to the *Agricultural Processing and Miscellaneous Manufacturing* sector; and reporting the value of natural gas exports in the *Petroleum and Natural Gas Exploration and Extraction* sector. All of these changes have helped to keep the economic base data set current, and to help it accurately quantify the state's export sales.

#### **Omissions and Exclusions**

Omissions of export activity result in the economic base for North Dakota being underestimated. Also, economic base estimates have the potential to generate a smaller economic profile for some industries than what might be generated with other economic analyses (e.g., economic contribution studies) due to the economic definitions of what is included in those assessments.

The following are examples of possible omissions from the current economic base figures, which could potentially increase the size of the state's economic base:

- investment income to households
- tuition paid by non-resident students at North Dakota universities and colleges
- private and non-federal research dollars from outside entities to in-state universities and colleges

Although these omitted items likely represent a very small number of dollars compared to the current economic base estimate, including such data would increase the accuracy of the economic base estimate for the state.

### **Data Base Validation**

North Dakota's economic base data have been calculated to correspond with the North Dakota Input-Output Model's sectors. These sectors were originally selected to represent the major economic delineations in the state and were defined using the Standard Industrial Classification Manual (SIC) (Office of Management and Budget 1972). Since the original development of the North Dakota Input-Output Model, SIC codes have been replaced with the North American Industry Classification System (NAICS) (U.S. Bureau of the Census 2002).

When the sales for final demand are applied to the North Dakota Input-Output Model, the product is a measure of the total amount of business activity for the state's economy (gross business volume). The model develops an estimate of total activity in the *Households* Sector which is, by definition, economy-wide personal income. The validity test for the model and the economic base data is to compare estimates of economy-wide personal income from the North Dakota Input-Output Model with published estimates of economy-wide personal income from the Bureau of Economic Analysis (2014). Differences between the estimates of personal income from the two sources suggest the economic base data set and North Dakota Input-Output Model are accurate in predicting economic activity and personal income in the state. Absolute average difference was 7.11 percent, mean difference was -4.70 percent, and Theil's  $U_1$  coefficient was 0.0409 for the 1958 to 2012 period (Coon et al. 2014).

Personal income comparisons used to validate the economic base and the North Dakota Input-Output Model indicate a slight understatement of the state's economy. As previously mentioned, some income cannot be measured due to lack of data and infrastructure development for the oil industry could exceed revenues. The validation of the economic base indicates there is no over estimation of the state's economy during this period of rapid economic growth. For a year-by-year comparison of personal income estimates from the Bureau of Economic Analysis and the North Dakota Input-Output Model see Appendix C.

## Evaluating Changes in North Dakota's Economic Base

The economic base, or sales for final demand, for North Dakota and the eight state planning regions has been compiled for selected years from 1958 to 2012 (Appendix A). All sales for final demand in Appendix A are presented in current year, or nominal dollars (i.e., in terms of the purchasing power of the dollar for the respective year). Economists typically show economic growth for a time series in terms of constant or base dollars. Using constant dollars removes the effects of economy-wide inflation and changes are termed “real” growth. Although the corresponding constant dollar sales for final demand were not presented in this report, the current dollar sales for final demand presented in Appendix A can be converted to constant dollar values using the Gross Domestic Product Implicit Price Deflators (Appendix D).

North Dakota's economic base has grown significantly during the period (1958-2012) the data base has been collected. Appendix D, Table 1 presents the annual total economic base for the state in terms of both nominal and constant dollars for the 1958 to 2012 period. Figure 1 presents the state's total economic base in terms of nominal dollars and Figure 2 presents the economic base in constant dollars. Growth in the North Dakota economic base represented in the two figures shows similar trends, but the constant dollar values have removed inflation over time. The state's economic base has grown since 1959 but not every year-to-year change was positive. A natural resource-based economy (agriculture and energy) has resulted in varying growth rates as a result of year-to-year variability in prices, production, or both. For example, the economic base grew by 44.2 percent from 1972 to 1973 in nominal terms as world crop prices increased as a result of wheat shortages (Figure 3). Crops sector sales for final demand nearly doubled in that one-year period. The change in constant dollars was 36.7 percent for the 1972-1973 change (Figure 4). Nominal sales for final demand for the crops sector did not reach those levels again until the 1980s. Another big increase in the economic base occurred from 1980 to 1981. This increase was two fold with very strong growth in the crops sector and the energy sector. Energy sectors responded to higher prices resulting from world situations causing oil shortages. In terms of nominal dollars, growth in North Dakota's economic base has been very strong since 2006 with double digit gains every year except from 2008-2009. A strong recession was occurring in the United States during that period.

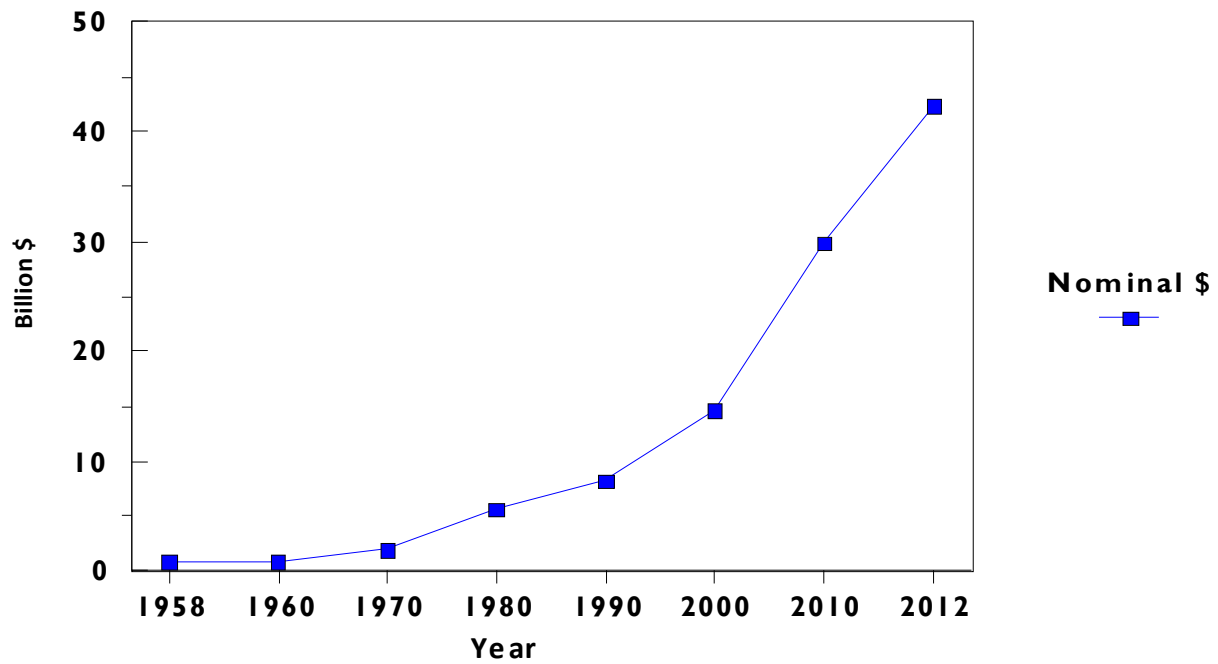


Figure 1. North Dakota's Economic Base in Nominal Dollars, 1958-2012

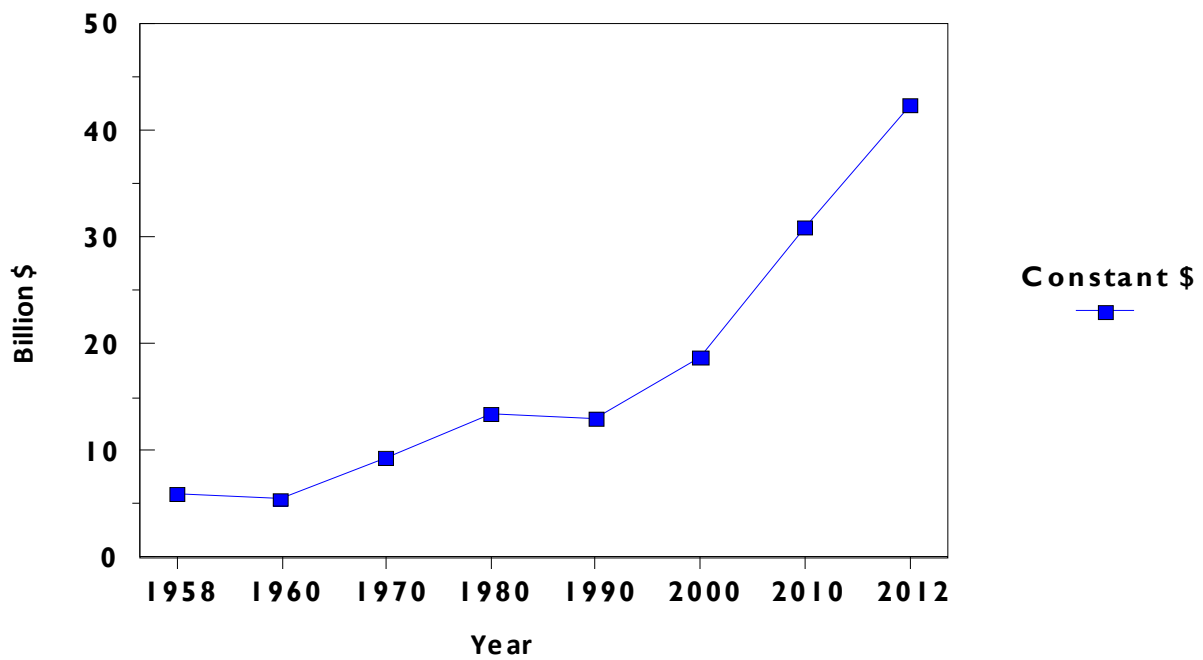


Figure 2. North Dakota's Economic Base in Constant 2012 Dollars, 1958-2012

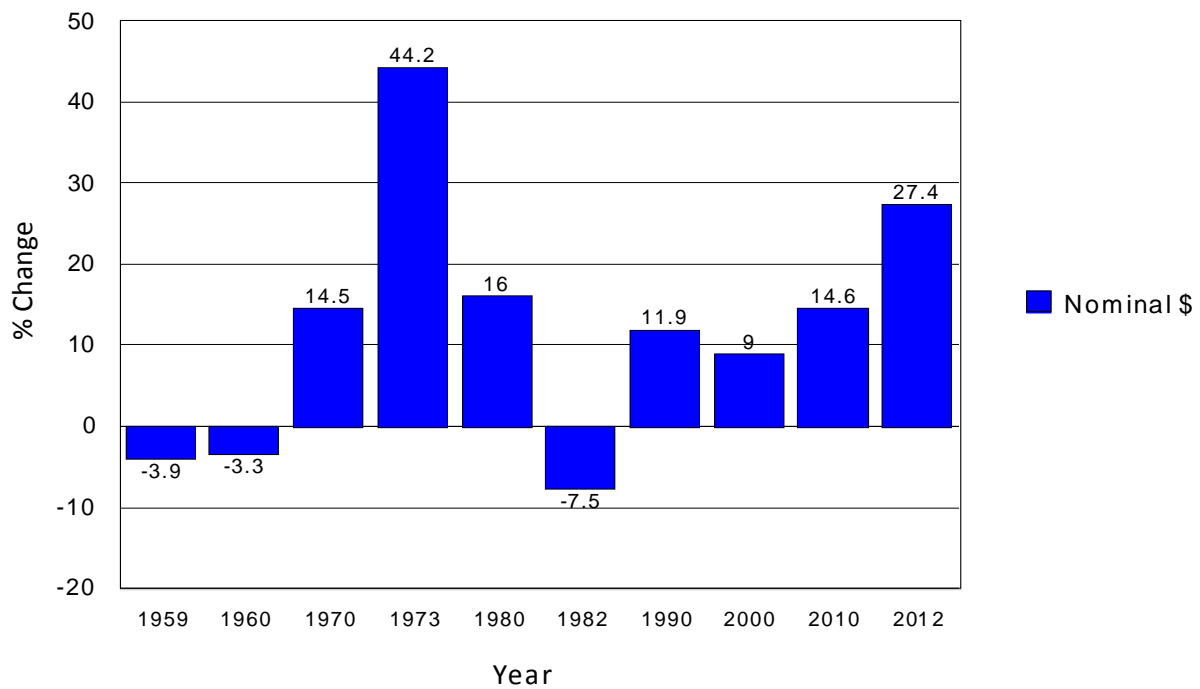


Figure 3. Change in North Dakota's Economic Base from the Previous Year, in Nominal Dollars, 1959-2012

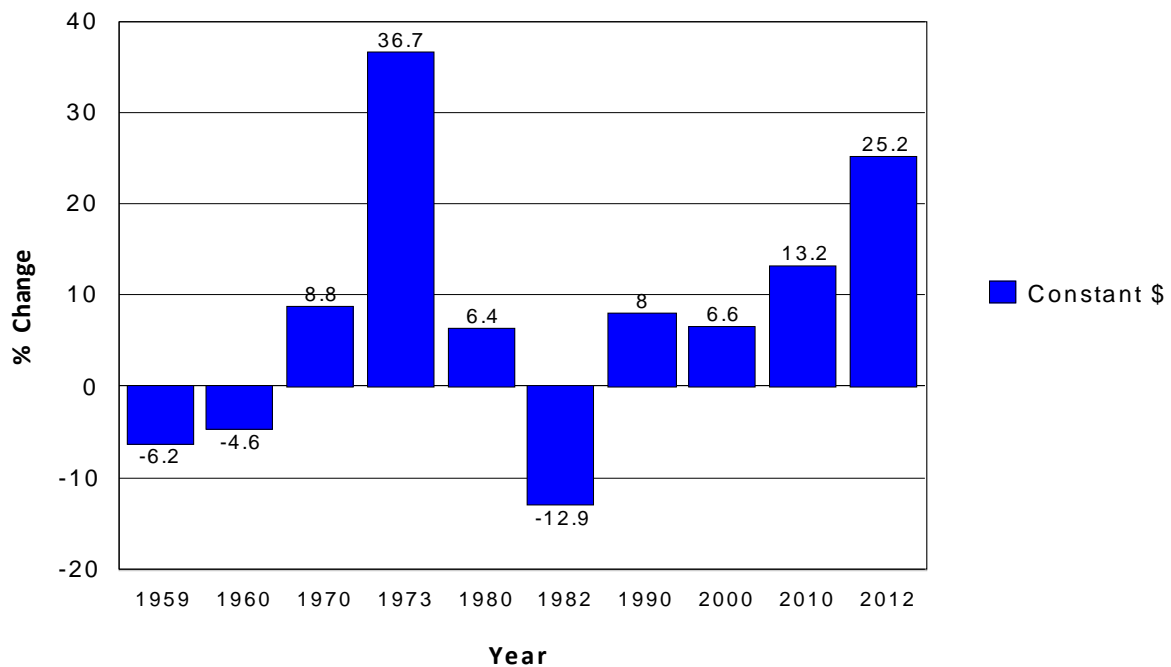


Figure 4. Change in North Dakota's Economic Base from the Previous Year, in Constant Dollars, 1959 - 2012

## Economic Sectors

North Dakota's recent economic base growth has been driven by natural resource-based industries, agriculture and energy. The *Agriculture, Crops* Sector grew by 18 percent from 2011 to 2012. During that one-year period, the three leading revenue crops (wheat, soybeans, and corn) all had increased production coupled with high commodity prices. Spring wheat production increased by nearly 53 percent from 2011 to 2012, with 256.5 million bushels harvested (NASS 2012; 2013). Soybean production increased by 40 percent to 160.8 million bushels, and corn by over 95 percent with total production of 422.1 million bushels in 2012 (NASS 2012; 2013). Marketing year average price per bushel for wheat, soybeans and corn in 2012 were \$8.19, \$14.00 and \$6.46, respectively.

Agriculture's contribution to the state's growing economic base has been significant, but in recent years has been overshadowed by oil development. Oil production in the state was 113.1 million barrels in 2010, 153.0 million in 2011, and increased to 243.8 million in 2012 (ND Department of Mineral Resources 2014). Relatively high crude oil prices coupled with the rapid development of the state's oil reserves has resulted in unprecedented growth in the petroleum sector. With the increase in oil production an increase in natural gas production has occurred, reaching a point where the state has become a net exporter of natural gas. As previously discussed, natural gas exports were added to the economic base of the *Petroleum and Natural Gas Exploration and Extraction* Sector in 2012. The graphic representation of the state's economic base in both nominal and constant dollars shows how the economy has grown, especially in recent years.

North Dakota's economic base has grown from \$8.3 billion in 1990 to \$42.3 billion in 2012 in nominal dollars (Table 1). Data presented in Table 1 represents the state's economic base delineated by the North Dakota Input-Output Model sectors as previously defined. In real terms (constant 2012 dollars), the economic base for North Dakota grew from \$13.0 billion in 1990 to \$42.3 billion in 2012. A sector's share of the total economic base for any respective year is the same for current or constant dollars. Agriculture's share of the economic base was 37.1 percent in 1990, but despite significant growth, had declined to 21.3 percent by 2012. Petroleum exploration/extraction and refining increased from 5.8 percent in 1990 to 27.8 percent in 2012. The *Households* Sector remained relatively stable for the period comprising 35.0 percent of the economic base in 1990, 27.9 percent in 2000, and 24.3 percent in 2012. These selected years provide snapshots of the state's economy at various points in time, while the complete database (Appendix A) can more appropriately show long-term trends. The *Agriculture and Petroleum and Natural Gas Exploration/Extraction and Refining* Sectors vary greatly from year-to-year because of changes in production and product prices.

While the North Dakota economy has grown significantly during the past two decades, it also has become more diversified (Figures 5, 6, and 7). Agriculture has grown in absolute terms, but its share of the state's economic base has declined from 37.1 percent in 1990, to 26.4 percent in 2000, to 21.3 percent by 2012.

**Table 1. North Dakota's Economic Base, by Economic Sector, Current and Constant 2012 Dollar Values, 1990, 2000, and 2012**

Economic Sector	1990		2000		2012	
	Economic Base	% of Total	Economic Base	% of Total	Economic Base	% of Total
	million \$	---%---	million \$	--%--	million \$	---%---
	-----current \$-----					
Agriculture	3,082.8	37.1	3,859.6	26.4	9,018.4	21.3
Construction	100.2	1.2	209.1	1.4	340.7	0.8
Ag Proc & Misc Mfg	698.6	8.4	1,447.6	9.9	2,811.8	6.6
Retail Trade	262.9	3.2	2,122.3	14.5	3,785.4	8.9
Bus & Pers Service	87.6	1.0	1,089.0	7.4	2,612.4	6.2
Households	2,906.5	35.0	4,073.8	27.9	10,271.7	24.3
Coal Mining and Conv.	685.8	8.3	1,062.4	7.3	1,734.9	4.1
Petroleum Exp/Extraction	354.5	4.3	576.7	3.9	11,138.4	26.3
Petroleum Refining	126.4	1.5	187.7	1.3	625.0	1.5
TOTAL	8,305.3	100.0	14,628.2	100.0	42,338.7	100.0
	-----constant 2012 \$-----					
Agriculture	4,842.6	37.1	4,948.8	26.4	9,018.4	21.3
Construction	157.4	1.2	268.1	1.4	340.7	0.8
Ag Proc & Misc Mfg	1,097.4	8.4	1,856.2	9.9	2,811.8	6.6
Retail Trade	413.0	3.2	2,721.3	14.5	3,785.4	8.9
Bus & Pers Service	137.6	1.0	1,396.3	7.4	2,612.4	6.2
Households	4,565.6	35.0	5,223.5	27.9	10,271.7	24.3
Coal Mining and Conv.	1,077.3	8.3	1,362.2	7.3	1,734.9	4.1
Petroleum Exp/Extraction	556.9	4.3	739.4	3.9	11,138.4	26.3
Petroleum Refining	198.5	1.5	240.7	1.3	625.0	1.5
TOTAL	13,046.3	100.0	18,756.5	100.0	42,338.7	100.0

Nominal growth in the *Agriculture* Sector was 133.7 percent from 2000-2012 (82.2 percent real growth) (Table 2). *Petroleum and Natural Gas Exploration/Extraction* Sector had the largest current dollar growth during the past 12 years, a 15 fold increase, or 12 fold real growth. With continued development of the Bakken/Three Forks Formations, it appears the *Petroleum Exploration and Extraction* Sector is poised for growth during the next decade, but growth may not equal the pace that has occurred in recent years. All sectors of the economy grew from 2000-2012 with the *Construction* Sector having the slowest growth rate at 62.9 percent nominal growth, or 27.1 percent real growth (Table 2). Overall, the North Dakota economy grew by 189.4 percent during the 2000-2012 period, which amounted to 125.7 percent in real growth.

# 1990

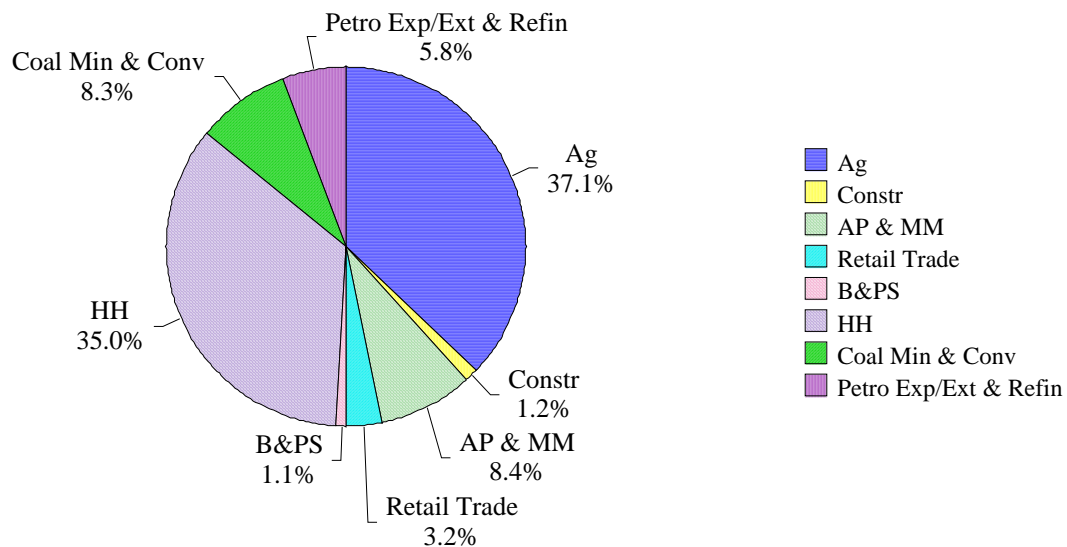


Figure 5. Composition of North Dakota's Economic Base, by Economic Sector, 1990.

# 2000

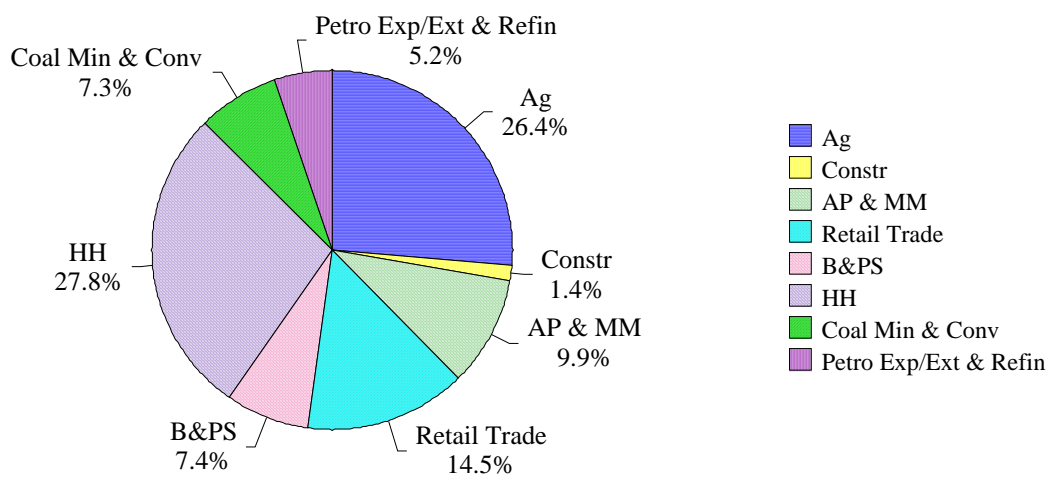


Figure 6. Composition of North Dakota's Economic Base, by Economic Sector, 2000.



# 2012

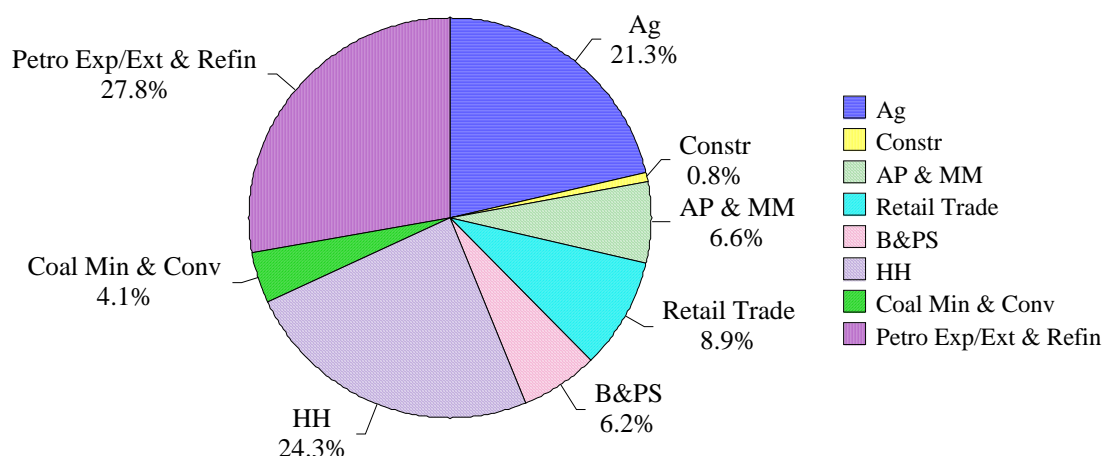


Figure 7. Composition of North Dakota's Economic Base, by Economic Sector, 2012.

**Table 2. Nominal (Current Dollars) and Real (Constant 2012 Dollars) Economic Base Growth for North Dakota, by Economic Sectors, 2000-2012**

Economic Sector	Nominal Economic Base Growth	Real Economic Base Growth
	2000-2012	2000-2012
	-----%-----	-----%-----
Agriculture	133.7	82.2
Construction	62.9	27.1
Ag Proc & Misc Mfg	94.2	51.5
Retail Trade	78.4	39.1
Bus & Pers Service	139.9	87.1
Households	152.1	96.6
Coal Mining and Conversion	63.3	27.4
Pet Exploration/Extraction	1,831.4	1,406.4
Petroleum Refining	<u>233.0</u>	<u>159.7</u>
TOTAL	189.4	125.7

## Industrial Classifications

When analyzing North Dakota's economic base, it is sometimes more meaningful to realign the values of the ND Input-Output Model's economic sectors into industrial categories. Industrial categories represent alignments based on the activities generating the sales to final demand rather than on the allocation of those values to input/output sectors.

A number of re-adjustments in the data are required to convert economic sector estimates into industrial categories. For example, petroleum lease/bonus payments would no longer be a part of the *Households* Sector but would instead be included with *Petroleum and Natural Gas Exploration/Extraction and Refining* Sector. *Retail Trade* and *Business and Personal Services* Sectors (estimated by dividing up tourism expenditures) were combined to produce the tourism industry. Exported services, which were included with the *Business and Personal Services* Sector, are presented as a separate industry. Federal payments would include federal expenditures for construction projects in the state, wages and salaries for federal workers, transfer payments, and Conservation Reserve Program payments. This alignment of the economic base provides perhaps the most useful groupings to aid decision makers and the general public in understanding of the composition of the state's economy.

The economic base for North Dakota and the eight state planning regions, delineated by industrial categories, provides a different view of the economy than input-output sectors (Appendix B, Tables 1-9). Composition of the state's economic base for 1990, 2000, and 2012 is presented graphically in Figures 8, 9, and 10, respectively. Agriculture's share of the economic base has declined from 37.1 percent in 1990 to 21.3 percent in 2012. Absolute size of the economic base for agriculture has actually grown from 1990 to 2012; however, agriculture's relative share of the state's exports has declined due to greater relative growth in other parts of the economy (Table 3).

Federal outlays as a percentage of the state's economic base have declined since 1990, but like agriculture, Federal outlays have grown in absolute terms during that period (Table 3). Petroleum Exploration/Extraction and Refining industries have shown significant growth in absolute terms and in their relative share of the state's economy. These industries have grown from 7.2 percent of the state's economic base in 1990 to 34.5 percent by 2012 (Table 3). Recent changes in the state's exports have resulted in the energy sectors having the largest share (38.6 percent) of the economic base in 2012, followed by agriculture at 21.3 percent and Federal outlays at 18.4 percent. Tourism had the fourth largest share of the economic base at 11.9 percent in 2012 (Table 3). These four industries make up 90.2 percent of the state's basic economic activity. Coal Mining and Coal Conversion activities had a slight decline in its relative share of the state economic base, but has continued to be a stable industry with consistent growth over the past 22 years.

**Table 3. North Dakota's Economic Base, by Industrial Category, Current and Constant Dollars, Selected Years 1990 - 2012**

	Selected Industries									
Year	Agricul- ture <sup>1</sup>	Manufac- turing <sup>1</sup>	Coal Mining & Conversion	Oil & NGas Exploration & Extraction	Petroleum Refining	Tourism	Exported Services	All Primary Industries	Federal Payments	Total
-----million current dollars-----										
1990	3,082.8	698.6	685.8	473.5	126.4	350.5	--	5,417.6	2,887.7	8,305.3
1995	3,450.0	1,014.4	815.4	402.4	103.5	810.1	--	6,595.8	3,678.1	10,273.9
2000	3,859.6	1,447.6	1,062.4	822.5	187.7	2,829.7	381.6	10,591.1	4,037.1	14,628.2
2005	4,789.0	1,895.4	1,490.6	1,768.5	336.0	3,603.5	924.7	14,807.7	5,598.3	20,406.0
2009	7,079.9	2,010.6	1,655.6	2,456.7	318.4	4,364.4	1,102.6	18,988.2	7,051.0	26,039.2
2010	7,763.9	2,229.8	1,653.0	4,213.6	395.5	4,618.4	1,216.7	22,090.6	7,746.8	29,837.4
2011	7,797.8	2,416.7	1,703.7	6,633.3	528.9	4,802.3	1,246.7	25,129.4	8,098.9	33,228.3
2012	9,018.4	2,811.8	1,734.9	13,982.1	625.0	5,047.2	1,350.6	34,570.0	7,768.7	42,338.7
-----million constant 2012 dollars-----										
1990	4,842.6	1,097.4	1,077.3	943.9	198.5	550.6	--	8,510.2	4,536.1	13,046.3
1995	4,804.4	1,412.6	1,135.5	560.4	144.1	1,128.1	--	9,185.1	5,122.0	14,307.1
2000	4,948.9	1,856.1	1,362.2	1,054.6	240.7	3,628.3	489.3	13,580.1	5,176.4	18,756.5
2005	5,466.3	2,163.5	1,701.4	2,018.6	383.5	4,113.1	1,055.5	16,901.9	6,390.0	23,291.9
2009	7,433.7	2,111.1	1,738.4	2,579.5	334.3	4,582.5	1,157.7	19,937.2	7,403.4	27,340.6
2010	8,054.7	2,313.3	1,714.9	4,371.9	410.3	4,791.4	1,262.3	22,918.0	8,036.9	30,954.9
2011	7,934.3	2,459.0	1,733.5	6,749.4	538.2	4,886.3	1,268.5	25,569.2	8,240.6	33,809.8
2012	9,018.4	2,811.8	1,734.9	13,982.1	625.0	5,047.2	1,350.6	34,570.0	7,768.7	42,338.7
Percent Change:										
2011-12	13.7	14.3	0.1	107.2	16.1	3.3	6.5	35.2	-5.7	25.2
2000-12	82.2	51.5	27.4	1,225.8	159.7	39.1	176.0	154.6	50.1	125.7
1990-12	86.2	156.2	61.0	1,779.8	214.9	816.7	--	306.2	71.3	224.5

<sup>1</sup> The processing of agricultural crops and livestock is contained in the Manufacturing sector, and can not be disaggregated due to limitations associated with data and methodologies.

Natural resource-based activities (agriculture, coal, and petroleum) comprised 52.6 percent of the state's economic base in 1990 and had increased that share to 59.9 percent in 2012. With the growth in natural resource-based industries, their increasing share of the state's economy indicates that efforts to diversify the state's economy may not have been as successful as previously thought. However, the rapid development of shale oil in the Williston Basin has out paced all other efforts to grow the state's economy. North Dakota's export base grew from \$8.3 billion in 1990 to \$42.3 billion in 2012 in current year dollars (\$13.0 billion to \$42.3 billion in real 2012 dollars). Recent growth in the petroleum industry has just begun to impact the economic base data set. Oil production is increasing rapidly and continued development of the Bakken/Three Forks Formations has lead to a significant increase in natural resource-based activities' share of the state's economic base.

Composition of the economic base by industrial sector for the eight state planning regions shows how the local economies differ. Most of the State Regions have one or two dominant industries, although, a few regions are more diversified. State Region 1, 2, and 8 have experienced strong economic growth since 2000, resulting primarily from oil and gas development. Between 2000 and 2012, the current dollar economic base of State Region 1 increased by 1,162.8 percent. State Region 2 grew by 493.9 percent, and State Region 8 had a 419.6 percent increase in current dollar terms (Table 4). Real economic growth (i.e., constant dollar) for State Region 1 (884.8 percent), State Region 2 (363.2 percent), and State Region 8 (305.2 percent) outpaced the other 5 regions. Development of State Region 2 oil reserves has been the force behind that State Region having the largest economic base in the state in 2012. Appendix B, Tables 2-9 present the economic base by industrial category for each of the respective State Regions in current and constant dollars. (Appendix A presented the same data for the State Regions, but by economic sector delineations defined by the North Dakota Input-Output Model.)

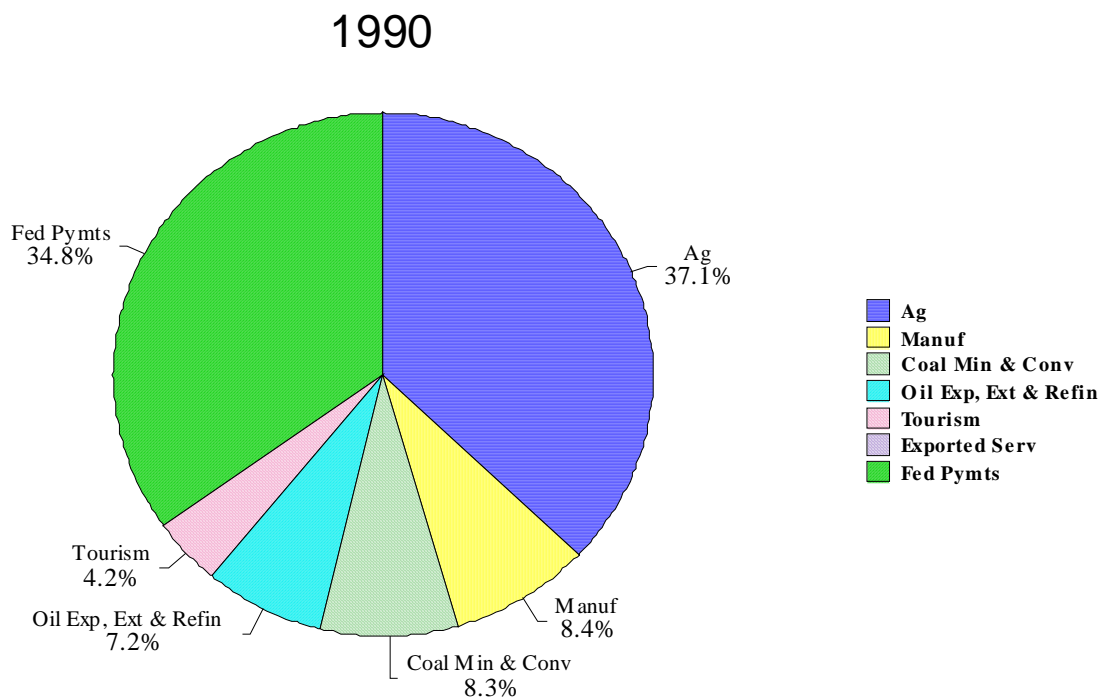


Figure 8. Composition of North Dakota's Economic Base, by Industrial Categories, 1990.

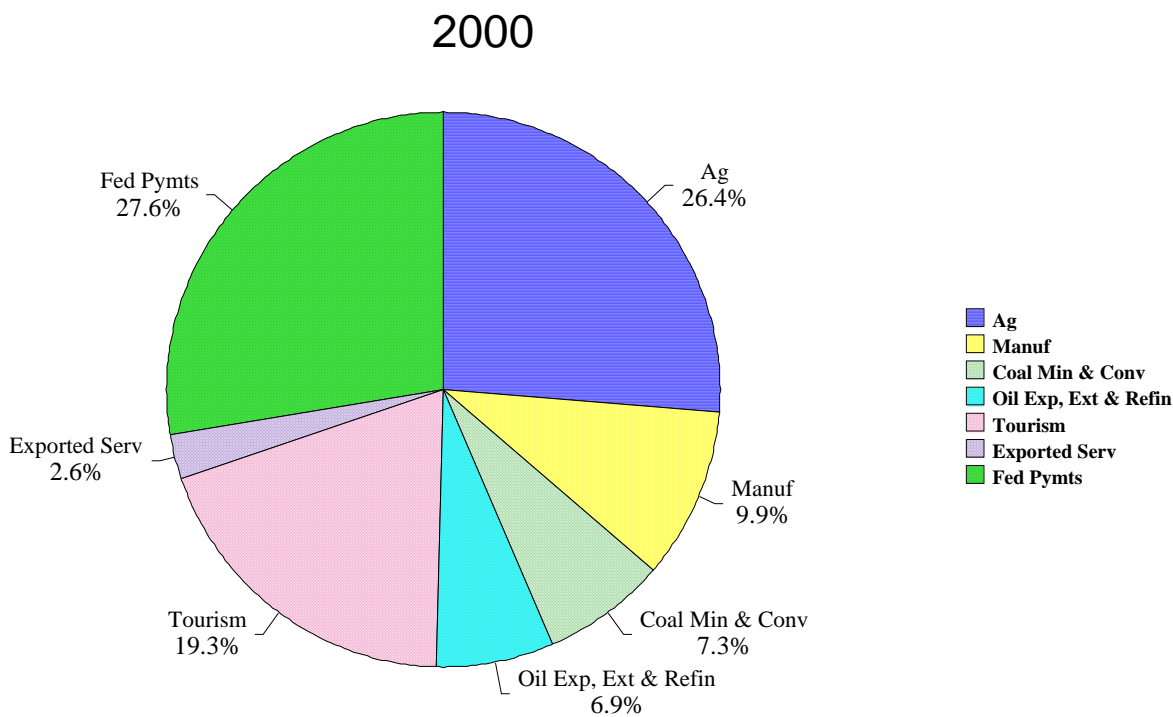


Figure 9. Composition of North Dakota's Economic Base, by Industrial Categories, 2000.

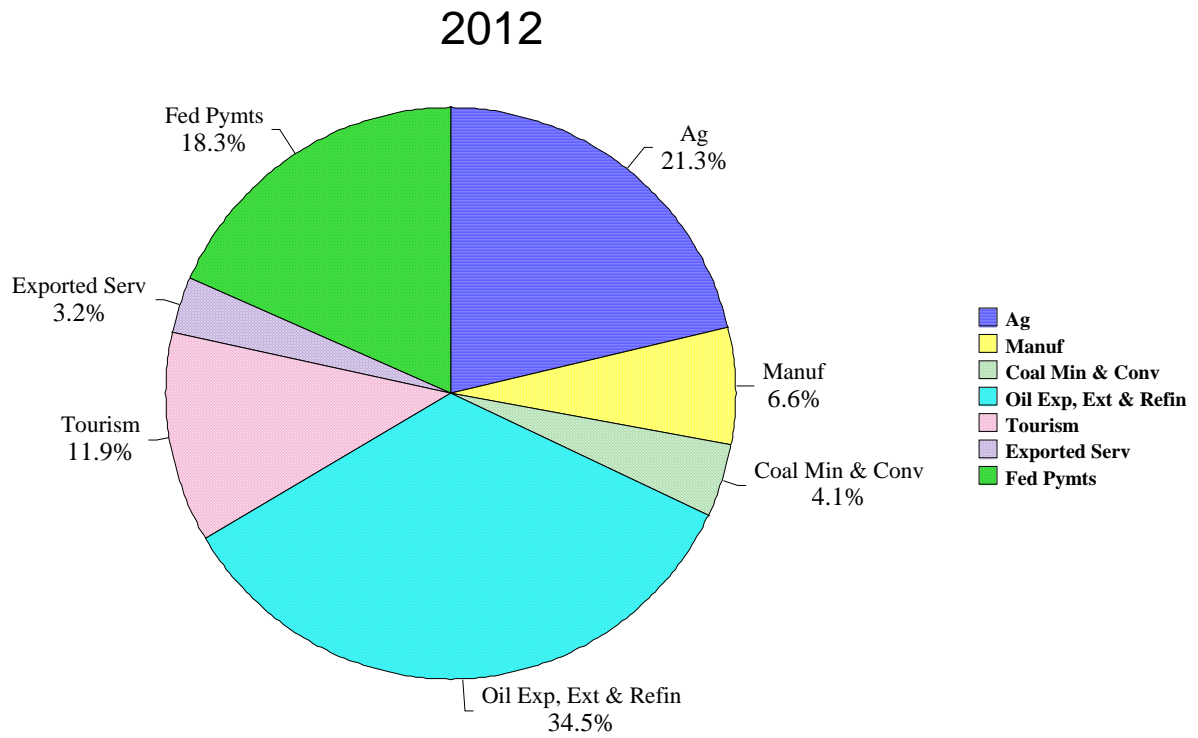


Figure 10. Composition of North Dakota's Economic Base, by Industrial Categories, 2012.

**Table 4. Economic Base for North Dakota's Eight State Planning Regions, Current and Constant Dollars, 1990, 2000, and 2012**

State Region	1990	2000	2012	2000-2012
-----million current \$ -----				-----%-----
SR1	705.3	914.8	11,551.7	1,162.8
SR2	1,278.7	2,083.1	12,371.9	493.9
SR3	662.6	1,007.9	2,334.8	131.6
SR4	1,186.8	2,083.2	3,811.5	83.0
SR5	1,327.9	2,588.2	5,399.9	108.6
SR6	1,004.0	1,618.1	3,659.2	126.1
SR7	2,174.4	3,762.2	8,461.4	124.9
SR8	691.9	1,325.1	6,885.2	419.6
-----million constant 2012 \$ -----				
SR1	1,107.9	1,173.0	11,551.7	884.8
SR2	2,008.6	2,671.0	12,371.9	363.2
SR3	1,040.9	1,292.3	2,334.8	80.7
SR4	1,864.3	2,671.1	3,811.5	42.7
SR5	2,085.9	3,318.6	5,399.9	62.7
SR6	1,577.1	2,074.7	3,659.2	76.4
SR7	3,415.6	4,824.0	8,461.4	75.4
SR8	1,086.9	1,699.1	6,885.2	305.2

All State Regions had real economic growth between 2000 and 2012. The two most eastern regions, State Region 4 and State Region 5 had the smallest growth in their economic base with 42.7 percent and 62.7 percent, respectively. Interestingly, these two state regions have more diversified economies with no dominating industry. State Region 7 also has a diversified economy and experienced real growth of 75.4 percent, despite the presence of energy sectors (petroleum refining and coal mining and conversion).

Presenting the 1990, 2000, 2010, and 2012 economic base for each of the state regions graphically highlights the economic forces that drive each respective area's economy and shows the relative growth over time. The economy of State Region 1 was dominated by the oil industry in 2012 (Figure 11). All other sectors of that Region's economy account for only 8.7 percent of the economic base. This is the most dominant economic base industrial category for any State Region in North Dakota. Time series data (see Appendix A, Table 2 or Appendix B, Table 2) show that the growth in oil exploration and extraction began increasing rapidly in the mid 2000s, but the growth from 2010 to 2012 has been unprecedented. In 2012, State Region 1 had the second largest economic base (\$11.6 billion) of the eight state regions, second only to oil producing neighbor SR2 (\$12.4 billion). The oil sector economic base in State Region 1 doubled from 2009 to 2010, doubled again from

2010 to 2011, and nearly doubled again from 2011 to 2012. McKenzie County, the second leading oil producing county in the state, is located in State Region 1. Oil production in State Region 1 increased from 29.3 million barrels in 2010 to 106.5 million in 2012 (Department of Mineral Resources 2014). That statistic alone helps illustrate the difficulties that part of the state is having coping with the rapid expansion of the oil and gas industry. In 2012, the economic base for State Region 2 followed a pattern similar to State Region 1. The economic base for State Region 2 is also dominated by the oil industry, with 67.7 percent of the economic base (Figure 12). Minot, which serves as a wholesale/retail trade center and also is home to a U.S. Air Force base, is in State Region 2. Federal expenditures in this region are the second largest economic base activity (11.9 percent), due in large part to the Minot Air Force Base. Oil sector development has grown rapidly in this region, but not nearly as rapidly as in State Region 1. Oil production in State Region 2 increased from 56.2 million barrels in 2011 to 76.5 million in 2012, and is home to the states' leading oil producing county (Mountrail) (Department of Mineral Resources 2014). In 2012, State Region 2 had a total economic base of \$12.4 billion, the largest of any of the 8 state regions.

State Region 3 has a diversified economy with agriculture (41.0 percent) and federal activities (34.1 percent) having the largest shares of the economic base in 2012 (Figure 13). No energy development was present in this region, so the growth of the economic base has been modest but steady. State Region 4 also has a diversified economy with federal expenditures (39.9 percent) constituting the largest share in 2012 (Figure 14). This region is home to the Grand Forks Air Force Base, which explains why the federal activities sector is the largest in the regional economy. Agriculture is the second largest contributor to the economic base with 27.4 percent of the total in State Region 4. Economic base growth in State Region 4 has followed a similar trend to other non-energy producing areas, with moderate and steady growth. The economic base of State Region 5 in 2012 has 5 sectors contributing, lead by agriculture with 32.9 percent of the total (Figure 15). All 5 economic base categories make up a significant portion of the region's economy, with exported services being the smallest industry (13.0 percent). The exported services industry (telemarketing, data processing, reservation centers) is a rather new addition to the state's economy and has grown significantly since being added to the economic base data set in 2000. Again, growth in State Region 5 has followed the trend of the non-energy areas with moderate and steady growth.

Agriculture was the largest economic base sector in State Region 6 (56.6 percent) in 2012. Tourism (19.7 percent) and Federal activities (19.2 percent) were the second and third largest economic base activities in this region (Figure 16). State Region 6 does not have oil and coal reserves, but does produce wind energy. Economic base growth in this region has followed the pattern similar to that of State Regions 3, 4, and 5 with steady moderate growth.

Energy makes a substantial contribution to in the economic base of State Region 7 and State Region 8. In 2012, energy sectors made up 50.0 percent of the economic base of State Region 7, with coal mining and conversion accounting for 20.5 percent and petroleum refining 29.5 percent of that total (Figure 17). The wholesale/retail trade center of



Bismarck/Mandan is located in this state region. Federal activities (17.3 percent) and agriculture (14.7 percent) were the third and fourth largest economic base activities. State Region 7 had a total economic base of \$8.5 billion in 2012, third largest among all state regions. State Region 8 also is an oil-producing area. In 2012, the oil industry comprised 77.3 percent of the region's economic base (Figure 18). Agriculture followed with 9.9 percent of the economic base. Growth in the oil industry in State Region 8 has been strong since 2000, but not at the levels of State Regions 1 and 2. Continued oil field development could lead to robust growth in the economic base of this region in the future. State Region 8 has an economic base that has grown from \$1.7 billion in 2000 to \$6.7 billion in 2012.

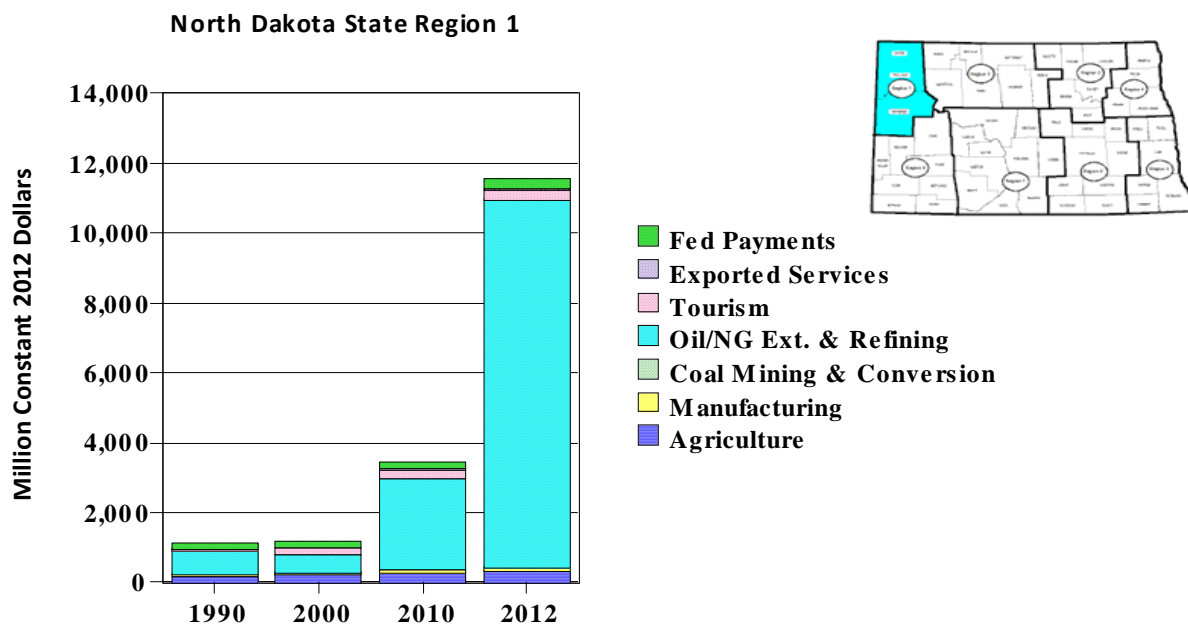


Figure 11. Composition of North Dakota State Region 1 Economic Base, by Industrial Categories, Selected Years 1990 - 2012

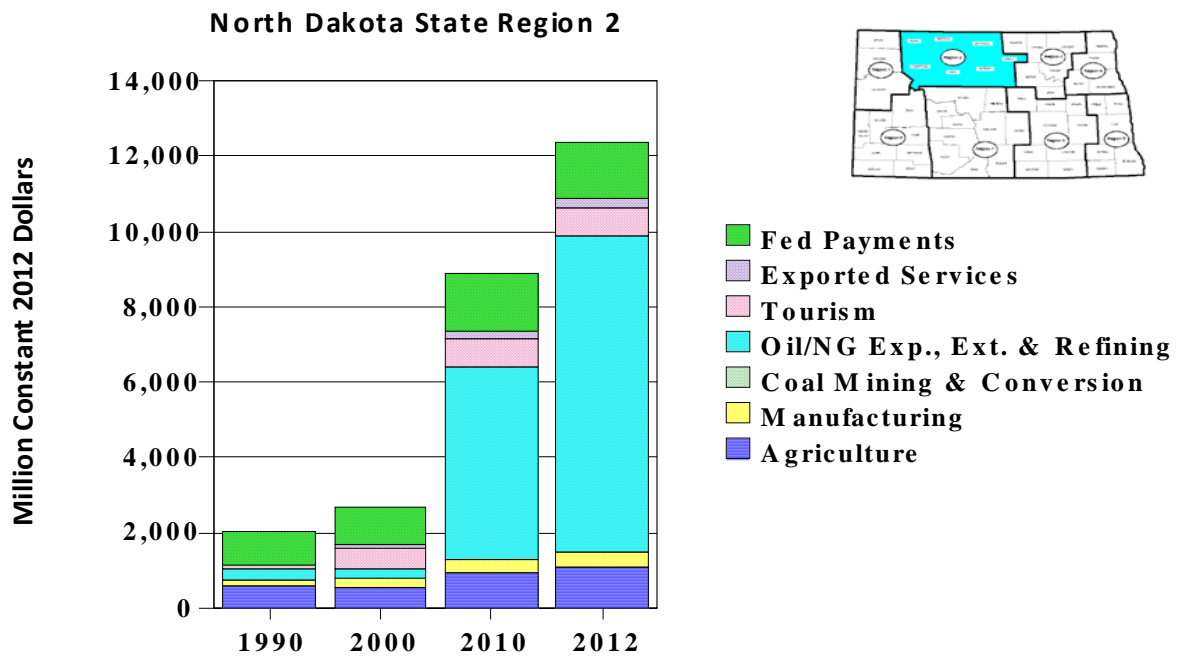


Figure 12. Composition of North Dakota State Region 2 Economic Base, by Industrial Categories, Selected years 1990 - 2012

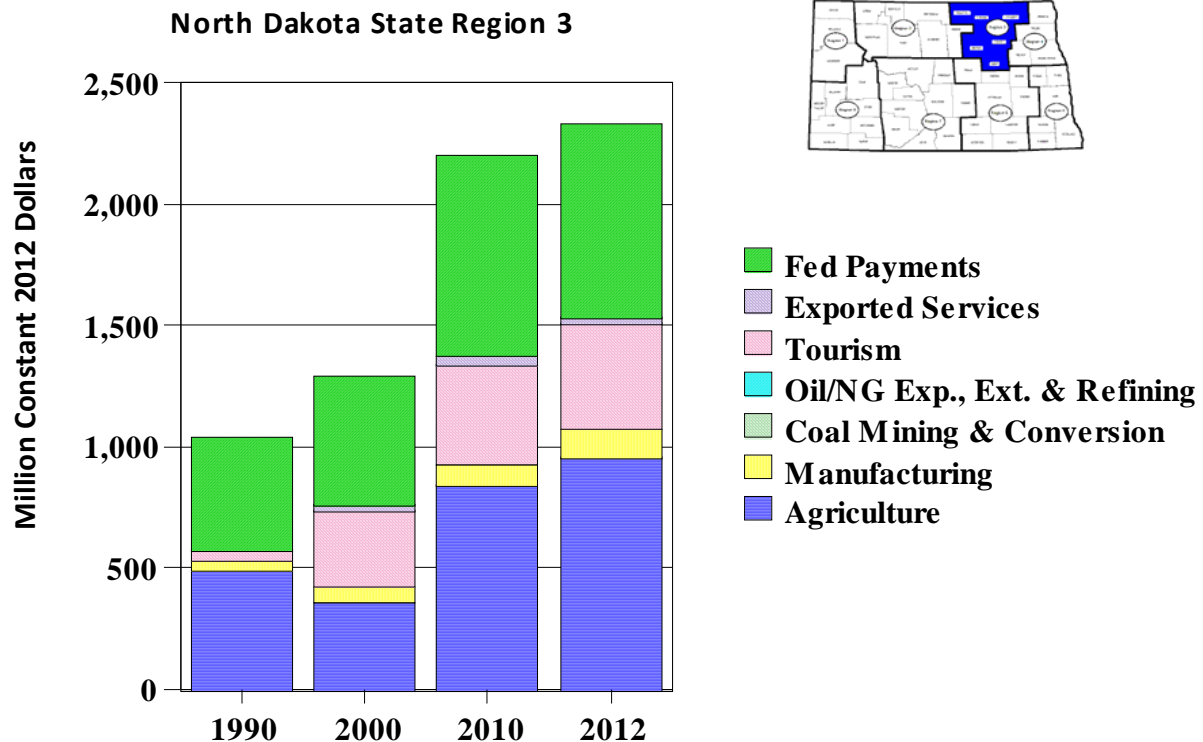


Figure 13. Composition of North Dakota State Region 3 Economic Base, by Industrial Categories, Selected Years 1990 - 2012

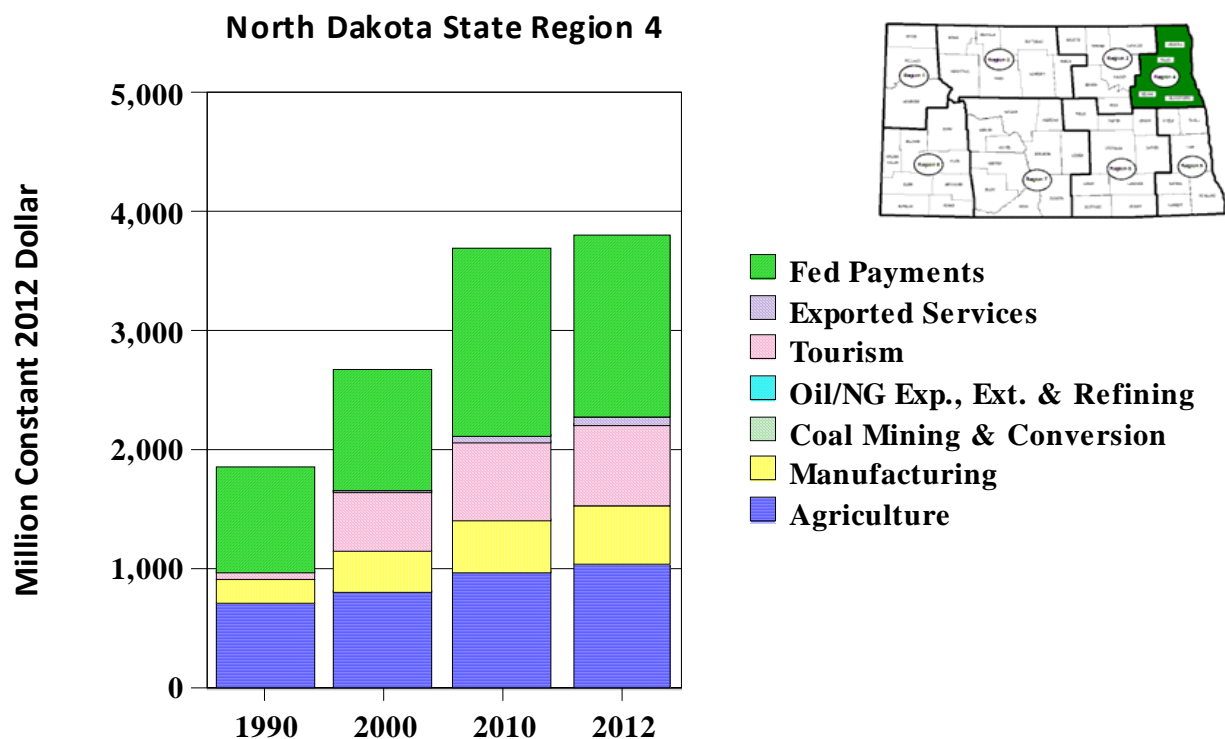


Figure 14. Composition of North Dakota State Region 4 Economic Base, by Industrial Categories, Selected Years 1990 - 2012

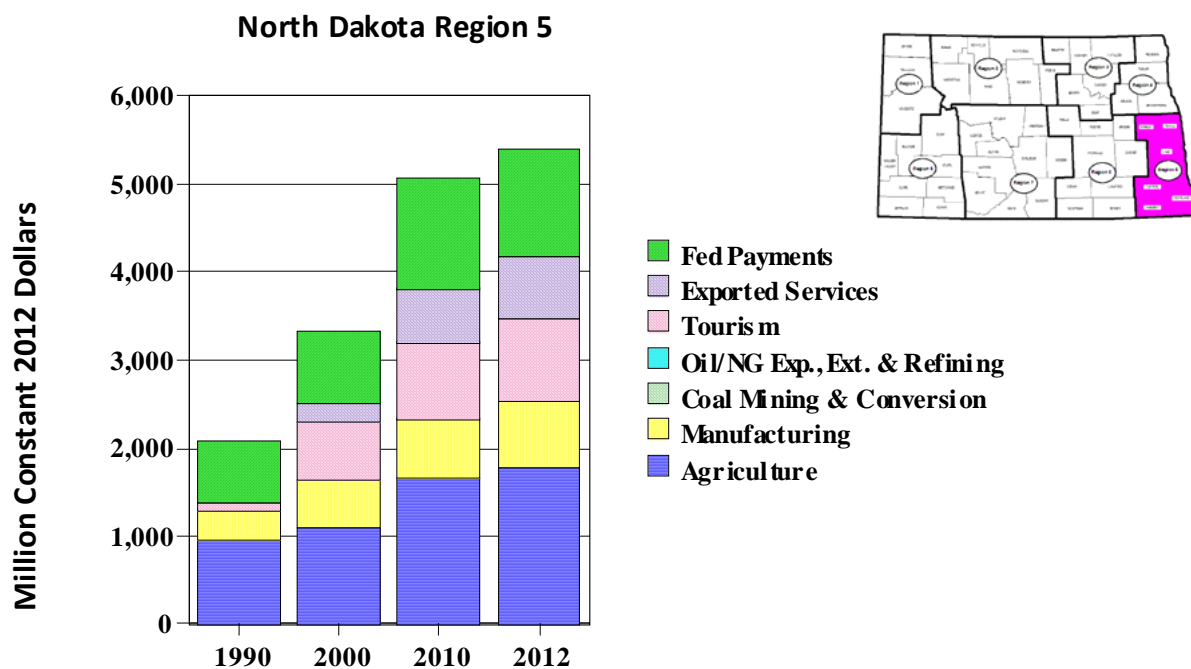


Figure 15. Composition of North Dakota State Region 5 Economic Base, by Industrial Categories, Selected Years 1990 - 2012

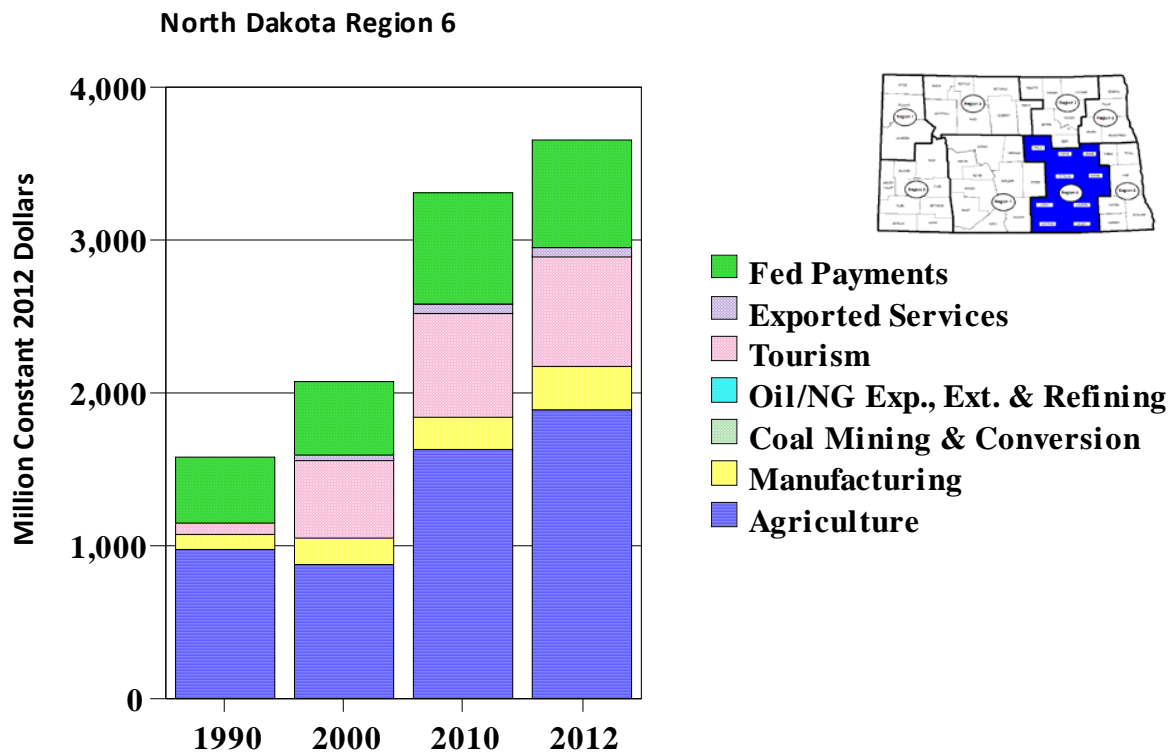


Figure 16. Composition of North Dakota State Region 6 Economic Base, by Industrial Categories, Selected Years 1990 - 2012

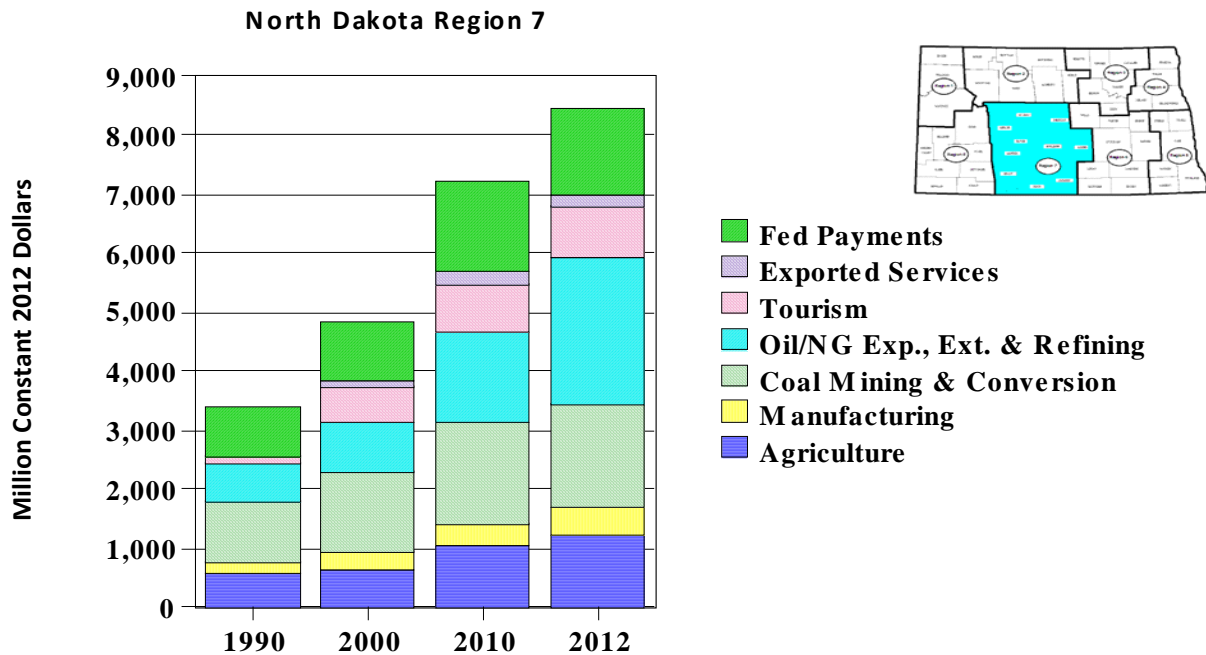


Figure 17. Composition of North Dakota State Region 7 Economic Base, by Industrial Categories, Selected Years 1990 - 2012

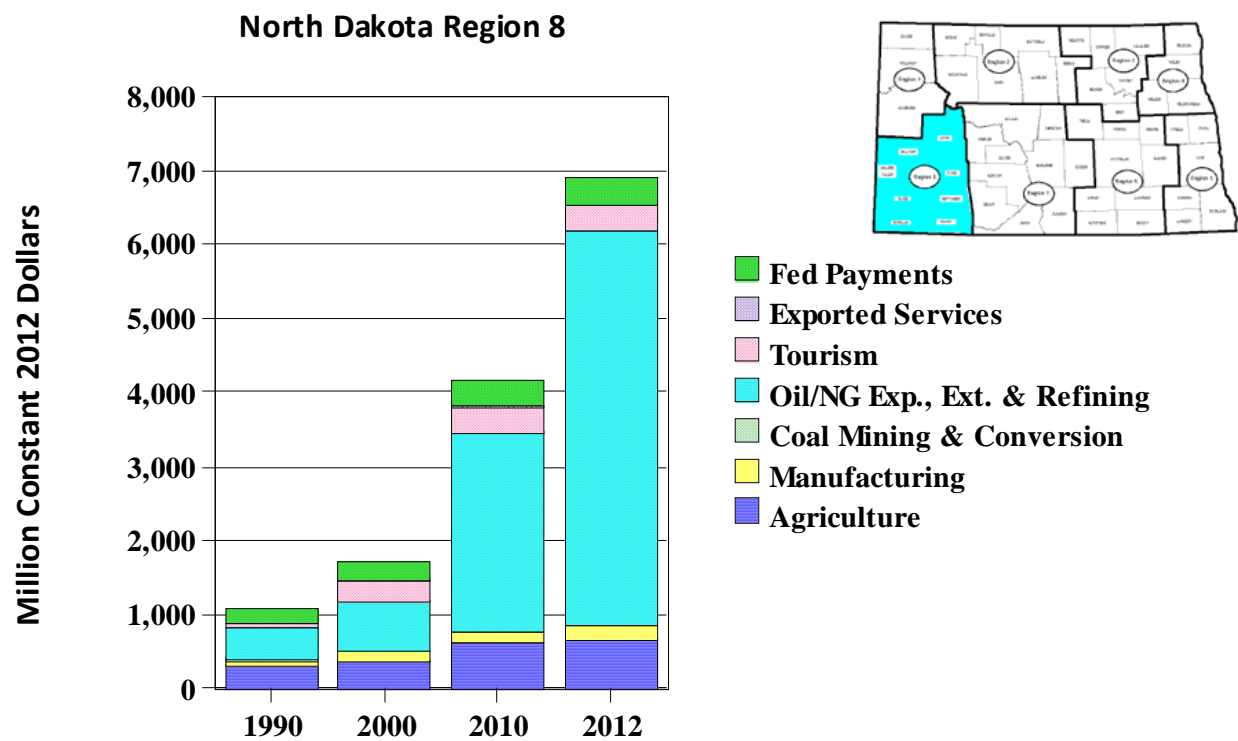


Figure 18. Composition of North Dakota State Region 8 Economic Base, by Industrial Categories, Selected Years 1990 - 2012

## Economic Base, Economic Impact, and Economic Contribution Analyses

The North Dakota Input-Output Model and associated economic base data have provided a tool for development of econometric models and analytical techniques. Input-output analysis is a tool used to quantify economic *impact* and economic *contribution* analyses, and was the key component of several integrated economic-demographic-fiscal forecasting models developed at North Dakota State University. The North Dakota Input-Output Model was originally developed to analyze the economic impact of irrigation resulting from the Garrison Diversion Project (Coon et al. 1985) but has been adapted for many other uses. It is the basic component of several large economic-demographic computer models including NEDAM (Leistritz et al. 1982), REAP E-D Model (Hertsgaard et al. 1978), and MEDAM (Coon et al. 1993).

Input-Output analysis provides a tool for economists to perform economic *impact* and economic *contribution* analyses. These analyses can be applied to programs, projects, developments, industries, and other economic activities. Key macro-economic indicators such as retail trade activity, economy-wide personal income, total business activity, secondary economic business activity, selected state tax collections, and secondary (indirect and induced) employment can be estimated using input-output analysis.

Economic base represents dollars coming into the economy in exchange for exported goods and services. These dollars are used to purchase inputs and services that support basic sector industries, and through the acquisition of those inputs and services, create and sustain secondary (non-basic) industries. Measures of the business activity generated in secondary industries are not included in economic base figures.

Economic impact analysis estimates the change in key economic indicators resulting from the ‘new’ dollars a specific project or development would generate in the state (or local economy). An economic *impact* analysis measures the net effect of two possible situations—often these situations would be the presence or absence of some type of economic activity, development, or program. Measures of the business activity generated in secondary industries are included in economic impact figures.

Economic contribution analysis differs in that it includes all relevant expenditures and other revenue streams (e.g., severance taxes) in the generation of the amount of economic activity created in an economic unit. Typically an economic *contribution* analysis will produce more economic activity than an economic *impact* study for the same industry or activity. Economic *contribution* analyses attempt to capture all economic activity without regard to the net change or value of alternative economic activities; therefore, *economic contribution* assessments provide measures of the gross effects. Measures of the business activity generated in secondary industries are included in economic impact figures.

When comparing these economic analyses, it is important to know what type of study was conducted so valid comparisons can be made. For a detailed discussion of these types of analyses, see Leistritz (1994) and Leistritz (1998).

**Caution must be used when comparing different economic measures.** Distinguishing between measures produced by an *economic contribution* study, *economic impact* analysis, or *economic base* value is necessary because the measures are not directly comparable. Economic base represents dollars flowing into North Dakota and is only associated with the sale of a good or service. Economic base does not count sales of goods or services to in-state markets. Further, economic base figures do not measure investment dollars flowing into a region (e.g., construction of a processing plant, new crude oil pipeline). Some industries produce revenue streams (i.e., lease/bonus payments, royalties, severance taxes) for the state that are not captured in the economic base.

The size of an industry can vary considerably because of the various distinctions in what is measured between different economic assessments. The dollar volume of economic activity measured using an *economic base* assessment might be much lower than estimates from an *economic contribution* analysis. An economic contribution analysis would measure activity related to sales of goods and services to in-state markets, and would count investment dollars flowing into the state. Also, economic contribution analyses measure secondary business volumes (multiplier effects).

The differences between *economic base* estimates and the direct impacts associated with an *economic impact* study are less clear, and would depend upon the breadth of activities evaluated and assumptions on the net effects measured in the economic assessment. Economic impact studies measure the secondary business volume (multiplier effects), whereas, those effects are not measured if only describing an industry using export sales (i.e., economic base).

The data requirements for conducting *economic contribution* and *economic impact* evaluations for an industry can be considerable. Contrary to the in-depth analysis that a dedicated contribution or impact study can provide, the economic base data set is more general and is applied to all basic-sector industries. The economic base data set is updated annually and provides a consistent metric applied to all industries. Economic contribution and impact studies usually are industry specific, and not all industries are evaluated or assessed on a frequent basis. For these reasons, the economic base data set provides a consistent evaluation of the relative change in basic industries in North Dakota that is not available from individual studies.

## Summary

Developing a database that measures the North Dakota economy has provided valuable information for economists, policy makers, and industry leaders. The intent of this report was to provide highlights of this data base to those in the state who typically request such information. A brief description and definition of the component of the state's economic base also has been provided to help the reader understand the data presented.

North Dakota's economic base has increased significantly during the past two decades, growing from \$8.3 billion in 1990 to \$42.3 billion in 2012 (in nominal dollars). In real dollars the growth during this period was from \$13.0 billion to \$42.3 billion. Agriculture has continued to grow in the state, but its portion of the growing state economy has been reduced from 37.1 percent in 1990 to 21.3 percent in 2012. The *Petroleum and Natural Gas Exploration/Extraction* Sector has grown rapidly in recent years and the development of the Bakken/Three Forks Formations could continue to increase these sectors in the near future. This report shows the economic base for sectors corresponding to the input-output model delineations (sales for final demand) and also by industrial categories. This offers an alternative view of the relative contributions of individual components of the North Dakota economy.

The North Dakota Input-Output Model provided the framework for collecting a database for measuring the state's economy. It also provided an economic tool for analyzing economic impacts and economic contribution that specific industries or projects make to the state's economy. Measuring these projects in terms of economic indicators has provided valuable information for state and industry officials.



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## **Appendix A**

TABLE 1. SALES FOR FINAL DEMAND, BY ECONOMIC SECTOR, NORTH DAKOTA, MILLION DOLLARS (CURRENT DOLLARS), 1958-2012

Year	(1) Ag Lvstk	(2) Ag Crops	(4) Constr	(7) Ag Proc & Misc Mfg	(8) Retail Trade	(10) Bus & Pers Serv	(12) Households	(14) Coal Mining	(15) Coal Conversion	(16) Pet Exp/Ext	(17) Pet Refining	Total
1958	220.3	440.3	18.3	62.5	16.5	5.5	187.0	1.1	--	5.4	13.1	970.0
1959	217.3	394.9	27.2	57.0	18.0	6.0	186.5	1.0	--	10.9	12.9	931.7
1960	175.4	390.9	32.7	66.1	14.9	5.0	187.9	1.0	--	14.5	12.5	900.9
1961	213.9	341.7	24.0	67.5	17.2	5.8	237.2	1.3	--	21.0	12.6	942.2
1962	199.3	476.8	16.5	62.6	18.7	6.3	344.2	1.5	--	22.8	12.5	1,161.2
1963	207.7	543.1	17.1	73.0	21.7	7.2	334.5	1.3	--	23.3	12.5	1,241.4
1964	213.3	451.2	30.2	78.4	26.2	8.7	485.2	1.5	--	25.9	12.7	1,333.3
1965	247.5	554.5	31.0	78.4	33.0	11.0	361.4	1.5	--	28.0	13.4	1,359.7
1966	271.5	609.4	23.3	84.2	45.0	15.0	428.6	1.3	4.4	29.7	14.0	1,526.4
1967	280.9	568.4	24.4	91.7	54.7	18.2	380.8	2.1	8.4	28.0	14.6	1,472.2
1968	264.2	570.5	27.0	101.5	69.7	23.2	447.9	2.4	12.3	34.3	14.7	1,567.7
1969	265.0	641.8	35.2	162.0	75.8	25.3	501.5	2.4	11.7	26.2	14.9	1,761.8
1970	272.5	671.0	182.1	148.1	85.7	28.5	567.7	3.2	13.8	30.3	15.2	2,018.1
1971	304.7	673.7	60.7	162.0	93.8	31.3	605.1	3.5	17.5	32.9	15.9	2,001.1
1972	376.4	975.0	72.9	170.0	86.3	28.8	649.0	3.3	21.4	34.6	16.8	2,434.5
1973	475.9	1,795.7	61.6	243.0	94.5	31.5	726.7	4.1	19.3	38.4	19.1	3,509.8
1974	448.5	2,072.1	72.4	304.8	92.6	31.1	806.0	4.9	22.4	76.1	22.6	3,953.5
1975	452.8	1,555.8	82.9	306.6	112.5	37.5	1,046.9	7.1	20.6	84.3	25.0	3,732.0
1976	484.3	1,194.3	44.9	467.2	134.2	44.8	1,066.7	16.0	38.6	100.8	27.0	3,618.8
1977	483.3	1,178.6	51.7	408.1	143.6	47.8	1,076.7	18.2	46.3	102.0	29.2	3,585.5
1978	529.4	1,615.2	65.8	435.8	165.0	54.9	1,157.8	22.0	65.4	108.5	30.8	4,250.6
1979	694.1	1,692.6	78.0	523.8	147.5	49.2	1,381.9	32.2	91.6	182.5	46.9	4,920.3
1980	781.4	1,721.6	108.1	562.2	144.5	48.2	1,687.4	48.3	120.1	410.4	74.3	5,706.5
1981	594.0	2,339.5	78.8	616.3	160.4	53.5	1,896.5	54.5	140.8	973.1	131.8	7,039.2
1982	604.5	2,306.0	56.0	526.5	167.2	55.7	1,598.2	57.8	162.0	857.3	121.3	6,512.5
1983	662.7	2,607.2	79.7	537.0	196.4	65.5	1,936.5	76.7	196.4	782.8	112.8	7,253.7
1984	690.3	2,317.1	111.6	572.5	176.8	58.9	2,131.7	96.3	226.3	719.9	109.4	7,210.8
1985	698.3	2,586.2	102.5	584.3	190.1	63.3	2,205.3	136.9	261.5	615.4	101.8	7,545.6
1986	675.8	2,323.4	96.9	587.8	193.9	64.6	2,275.5	127.5	261.3	275.2	81.4	6,963.3
1987	795.0	2,258.4	81.5	610.8	207.1	69.1	2,314.9	120.2	498.6	320.4	87.9	7,363.9
1988	849.3	2,490.1	94.9	653.5	219.6	73.2	2,379.0	118.4	569.8	243.9	89.7	7,781.4
1989	642.2	1,940.4	78.2	686.2	237.1	79.1	2,673.9	145.0	535.6	296.3	104.9	7,418.9
1990	813.5	2,269.3	100.2	698.6	262.9	87.6	2,906.5	142.2	543.6	354.5	126.4	8,305.3
1991	699.2	2,390.8	113.3	730.0	290.5	96.8	2,972.3	141.0	565.5	308.6	113.6	8,421.6
1992	754.9	2,781.9	135.4	788.4	326.8	108.9	3,223.7	146.8	623.3	275.8	110.0	9,275.9
1993	706.5	2,791.5	124.1	803.0	398.7	132.9	3,333.1	157.1	655.7	235.2	106.8	9,444.6
1994	627.3	2,764.7	120.6	909.8	478.4	159.5	3,662.4	160.7	660.5	208.7	101.0	9,853.6
1995	565.7	2,884.3	149.6	1,014.4	607.6	202.5	3,631.5	165.9	649.5	299.4	103.5	10,273.9
1996	538.6	3,244.0	106.3	1,100.6	796.0	265.3	3,665.7	153.8	698.5	416.3	122.1	11,107.2
1997	597.7	3,023.6	155.2	1,212.9	1,058.6	352.9	4,139.6	151.6	694.4	483.2	117.8	11,987.5

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TABLE 1. SALES FOR FINAL DEMAND, BY ECONOMIC SECTOR, NORTH DAKOTA, MILLION DOLLARS (CURRENT DOLLARS), 1958-2012 cont.

Year	(1) Ag Lvstk	(2) Ag Crops	(4) Constr	(7) Ag Proc & Misc Mfg	(8) Retail Trade	(10) Bus & Pers Serv	(12) Households	(14) Coal Mining	(15) Coal Conversion	(16) Pet Exp/Ext	(17) Pet Refining	Total
1998	554.7	2,968.4	167.9	1,313.6	1,429.1	769.2	3,785.1	149.8	739.9	303.5	104.3	12,285.5
1999	633.3	3,066.2	198.6	1,361.8	1,965.0	1,003.4	3,796.1	155.8	735.5	384.1	124.5	13,424.3
2000	639.4	3,220.2	209.1	1,447.6	2,122.3	1,089.0	4,073.8	155.2	907.2	576.7	187.7	14,628.2
2001	726.7	3,131.7	206.9	1,480.9	2,220.9	1,368.8	4,529.3	156.5	914.0	445.2	171.9	15,352.8
2002	797.5	2,928.1	253.3	1,512.0	2,297.7	1,447.6	4,697.7	160.7	933.5	482.6	156.7	15,667.4
2003	870.2	3,559.3	228.3	1,616.3	2,414.9	1,643.3	5,080.8	166.1	975.7	536.3	192.8	17,284.0
2004	938.3	3,619.6	233.5	1,773.1	2,518.7	1,759.9	5,465.6	183.1	957.4	756.0	246.8	18,452.0
2005	989.1	3,799.9	280.8	1,895.4	2,702.6	1,825.6	5,842.0	192.6	1,298.0	1,244.0	336.0	20,406.0
2006	892.4	3,541.4	279.8	1,982.6	2,837.7	1,969.5	5,740.3	225.5	1,333.8	1,678.7	361.5	20,843.2
2007	956.7	4,926.3	283.4	2,077.8	2,971.1	2,058.5	6,244.8	233.6	1,340.1	1,980.0	394.4	23,466.7
2008	912.4	7,227.6	276.3	2,204.6	3,098.8	2,146.9	6,538.0	260.1	1,558.9	2,559.6	510.8	27,294.0
2009	784.6	6,295.3	336.9	2,010.6	3,273.3	2,193.7	7,709.0	290.5	1,365.1	1,461.8	318.4	26,039.2
2010	955.0	6,808.9	421.9	2,229.8	3,463.8	2,371.3	8,801.7	285.6	1,367.4	2,736.5	395.5	29,837.4
2011	1,127.6	6,670.2	399.7	2,416.7	3,601.7	2,447.3	9,567.3	294.4	1,409.3	4,765.2	528.9	33,228.3
2012	1,128.6	7,889.8	340.7	2,811.8	3,785.4	2,612.4	10,271.7	289.5	1,445.4	11,138.4	625.0	42,338.7

(Note: 1998 - 2012 Bus &amp; Pers Serv Sector includes exportable services component)

TABLE 2. SALES FOR FINAL DEMAND, BY ECONOMIC SECTOR, NORTH DAKOTA REGION 1, MILLION DOLLARS (CURRENT DOLLARS), 1958-2012

Year	(1) Ag Lvstk	(2) Ag Crops	(4) Constr	(7) Ag Proc & Misc Mfg	(8) Retail Trade	(10) Bus & Pers Serv	(12) Households	(14) Coal Mining	(15) Coal Conversio n	(16) Pet Exp/Ext	(17) Pet Refining	Total
1958	10.3	16.2	0.8	2.7	0.9	0.3	5.8	0.1	--	17.6	4.8	59.5
1959	9.8	14.4	1.1	2.3	1.0	0.3	6.4	0.1	--	20.7	4.7	60.8
1960	8.0	19.2	1.4	2.6	0.8	0.3	7.3	0.1	--	25.5	4.6	69.8
1961	10.0	10.5	1.1	2.5	1.0	0.3	7.6	0.2	--	26.5	4.6	64.3
1962	9.2	28.4	0.7	2.2	1.0	0.3	9.5	0.2	--	30.2	4.6	86.3
1963	10.1	36.2	0.8	2.4	1.2	0.4	9.8	0.1	--	32.7	4.5	98.2
1964	10.9	24.2	1.3	2.6	1.5	0.5	12.8	0.1	--	36.3	4.4	94.6
1965	13.2	26.6	1.4	2.6	1.8	0.6	11.0	--	--	37.6	4.6	99.4
1966	14.3	32.9	1.0	2.8	2.5	0.8	12.5	--	--	38.8	4.6	110.2
1967	14.8	28.2	1.1	3.1	3.0	1.0	12.0	--	--	33.4	4.6	101.2
1968	13.9	26.4	1.2	3.3	3.8	1.3	13.7	--	--	33.4	4.6	101.6
1969	13.8	40.0	1.5	5.4	4.2	1.4	21.0	--	--	28.2	4.7	120.2
1970	15.0	38.3	0.7	4.9	4.7	1.6	18.9	--	--	28.9	5.1	118.1
1971	17.9	34.0	0.7	5.4	5.2	1.7	23.0	--	--	31.3	5.7	124.9
1972	21.5	59.6	2.5	5.6	4.7	1.6	22.8	--	--	31.3	6.0	155.6
1973	26.8	115.2	0.3	8.0	5.2	1.7	25.6	--	--	33.2	6.8	222.8
1974	23.4	128.0	1.1	10.1	5.1	1.7	27.3	--	--	72.0	8.2	276.9
1975	24.0	85.0	0.9	10.2	6.2	2.1	31.0	--	--	72.1	9.0	240.5
1976	25.8	70.6	2.0	15.5	7.4	2.5	30.8	--	--	86.8	9.6	251.0
1977	26.4	50.6	2.7	13.5	7.9	2.6	36.0	--	--	97.9	10.3	247.9
1978	29.5	79.6	3.6	14.4	9.1	3.0	37.6	--	--	108.8	10.8	296.4
1979	41.1	70.6	2.4	17.3	8.1	2.7	111.1	--	--	148.1	15.0	416.4
1980	45.0	81.2	5.3	18.6	7.9	2.6	156.3	0.2	--	251.1	22.5	590.7
1981	31.0	104.5	3.7	20.4	8.8	2.9	221.0	0.1	--	515.3	39.4	947.1
1982	30.8	99.4	2.6	17.4	9.2	3.1	150.1	0.1	--	509.7	36.2	858.6
1983	34.7	109.5	3.6	17.8	10.8	3.6	119.0	0.1	--	573.0	33.7	905.8
1984	35.5	56.8	5.1	19.0	9.7	3.2	128.7	0.1	--	652.3	32.7	943.1
1985	34.2	51.6	4.7	19.3	10.5	3.5	112.2	0.3	--	638.3	30.4	905.0
1986	32.9	110.3	4.4	19.5	10.7	3.6	110.3	0.1	--	292.7	24.3	608.8
1987	38.7	100.4	3.8	20.2	11.4	3.8	109.8	0.1	--	360.6	26.3	675.1
1988	43.3	89.5	4.4	21.6	12.1	4.0	110.0	0.2	--	271.2	26.8	583.1
1989	32.5	64.9	3.6	22.7	13.0	4.3	122.0	0.1	--	319.5	31.7	614.3
1990	43.5	81.2	4.6	23.1	14.5	4.8	132.1	0.1	--	362.6	38.8	705.3
1991	38.3	97.2	5.2	24.2	16.0	5.3	131.8	0.1	--	290.8	34.7	643.6
1992	43.7	129.6	6.2	26.1	18.0	6.0	137.1	0.1	--	259.8	33.4	660.0
1993	37.7	184.9	5.7	26.6	21.9	7.3	139.5	0.1	--	224.2	32.5	680.4
1994	32.3	150.4	5.6	30.1	26.3	8.8	149.6	0.1	--	193.5	30.3	627.0
1995	26.7	154.5	6.9	33.6	33.4	11.1	150.1	0.1	--	195.5	30.9	642.8
1996	27.5	149.4	4.9	36.4	43.8	14.6	154.1	0.1	--	216.2	37.0	684.0
1997	32.8	139.8	7.1	40.2	58.2	19.4	163.9	0.1	--	190.2	35.2	686.9

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TABLE 2. SALES FOR FINAL DEMAND, BY ECONOMIC SECTOR, NORTH DAKOTA REGION 1, MILLION DOLLARS (CURRENT DOLLARS), 1958-2012 cont.

Year	(1) Ag Lvstk	(2) Ag Crops	(4) Constr	(7) Ag Proc & Misc Mfg	(8) Retail Trade	(10) Bus & Pers Serv	(12) Households	(14) Coal Mining	(15) Coal Conversio n	(16) Pet Exp/Ext	(17) Pet Refining	Total
1998	27.7	129.5	7.7	43.5	78.6	28.7	148.7	0.1	--	117.6	30.9	613.0
1999	37.2	154.2	9.1	45.1	108.1	46.0	156.4	0.1	--	152.6	37.5	746.3
2000	40.9	136.1	9.6	47.9	116.7	50.2	189.3	0.1	--	265.9	58.1	914.8
2001	41.1	143.9	9.5	49.0	122.2	72.5	201.5	0.1	--	216.1	52.8	908.7
2002	49.5	147.8	11.7	50.0	126.4	78.2	209.5	0.1	--	226.4	48.0	947.6
2003	51.7	144.5	10.5	53.5	132.8	75.2	227.7	0.1	--	249.0	59.2	1,004.2
2004	56.3	155.1	10.7	58.7	138.5	78.6	263.1	0.1	--	335.3	76.9	1,173.3
2005	55.3	167.5	12.9	62.7	148.6	84.3	324.0	0.1	--	459.3	107.6	1,422.3
2006	52.4	131.7	12.9	65.6	156.1	88.8	330.3	0.1	--	590.9	--	1,428.8
2007	50.1	237.3	13.0	68.8	163.4	91.9	285.4	0.1	--	792.3	--	1,702.3
2008	48.3	267.2	12.7	73.0	170.4	95.4	310.8	--	--	1,281.4	--	2,259.2
2009	40.0	251.4	15.5	66.5	180.0	98.1	370.4	--	--	1,039.8	--	2,061.7
2010	52.2	233.1	19.4	73.8	190.5	102.8	497.8	--	--	2,240.3	--	3,409.9
2011	62.4	165.7	18.4	80.0	198.1	109.8	750.1	--	--	5,069.0	--	6,453.5
2012	62.8	277.9	15.7	88.0	208.2	113.7	1,193.4	--	--	9,592.0	--	11,551.7

(Note: 1998 - 2012 Bus &amp; Pers Serv Sector includes exportable services component)



TABLE 3. SALES FOR FINAL DEMAND, BY ECONOMIC SECTOR, NORTH DAKOTA REGION 2, MILLION DOLLARS (CURRENT DOLLARS), 1958-2012

Year	(1) Ag Lvstk	(2) Ag Crops	(4) Constr	(7) Ag Proc & Misc Mfg	(8) Retail Trade	(10) Bus & Pers Serv	(12) Households	(14) Coal Mining	(15) Coal Conversion	(16) Pet Exp/Ext	(17) Pet Refining	Total
1958	24.2	46.9	2.2	7.8	2.5	0.9	31.3	--	--	7.3	--	123.1
1959	22.9	50.1	3.3	7.4	2.8	0.9	29.1	--	--	12.5	--	129.0
1960	18.8	53.0	3.9	8.8	2.3	0.8	33.0	--	--	16.8	--	137.4
1961	23.3	23.2	2.9	9.3	2.7	0.9	39.1	--	--	20.9	--	122.3
1962	21.5	85.4	2.0	8.9	2.9	1.0	78.9	--	--	21.7	--	222.3
1963	22.4	89.0	2.1	10.6	3.4	1.1	69.7	--	--	21.6	--	219.9
1964	23.3	74.7	3.6	11.3	4.0	1.4	124.1	--	--	24.0	--	266.4
1965	27.2	78.2	3.7	11.3	5.1	1.7	71.0	--	--	25.4	--	223.6
1966	28.4	95.8	2.8	12.1	6.9	2.3	91.8	--	--	23.6	--	263.7
1967	29.9	65.6	2.9	13.5	8.4	2.8	68.8	--	--	21.5	--	213.4
1968	26.2	72.5	3.2	14.7	10.7	3.6	89.0	--	--	21.5	--	241.4
1969	26.0	95.8	2.1	23.3	11.7	3.9	102.6	--	--	20.0	--	285.4
1970	28.1	94.2	2.9	21.3	13.2	4.4	129.5	--	--	21.5	--	315.1
1971	35.5	91.7	5.0	23.3	14.4	4.8	131.4	--	--	24.4	--	330.5
1972	39.7	133.6	4.2	24.5	13.3	4.4	120.4	--	--	25.8	--	365.9
1973	49.2	311.3	7.0	34.9	14.6	4.9	146.7	--	--	25.6	--	594.2
1974	45.2	300.8	5.7	43.8	14.3	4.8	178.0	--	--	47.9	--	640.5
1975	46.9	206.6	5.4	44.1	17.3	5.8	297.3	--	--	46.5	--	669.9
1976	52.9	153.6	1.8	67.2	20.7	6.9	198.3	--	--	54.9	--	556.3
1977	54.3	131.9	11.4	58.7	21.1	7.4	213.1	--	--	51.0	--	548.9
1978	59.0	208.7	17.1	62.7	25.4	8.5	226.4	--	--	49.3	--	657.1
1979	74.8	177.4	15.3	75.3	22.7	7.6	285.5	--	--	62.1	--	720.7
1980	80.4	221.4	12.4	80.8	22.3	7.5	349.7	--	--	100.1	--	874.6
1981	63.2	317.2	13.1	88.6	24.7	8.3	433.2	--	--	194.0	--	1,142.3
1982	62.6	306.8	9.3	75.7	25.7	8.6	340.4	--	--	188.8	--	1,017.9
1983	70.5	323.9	13.2	77.2	30.3	10.1	386.9	--	--	176.7	--	1,088.8
1984	72.4	258.8	18.5	82.3	27.2	9.1	425.6	--	--	176.8	--	1,070.7
1985	71.2	339.1	17.0	84.0	29.3	9.7	431.3	--	--	156.5	--	1,138.1
1986	67.9	308.6	16.1	84.5	29.9	9.9	444.9	--	--	74.3	--	1,036.1
1987	79.9	215.0	13.5	87.8	31.9	10.6	452.2	--	--	90.4	--	981.3
1988	87.6	276.4	15.7	94.0	33.8	11.3	470.4	--	--	91.0	--	1,080.2
1989	63.8	209.2	13.0	98.7	36.5	12.2	531.5	--	--	120.6	--	1,085.5
1990	87.3	281.7	16.6	100.5	40.5	13.5	581.5	--	--	157.1	--	1,278.7
1991	73.1	271.2	18.8	105.0	44.7	14.9	589.6	--	--	118.7	--	1,236.0
1992	76.2	337.9	22.5	113.4	50.3	16.8	634.0	--	--	100.1	--	1,351.2
1993	66.7	473.7	20.6	115.5	61.4	20.5	652.4	--	--	79.5	--	1,490.3
1994	59.3	422.4	20.0	130.8	73.7	24.6	713.7	--	--	69.8	--	1,514.3
1995	58.1	417.2	24.8	145.9	93.6	31.2	710.6	--	--	79.2	--	1,560.6
1996	54.0	421.9	17.7	158.3	122.6	40.9	718.4	--	--	95.2	--	1,629.0
1997	61.1	384.0	25.8	174.4	163.0	54.4	803.8	--	--	90.7	--	1,757.2

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TABLE 3. SALES FOR FINAL DEMAND, BY ECONOMIC SECTOR, NORTH DAKOTA REGION 2, MILLION DOLLARS (CURRENT DOLLARS), 1958-2012 cont.

Year	(1) Ag Lvstk	(2) Ag Crops	(4) Constr	(7) Ag Proc & Misc Mfg	(8) Retail Trade	(10) Bus & Pers Serv	(12) Households	(14) Coal Mining	(15) Coal Conversion	(16) Pet Exp/Ext	(17) Pet Refining	Total
1998	59.3	359.9	27.9	188.9	220.1	126.9	734.2	--	--	56.9	--	1,774.1
1999	72.7	255.1	33.0	195.8	302.6	181.0	739.8	--	--	72.2	--	1,852.2
2000	73.3	340.1	34.7	208.2	326.8	185.2	800.6	--	--	114.2	--	2,083.1
2001	86.9	339.7	34.3	213.0	342.0	246.1	888.6	--	--	93.4	--	2,244.0
2002	96.5	357.2	42.0	217.4	353.8	269.6	929.4	--	--	110.3	--	2,376.2
2003	105.4	411.7	37.9	232.4	371.9	295.6	1,005.3	--	--	119.8	--	2,580.0
2004	108.7	451.9	38.8	255.0	387.9	342.6	1,081.3	--	--	147.8	--	2,814.0
2005	113.6	528.9	46.6	272.6	416.2	305.9	1,157.6	--	--	190.8	--	3,032.2
2006	102.7	433.9	46.4	285.1	437.0	332.8	1,138.5	--	--	246.7	--	3,023.1
2007	112.1	687.2	47.1	298.8	457.6	348.3	1,299.2	--	--	410.9	--	3,661.2
2008	99.5	1,025.5	45.9	317.0	477.2	376.1	1,520.4	--	--	1,874.2	--	5,735.8
2009	89.1	855.8	55.9	289.1	504.1	390.5	1,965.2	--	--	2,042.4	--	6,192.1
2010	108.2	809.6	70.0	320.6	533.4	404.5	2,426.8	--	--	3,903.3	--	8,576.4
2011	127.1	606.8	66.3	347.5	554.7	421.2	2,601.9	--	--	5,076.4	--	9,801.9
2012	135.3	953.1	56.6	411.9	583.0	433.4	2,958.8	--	--	6,839.8	--	12,371.9

(Note: 1998 - 2012 Bus &amp; Pers Serv Sector includes exportable services component)

TABLE 4. SALES FOR FINAL DEMAND, BY ECONOMIC SECTOR, NORTH DAKOTA REGION 3, MILLION DOLLARS (CURRENT DOLLARS), 1958-2012

Year	(1) Ag Lvstk	(2) Ag Crops	(4) Constr	(7) Ag Proc & Misc Mfg	(8) Retail Trade	(10) Bus & Pers Serv	(12) Households	(14) Coal Mining	(15) Coal Conversion	(16) Pet Exp/Ext	(17) Pet Refining	Total
1958	16.6	58.5	1.8	3.3	1.4	0.5	11.5	--	--	--	--	93.6
1959	16.0	58.2	2.7	2.8	1.6	0.5	13.3	--	--	--	--	95.1
1960	13.1	42.4	3.3	3.0	1.3	0.4	15.2	--	--	--	--	78.7
1961	16.0	46.9	2.4	2.9	1.5	0.5	15.4	--	--	--	--	85.6
1962	15.1	75.3	1.7	2.5	1.6	0.5	16.1	--	--	--	--	112.8
1963	15.3	75.1	1.7	2.7	1.9	0.6	17.7	--	--	--	--	115.0
1964	14.8	65.8	3.0	2.9	2.3	0.8	19.9	--	--	--	--	109.5
1965	17.1	66.7	3.1	2.9	2.8	0.9	20.7	--	--	--	--	114.2
1966	17.4	75.8	2.3	3.1	3.9	1.3	22.5	--	--	--	--	126.3
1967	17.9	77.9	2.4	3.4	4.7	1.6	23.6	--	--	--	--	131.5
1968	16.3	78.7	2.7	3.7	6.0	2.0	25.6	--	--	--	--	135.0
1969	15.9	81.0	0.9	6.0	6.5	2.2	33.8	--	--	--	--	146.3
1970	16.1	78.8	0.9	5.5	7.4	2.5	47.0	--	--	--	--	158.2
1971	17.6	85.1	4.3	6.0	8.1	2.7	48.1	--	--	--	--	171.9
1972	21.1	114.6	5.2	6.3	7.4	2.5	61.5	--	--	--	--	218.6
1973	25.9	221.2	6.2	9.0	8.2	2.7	58.6	--	--	--	--	331.8
1974	24.2	229.1	4.2	11.3	8.0	2.7	81.8	--	--	--	--	361.3
1975	24.8	216.7	5.1	11.3	9.7	3.2	97.3	--	--	--	--	368.1
1976	25.7	151.4	3.7	17.3	11.5	3.8	113.2	--	--	--	--	326.6
1977	24.8	138.9	2.4	15.1	12.3	4.1	114.1	--	--	--	--	311.7
1978	27.0	182.0	4.7	16.1	14.2	4.7	120.2	--	--	--	--	368.9
1979	34.8	228.2	3.4	19.4	12.7	4.2	120.2	--	--	--	--	422.9
1980	38.6	242.0	19.0	20.8	12.4	4.1	135.0	--	--	--	--	471.9
1981	30.1	298.0	6.6	22.8	13.8	4.6	139.5	--	--	--	--	515.4
1982	30.3	306.2	4.7	19.5	14.4	4.8	132.6	--	--	--	--	512.5
1983	33.3	299.5	6.7	19.9	16.9	5.6	182.1	--	--	--	--	564.0
1984	33.8	276.3	9.4	21.2	15.2	5.1	200.6	--	--	--	--	561.6
1985	33.7	332.9	8.6	21.6	16.3	5.4	214.8	--	--	--	--	633.3
1986	32.6	248.1	8.1	21.7	16.7	5.6	223.2	--	--	--	--	556.0
1987	38.4	268.3	6.8	22.6	17.8	5.9	227.9	--	--	--	--	587.7
1988	41.1	306.6	8.0	24.2	18.9	6.3	234.7	--	--	--	--	639.8
1989	31.8	241.9	6.5	25.4	20.4	6.8	263.8	--	--	--	--	596.6
1990	39.5	200.9	8.4	25.9	22.6	7.6	285.3	--	--	--	--	662.6
1991	34.1	298.2	9.5	27.0	25.0	8.3	292.7	--	--	--	--	694.8
1992	38.0	331.1	11.4	29.2	28.1	9.4	319.6	--	--	--	--	768.8
1993	35.9	246.8	10.4	29.7	34.3	11.4	331.6	--	--	--	--	700.1
1994	30.1	301.4	10.1	33.7	41.1	13.7	366.3	--	--	--	--	796.4
1995	27.8	297.6	12.6	37.5	52.2	17.4	361.5	--	--	--	--	806.6
1996	23.8	325.5	8.9	40.7	68.5	22.8	361.9	--	--	--	--	852.1
1997	26.3	292.1	13.0	44.9	91.1	30.4	412.2	--	--	--	--	910.0

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TABLE 4. SALES FOR FINAL DEMAND, BY ECONOMIC SECTOR, NORTH DAKOTA REGION 3, MILLION DOLLARS (CURRENT DOLLARS), 1958-2012 cont.

Year	(1) Ag Lvstk	(2) Ag Crops	(4) Constr	(7) Ag Proc & Misc Mfg	(8) Retail Trade	(10) Bus & Pers Serv	(12) Households	(14) Coal Mining	(15) Coal Conversion	(16) Pet Exp/Ext	(17) Pet Refining	Total
1998	24.2	271.1	14.1	48.6	122.9	50.3	377.2	--	--	--	--	908.4
1999	26.6	249.5	16.7	50.4	169.0	70.7	374.8	--	--	--	--	957.7
2000	26.9	254.8	17.6	53.6	182.5	76.8	395.7	--	--	--	--	1,007.9
2001	31.9	202.2	17.4	54.8	191.0	86.1	444.7	--	--	--	--	1,028.1
2002	35.8	275.3	21.3	55.9	197.6	90.0	459.9	--	--	--	--	1,135.8
2003	40.8	366.0	19.2	59.8	207.7	91.9	496.6	--	--	--	--	1,282.0
2004	47.3	361.6	19.6	65.6	216.6	88.3	526.2	--	--	--	--	1,325.2
2005	51.0	363.1	23.6	70.1	232.4	97.6	549.9	--	--	--	--	1,387.7
2006	45.3	398.9	23.5	73.4	244.0	101.7	533.6	--	--	--	--	1,420.4
2007	45.4	547.6	23.8	76.9	255.5	111.1	582.7	--	--	--	--	1,643.0
2008	51.1	982.7	23.2	81.6	266.5	117.0	604.8	--	--	--	--	2,126.9
2009	47.9	619.8	28.3	74.4	281.5	127.0	693.7	--	--	--	--	1,872.6
2010	54.9	761.2	35.5	82.5	297.9	133.4	756.6	--	--	--	--	2,122.0
2011	63.5	813.6	33.6	89.4	309.8	129.8	795.4	--	--	--	--	2,235.1
2012	62.5	894.3	28.6	119.2	325.6	137.1	767.5	--	--	--	--	2,334.8

(Note: 1998 - 2012 Bus & Pers Serv Sector includes exportable services component)

TABLE 5. SALES FOR FINAL DEMAND, BY ECONOMIC SECTOR, NORTH DAKOTA REGION 4, MILLION DOLLARS (CURRENT DOLLARS), 1958-2012

Year	(1) Ag Lvstk	(2) Ag Crops	(4) Constr	(7) Ag Proc & Misc Mfg	(8) Retail Trade	(10) Bus & Pers Serv	(12) Households	(14) Coal Mining	(15) Coal Conversion	(16) Pet Exp/Ext	(17) Pet Refining	Total
1958	11.7	70.4	3.1	6.0	2.3	0.8	36.7	--	--	--	--	131.0
1959	11.4	77.4	4.6	6.5	2.5	0.8	35.4	--	--	--	--	138.6
1960	9.6	72.0	5.5	8.7	2.1	0.7	40.1	--	--	--	--	138.7
1961	11.1	76.7	4.0	9.6	2.4	0.8	46.4	--	--	--	--	151.0
1962	10.5	60.2	2.8	10.0	2.6	0.9	86.4	--	--	--	--	173.4
1963	10.5	78.1	2.9	13.6	3.0	1.0	78.0	--	--	--	--	187.1
1964	10.2	68.7	5.1	14.6	3.6	1.2	133.1	--	--	--	--	236.5
1965	11.4	114.6	5.2	14.6	4.5	1.5	80.7	--	--	--	--	232.5
1966	11.7	96.9	3.9	15.7	6.2	2.1	102.3	--	--	--	--	238.8
1967	11.2	105.1	4.1	17.4	7.5	2.5	79.9	--	--	--	--	227.7
1968	9.9	97.9	4.5	18.9	10.0	3.2	101.1	--	--	--	--	245.5
1969	10.2	107.2	11.3	30.1	10.4	3.5	94.4	--	--	--	--	267.1
1970	8.7	133.3	150.8	27.5	11.7	4.0	107.6	--	--	--	--	443.6
1971	10.2	117.3	28.5	30.1	12.8	4.3	115.7	--	--	--	--	318.9
1972	12.6	171.2	41.2	31.6	11.8	4.0	130.8	--	--	--	--	403.2
1973	15.4	306.2	25.2	45.1	13.0	4.3	158.4	--	--	--	--	567.6
1974	16.4	380.7	41.4	56.6	12.7	4.3	160.9	--	--	--	--	673.0
1975	15.2	275.4	24.6	56.9	15.4	5.2	196.4	--	--	--	--	589.1
1976	18.1	215.4	14.2	86.7	18.4	6.2	274.0	--	--	--	--	633.0
1977	17.2	221.6	7.7	75.8	19.7	6.6	190.9	--	--	--	--	539.5
1978	19.0	271.5	4.0	80.9	22.6	7.6	206.6	--	--	--	--	612.2
1979	24.3	299.8	5.1	97.3	20.2	6.8	221.0	--	--	--	--	674.5
1980	37.5	344.3	12.1	104.4	19.8	6.7	269.5	--	--	--	--	794.3
1981	21.4	387.9	11.1	114.5	22.0	7.4	269.5	--	--	--	--	833.8
1982	21.4	376.1	7.9	97.8	22.9	7.7	256.2	--	--	--	--	790.0
1983	23.4	512.9	11.2	99.7	26.9	9.0	351.8	--	--	--	--	1,034.9
1984	22.6	432.1	15.7	106.3	24.2	8.1	387.6	--	--	--	--	996.6
1985	23.6	450.8	14.5	108.5	26.0	8.7	414.9	--	--	--	--	1,047.0
1986	23.7	465.5	13.7	109.1	26.5	8.9	431.3	--	--	--	--	1,078.7
1987	27.9	471.4	11.5	113.5	28.4	9.5	439.7	--	--	--	--	1,101.9
1988	26.5	646.7	13.4	121.4	30.1	10.0	449.6	--	--	--	--	1,297.7
1989	42.4	318.2	11.0	127.4	32.5	10.8	503.0	--	--	--	--	1,045.3
1990	23.8	428.2	14.1	129.7	36.0	12.0	543.0	--	--	--	--	1,186.8
1991	19.7	465.2	16.0	135.6	39.8	13.3	557.3	--	--	--	--	1,246.9
1992	22.3	525.5	19.1	146.4	44.8	14.9	609.1	--	--	--	--	1,382.1
1993	24.8	445.0	17.5	149.1	54.6	18.2	632.6	--	--	--	--	1,341.8
1994	19.0	452.3	17.0	168.9	65.5	21.8	699.5	--	--	--	--	1,444.0
1995	17.8	502.4	21.1	188.4	83.2	27.7	690.4	--	--	--	--	1,531.0
1996	18.3	520.6	15.0	204.4	109.0	36.3	691.1	--	--	--	--	1,594.7
1997	17.1	498.7	21.9	225.2	145.0	48.3	785.6	--	--	--	--	1,741.8

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TABLE 5. SALES FOR FINAL DEMAND, BY ECONOMIC SECTOR, NORTH DAKOTA REGION 4, MILLION DOLLARS (CURRENT DOLLARS), 1958-2012 cont.

Year	(1) Ag Lvstk	(2) Ag Crops	(4) Constr	(7) Ag Proc & Misc Mfg	(8) Retail Trade	(10) Bus & Pers Serv	(12) Households	(14) Coal Mining	(15) Coal Conversion	(16) Pet Exp/Ext	(17) Pet Refining	Total
1998	15.0	557.6	23.7	243.9	195.8	73.9	718.1	--	--	--	--	1,828.0
1999	19.7	619.5	28.0	252.9	269.2	99.0	714.1	--	--	--	--	2,002.4
2000	25.5	608.2	29.5	268.8	290.8	107.1	753.3	--	--	--	--	2,083.2
2001	30.0	575.3	29.2	275.0	304.3	115.6	848.5	--	--	--	--	2,177.9
2002	28.8	526.7	35.7	280.8	314.8	120.6	877.6	--	--	--	--	2,185.0
2003	25.9	604.3	32.2	300.2	330.9	145.4	949.0	--	--	--	--	2,387.9
2004	31.7	569.5	32.9	329.3	345.1	157.5	1,006.1	--	--	--	--	2,472.1
2005	35.4	513.6	39.6	352.0	370.3	175.1	1,051.7	--	--	--	--	2,537.7
2006	31.0	610.0	39.5	368.2	388.8	179.7	1,020.3	--	--	--	--	2,637.5
2007	36.2	674.6	40.0	385.8	407.0	193.0	1,115.2	--	--	--	--	2,851.8
2008	30.8	1,069.9	38.9	409.4	424.6	196.5	1,157.7	--	--	--	--	3,327.8
2009	26.2	825.6	47.5	373.4	448.4	204.1	1,331.2	--	--	--	--	3,256.4
2010	43.4	907.4	59.5	414.1	474.5	211.1	1,452.8	--	--	--	--	3,562.8
2011	53.0	1,024.1	56.3	448.4	493.4	218.9	1,528.0	--	--	--	--	3,822.5
2012	33.4	1,009.1	48.0	493.7	518.6	234.4	1,474.3	--	--	--	--	3,811.5

(Note: 1998 - 2012 Bus &amp; Pers Serv Sector includes exportable services component)

TABLE 6. SALES FOR FINAL DEMAND, BY ECONOMIC SECTOR, NORTH DAKOTA REGION 5, MILLION DOLLARS (CURRENT DOLLARS), 1958-2012

Year	(1) Ag Lvstk	(2) Ag Crops	(4) Constr	(7) Ag Proc & Misc Mfg	(8) Retail Trade	(10) Bus & Pers Serv	(12) Households	(14) Coal Mining	(15) Coal Conversion	(16) Pet Exp/Ext	(17) Pet Refining	Total
1958	30.0	74.3	3.7	20.0	3.0	1.0	56.3	--	--	--	--	188.3
1959	31.0	74.6	5.5	17.9	3.3	1.1	50.8	--	--	--	--	184.2
1960	26.2	69.5	6.5	20.4	2.8	0.9	34.0	--	--	--	--	160.3
1961	30.8	90.2	4.8	20.6	3.2	1.1	68.5	--	--	--	--	219.2
1962	29.7	46.9	3.3	18.7	3.4	1.1	83.1	--	--	--	--	186.2
1963	29.4	87.6	3.4	21.1	4.0	1.3	85.4	--	--	--	--	232.2
1964	28.5	63.7	6.1	22.6	4.8	1.6	103.7	--	--	--	--	231.0
1965	32.6	90.4	6.2	22.6	6.0	2.0	93.5	--	--	--	--	253.3
1966	35.4	101.6	4.7	24.3	8.2	2.8	105.1	--	--	--	--	282.1
1967	36.0	98.9	4.9	27.0	10.1	3.3	103.1	--	--	--	--	283.3
1968	32.3	93.7	5.4	29.3	12.8	4.3	113.2	--	--	--	--	291.0
1969	33.1	104.0	8.1	46.8	13.9	4.6	105.6	--	--	--	--	316.1
1970	33.2	112.7	11.5	42.8	15.7	5.2	100.6	--	--	--	--	321.7
1971	36.0	120.7	12.0	46.8	17.2	5.7	108.5	--	--	--	--	346.9
1972	44.2	175.9	10.9	49.1	15.8	5.3	117.8	--	--	--	--	419.0
1973	57.0	358.4	18.2	70.2	17.3	5.8	114.2	--	--	--	--	641.1
1974	61.8	393.0	12.3	88.0	17.0	5.7	119.3	--	--	--	--	697.1
1975	55.0	241.3	28.0	88.6	20.6	6.9	142.1	--	--	--	--	582.5
1976	58.0	228.9	3.1	134.9	24.5	8.2	154.1	--	--	--	--	611.7
1977	52.4	297.9	7.0	117.9	26.3	8.8	164.6	--	--	--	--	674.9
1978	58.1	357.7	10.3	125.9	30.2	10.1	194.8	--	--	--	--	787.1
1979	67.0	377.9	10.3	151.3	27.0	9.0	194.0	--	--	--	--	836.5
1980	73.8	419.2	16.4	162.4	26.4	8.9	226.9	--	--	--	--	934.0
1981	57.5	470.4	10.2	178.0	29.4	9.8	215.3	--	--	--	--	970.6
1982	57.6	436.9	7.2	152.1	30.6	10.2	204.7	--	--	--	--	899.3
1983	58.7	554.1	10.3	155.1	35.9	12.0	281.0	--	--	--	--	1,107.1
1984	61.7	495.5	14.4	165.3	32.4	10.8	309.7	--	--	--	--	1,089.8
1985	61.4	581.2	13.2	168.8	34.8	11.6	331.5	--	--	--	--	1,202.5
1986	62.4	483.4	12.5	169.8	35.5	11.8	344.6	--	--	--	--	1,120.0
1987	73.4	519.6	10.5	176.4	37.9	12.7	350.8	--	--	--	--	1,181.3
1988	68.2	650.7	12.2	188.7	40.2	13.4	356.0	--	--	--	--	1,329.4
1989	51.9	493.1	10.1	198.2	43.4	14.5	398.4	--	--	--	--	1,209.6
1990	65.6	551.4	12.9	201.8	48.1	16.0	432.1	--	--	--	--	1,327.9
1991	56.4	567.1	14.6	210.8	53.2	17.7	443.6	--	--	--	--	1,363.4
1992	62.7	583.4	17.4	227.7	59.8	19.9	484.9	--	--	--	--	1,455.8
1993	56.1	490.4	16.0	231.9	73.0	24.3	503.7	--	--	--	--	1,395.4
1994	52.8	571.6	15.6	262.8	87.6	29.2	557.2	--	--	--	--	1,576.8
1995	48.7	592.8	19.3	292.9	111.2	37.1	549.9	--	--	--	--	1,651.9
1996	49.6	744.4	13.7	317.9	145.7	48.6	550.5	--	--	--	--	1,870.4
1997	52.0	736.4	20.0	350.3	193.7	64.6	626.7	--	--	--	--	2,043.7

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TABLE 6. SALES FOR FINAL DEMAND, BY ECONOMIC SECTOR, NORTH DAKOTA REGION 5, MILLION DOLLARS (CURRENT DOLLARS), 1958-2012 cont.

Year	(1) Ag Lvstk	(2) Ag Crops	(4) Constr	(7) Ag Proc & Misc Mfg	(8) Retail Trade	(10) Bus & Pers Serv	(12) Households	(14) Coal Mining	(15) Coal Conversion	(16) Pet Exp/Ext	(17) Pet Refining	Total
1998	50.1	662.5	21.7	397.4	261.5	220.9	572.8	--	--	--	--	2,186.9
1999	54.4	845.0	25.6	393.3	359.6	266.7	569.6	--	--	--	--	2,514.2
2000	60.9	796.9	27.0	418.1	388.4	295.6	601.3	--	--	--	--	2,588.2
2001	63.1	741.5	26.7	427.7	406.4	375.0	676.6	--	--	--	--	2,717.0
2002	62.6	771.3	32.7	436.7	420.5	394.3	700.0	--	--	--	--	2,818.1
2003	61.1	862.5	29.4	466.8	441.9	478.7	757.2	--	--	--	--	3,097.6
2004	73.4	820.1	30.1	512.1	460.9	523.1	802.7	--	--	--	--	3,222.4
2005	76.0	806.8	36.2	547.4	494.6	582.6	839.3	--	--	--	--	3,382.9
2006	69.6	894.6	36.1	572.6	519.3	656.4	814.1	--	--	--	--	3,562.7
2007	79.3	993.5	36.6	600.1	543.7	694.1	890.0	--	--	--	--	3,837.3
2008	71.5	1,642.8	35.6	636.7	567.1	687.6	923.9	--	--	--	--	4,565.2
2009	59.7	1,269.4	43.5	580.7	599.0	696.6	1,062.0	--	--	--	--	4,310.9
2010	67.7	1,532.7	54.4	644.0	633.9	809.3	1,160.1	--	--	--	--	4,902.1
2011	79.0	1,337.2	51.6	698.0	659.1	833.0	1,221.0	--	--	--	--	4,878.9
2012	77.3	1,701.4	44.0	772.9	692.7	933.2	1,178.4	--	--	--	--	5,399.9

(Note: 1998 - 2012 Bus &amp; Pers Serv Sector includes exportable services component)



TABLE 7. SALES FOR FINAL DEMAND, BY ECONOMIC SECTOR, NORTH DAKOTA REGION 6, MILLION DOLLARS (CURRENT DOLLARS), 1958-2012

Year	(1) Ag Lvstck	(2) Ag Crops	(4) Constr	(7) Ag Proc & Misc Mfg	(8) Retail Trade	(10) Bus & Pers Serv	(12) Households	(14) Coal Mining	(15) Coal Conversion	(16) Pet Exp/Ext	(17) Pet Refining	Total
1958	45.8	83.1	2.4	8.5	2.4	0.8	14.9	--	--	--	--	157.9
1959	45.4	64.7	3.5	7.2	2.6	0.9	17.3	--	--	--	--	141.6
1960	36.8	68.1	4.2	7.8	2.2	0.7	19.7	--	--	--	--	139.5
1961	44.4	61.9	3.1	7.3	2.5	0.8	19.9	--	--	--	--	139.9
1962	42.6	83.3	2.1	6.2	2.7	0.9	21.1	--	--	--	--	158.9
1963	44.6	79.0	2.2	6.5	3.1	1.0	23.1	--	--	--	--	159.5
1964	46.1	71.7	3.9	6.9	3.8	1.3	26.3	--	--	--	--	160.0
1965	52.9	81.9	4.0	6.9	4.7	1.6	27.0	--	--	--	--	179.0
1966	57.5	93.3	3.0	7.5	6.4	2.2	29.4	--	--	--	--	199.3
1967	59.3	89.1	3.2	8.3	7.8	2.6	30.6	--	--	--	--	200.9
1968	55.3	104.3	3.5	9.0	10.0	3.3	33.6	--	--	--	--	219.0
1969	54.9	110.1	2.7	14.4	10.8	3.6	44.6	--	--	--	--	241.1
1970	56.3	107.9	8.7	13.2	12.2	4.1	51.2	--	--	--	--	253.6
1971	60.7	118.1	1.9	14.4	13.4	4.5	58.1	--	--	--	--	271.1
1972	75.7	158.5	2.7	15.1	12.3	4.1	58.9	--	--	--	--	327.3
1973	95.2	221.3	2.3	21.6	13.5	4.6	65.5	--	--	--	--	424.0
1974	86.9	322.6	1.5	27.1	13.2	4.4	68.1	--	--	--	--	523.8
1975	91.9	277.9	3.7	27.2	16.1	5.3	77.7	--	--	--	--	499.8
1976	102.0	184.9	6.7	41.5	19.2	6.4	85.1	--	--	--	--	445.8
1977	99.0	204.7	4.2	36.2	20.5	6.8	95.0	--	--	--	--	466.4
1978	110.4	286.7	5.4	38.7	23.6	7.8	106.7	--	--	--	--	579.3
1979	145.5	320.0	7.6	46.5	21.1	7.0	107.8	--	--	--	--	655.5
1980	138.0	278.8	6.8	49.9	20.7	6.8	130.7	--	--	--	--	631.7
1981	127.2	448.1	7.4	54.7	22.9	7.6	120.5	--	--	--	--	788.4
1982	130.0	444.4	5.3	46.7	23.9	7.9	114.6	--	--	--	--	772.8
1983	140.0	442.8	7.6	47.7	28.1	9.3	157.3	--	--	--	--	832.8
1984	143.6	445.9	10.6	50.8	25.3	8.4	173.3	--	--	--	--	857.9
1985	146.7	442.0	9.7	51.9	27.2	9.1	185.6	--	--	--	--	872.2
1986	142.0	375.7	9.2	52.2	27.7	9.2	192.9	--	--	--	--	808.9
1987	167.0	378.0	7.7	54.2	29.6	9.9	198.6	--	--	--	--	845.0
1988	173.5	372.0	9.0	58.0	31.4	10.5	206.8	--	--	--	--	861.2
1989	139.2	313.9	7.4	60.9	33.9	11.3	235.6	--	--	--	--	802.2
1990	169.3	453.9	9.5	62.0	37.6	12.5	259.2	--	--	--	--	1,004.0
1991	149.3	442.8	10.7	64.8	41.5	13.8	265.6	--	--	--	--	988.5
1992	157.1	503.4	12.8	70.0	46.7	15.6	288.7	--	--	--	--	1,094.3
1993	150.9	468.4	11.7	71.3	57.0	19.0	299.2	--	--	--	--	1,077.5
1994	134.0	479.5	11.3	80.8	68.4	22.8	329.1	--	--	--	--	1,125.9
1995	116.6	484.0	14.0	90.1	86.9	29.0	325.0	--	--	--	--	1,145.6
1996	107.2	594.4	10.0	97.7	113.8	37.9	325.3	--	--	--	--	1,286.3
1997	117.7	519.9	14.6	107.7	151.4	50.4	371.3	--	--	--	--	1,333.0

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TABLE 7. SALES FOR FINAL DEMAND, BY ECONOMIC SECTOR, NORTH DAKOTA REGION 6, MILLION DOLLARS (CURRENT DOLLARS), 1958-2012 cont.

Year	(1) Ag Lvstk	(2) Ag Crops	(4) Constr	(7) Ag Proc & Misc Mfg	(8) Retail Trade	(10) Bus & Pers Serv	(12) Households	(14) Coal Mining	(15) Coal Conversion	(16) Pet Exp/Ext	(17) Pet Refining	Total
1998	105.1	540.3	15.8	116.7	204.4	83.3	341.1	--	--	--	--	1,406.7
1999	116.1	486.5	18.7	120.9	281.0	110.5	338.4	--	--	--	--	1,472.1
2000	111.5	575.3	19.6	128.5	303.5	124.0	355.7	--	--	--	--	1,618.1
2001	134.3	572.5	19.4	131.5	317.6	133.8	397.4	--	--	--	--	1,706.5
2002	136.4	532.5	23.8	134.3	328.6	139.4	411.3	--	--	--	--	1,706.3
2003	157.6	703.0	21.5	143.5	345.3	160.2	442.9	--	--	--	--	1,974.0
2004	168.2	698.0	22.0	157.4	360.2	169.1	468.5	--	--	--	--	2,043.4
2005	176.0	778.1	26.4	168.3	386.5	163.6	488.8	--	--	--	--	2,187.7
2006	160.0	705.6	26.3	176.0	405.8	175.7	474.7	--	--	--	--	2,124.1
2007	180.6	1,018.3	26.6	184.5	424.9	192.6	517.3	--	--	--	--	2,544.8
2008	174.5	1,534.2	26.0	195.8	443.1	210.4	536.8	--	--	--	--	3,120.8
2009	152.0	1,279.8	31.7	178.5	468.1	216.2	609.6	--	--	--	--	2,935.9
2010	175.0	1,400.2	39.7	198.0	495.3	223.1	663.7	--	--	--	--	3,195.0
2011	206.6	1,478.4	37.6	214.6	515.0	237.5	695.9	--	--	--	--	3,385.6
2012	215.0	1,672.0	32.0	291.8	541.3	235.4	671.7	--	--	--	--	3,659.2

(Note: 1998 - 2012 Bus &amp; Pers Serv Sector includes exportable services component)

TABLE 8. SALES FOR FINAL DEMAND, BY ECONOMIC SECTOR, NORTH DAKOTA REGION 7, MILLION DOLLARS (CURRENT DOLLARS), 1958-2012

Year	(1) Ag Lvstk	(2) Ag Crops	(4) Constr	(7) Ag Proc & Misc Mfg	(8) Retail Trade	(10) Bus & Pers Serv	(12) Households	(14) Coal Mining	(15) Coal Conversion	(16) Pet Exp/Ext	(17) Pet Refining	Total
1958	54.3	50.2	3.4	11.7	2.8	0.9	24.3	0.6	--	--	38.8	187.0
1959	53.3	31.0	5.1	10.3	3.0	1.0	27.0	0.5	--	--	38.2	169.4
1960	41.6	40.7	6.0	11.6	2.5	0.8	30.7	0.6	--	--	37.1	171.6
1961	52.5	14.1	4.5	11.6	2.9	1.0	32.1	0.8	--	--	37.4	156.9
1962	47.4	63.7	3.0	10.5	3.2	1.1	40.3	0.9	--	--	37.2	207.3
1963	50.7	54.9	3.2	11.7	3.7	1.2	41.3	0.8	--	--	37.1	204.6
1964	53.2	52.5	5.6	12.6	4.4	1.5	54.5	1.1	--	--	37.9	223.3
1965	62.2	60.7	5.7	12.6	5.5	1.8	46.4	1.3	--	--	40.0	236.2
1966	71.6	66.5	4.3	13.5	7.6	2.5	53.1	1.2	4.4	--	42.0	266.7
1967	73.5	54.6	4.5	15.0	9.2	3.1	50.7	1.8	8.4	--	43.9	264.7
1968	72.0	61.0	5.0	16.3	11.7	3.9	57.9	2.1	12.3	--	44.2	286.4
1969	72.5	67.0	6.4	25.9	12.8	4.3	77.3	2.2	11.7	--	44.8	324.9
1970	76.2	63.4	4.7	23.7	14.5	4.8	83.8	2.9	13.8	--	45.7	333.5
1971	83.1	64.3	4.2	25.9	15.8	5.3	97.3	3.2	17.5	--	47.3	363.9
1972	103.4	96.7	4.8	27.2	14.6	4.9	113.1	2.9	21.4	--	50.2	439.2
1973	131.7	148.4	2.1	38.9	16.0	5.3	130.5	3.7	19.3	--	56.8	552.7
1974	119.7	156.9	4.4	48.7	15.6	5.2	141.4	4.4	22.4	--	67.3	586.0
1975	121.7	161.3	13.7	49.0	19.0	6.3	169.2	5.1	20.6	--	74.2	640.1
1976	139.4	106.1	10.9	74.7	22.7	7.5	173.8	8.2	38.6	--	80.4	662.3
1977	133.7	73.5	14.0	65.2	24.3	8.0	219.5	9.8	46.3	--	87.0	681.3
1978	146.8	139.5	13.7	69.7	27.9	9.2	215.4	13.1	65.4	--	93.5	794.2
1979	196.2	134.2	31.4	83.8	24.9	8.3	278.0	19.5	91.6	--	143.8	1,011.7
1980	243.9	93.1	33.6	89.9	24.4	8.1	331.2	30.5	120.1	--	228.8	1,203.6
1981	172.6	211.7	22.6	98.5	27.1	9.0	396.6	36.7	140.8	--	406.6	1,522.2
1982	182.4	216.6	16.1	84.2	28.3	9.3	320.8	41.2	162.0	--	374.0	1,434.9
1983	199.8	223.5	23.0	85.8	33.2	11.1	371.6	60.3	196.4	--	347.9	1,552.6
1984	210.1	209.5	32.1	91.6	29.9	9.9	425.6	75.5	226.3	--	337.4	1,647.9
1985	212.2	257.2	29.5	93.4	32.1	10.7	418.8	112.9	261.5	--	313.9	1,742.2
1986	203.4	211.0	27.9	94.0	32.8	10.9	430.0	109.5	261.3	--	251.1	1,631.9
1987	239.3	185.9	23.5	97.7	35.0	11.7	435.8	103.6	498.6	--	271.1	1,902.2
1988	266.5	94.9	27.3	104.5	37.1	12.4	446.6	108.2	569.8	--	276.6	1,943.9
1989	180.0	111.7	22.5	109.7	40.1	13.4	499.2	127.2	535.6	--	323.2	1,962.6
1990	251.5	126.2	28.9	111.7	44.4	14.8	540.9	123.4	543.6	--	389.0	2,174.4
1991	214.2	155.6	32.6	116.7	49.1	16.4	555.7	119.1	565.5	--	349.6	2,174.5
1992	230.1	222.4	39.0	126.0	55.2	18.4	603.8	127.7	623.3	--	338.8	2,384.7
1993	218.3	286.0	35.7	128.4	67.4	22.5	623.0	136.8	655.7	--	328.9	2,502.7
1994	194.1	242.8	34.7	145.5	80.9	27.0	682.8	138.9	660.5	--	311.4	2,518.6
1995	173.3	263.0	43.1	162.2	102.7	34.2	679.8	145.2	649.5	--	319.4	2,572.4
1996	162.8	297.0	30.6	176.0	134.5	44.8	695.2	151.4	698.5	--	376.1	2,766.9
1997	187.8	280.5	44.7	193.9	178.9	59.6	786.1	151.5	694.4	--	363.2	2,940.6

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TABLE 8. SALES FOR FINAL DEMAND, BY ECONOMIC SECTOR, NORTH DAKOTA REGION 7, MILLION DOLLARS (CURRENT DOLLARS), 1958-2012 cont.

Year	(1) Ag Lvstk	(2) Ag Crops	(4) Constr	(7) Ag Proc & Misc Mfg	(8) Retail Trade	(10) Bus & Pers Serv	(12) Households	(14) Coal Mining	(15) Coal Conversion	(16) Pet Exp/Ext	(17) Pet Refining	Total
1998	175.7	288.5	48.3	210.0	241.5	138.9	718.5	149.7	739.9	--	321.8	3,032.8
1999	197.9	295.2	57.2	217.7	332.1	169.9	725.9	155.4	735.5	--	383.7	3,270.5
2000	189.0	311.6	60.2	231.5	358.7	185.9	786.2	154.8	907.2	--	577.1	3,762.2
2001	219.7	340.3	59.6	236.8	375.3	267.0	864.4	156.1	914.0	--	529.1	3,962.3
2002	247.6	215.5	72.9	241.8	388.3	279.7	895.0	160.2	933.5	--	482.3	3,916.8
2003	274.3	299.0	65.7	258.4	408.1	318.9	969.8	165.5	975.7	--	593.1	4,328.5
2004	289.5	388.9	67.3	283.5	425.6	319.8	1,061.1	182.0	957.4	--	758.6	4,733.7
2005	304.9	406.2	80.9	303.1	456.7	329.8	1,149.5	191.5	1,298.0	--	1,030.5	5,551.1
2006	267.1	216.1	80.6	317.0	479.6	342.0	1,145.6	223.9	1,333.8	--	1,205.1	5,610.8
2007	281.1	468.6	81.6	332.2	502.1	331.8	1,247.4	232.0	1,340.1	--	1,314.8	6,131.7
2008	274.0	526.5	79.6	352.5	523.7	364.3	1,197.1	258.5	1,558.9	--	1,702.8	6,837.9
2009	233.2	717.4	97.0	321.5	553.2	372.4	1,355.6	288.5	1,365.1	--	1,061.4	6,365.3
2010	282.6	730.6	121.5	356.5	585.4	393.3	1,490.9	284.6	1,367.4	28.0	1,318.3	6,959.1
2011	333.5	852.2	115.1	386.4	608.7	398.9	1,596.7	292.6	1,409.3	67.7	1,763.0	7,824.1
2012	332.6	907.1	98.1	465.0	639.7	421.3	1,634.5	288.0	1,445.4	146.5	2,083.2	8,461.4

(Note: 1998 - 2012 Bus &amp; Pers Serv Sector includes exportable services component)

TABLE 9. SALES FOR FINAL DEMAND, BY ECONOMIC SECTOR, NORTH DAKOTA REGION 8, MILLION DOLLARS (CURRENT DOLLARS), 1958-2012

Year	(1) Ag Lvstk	(2) Ag Crops	(4) Constr	(7) Ag Proc & Misc Mfg	(8) Retail Trade	(10) Bus & Pers Serv	(12) Households	(14) Coal Mining	(15) Coal Conversion	(16) Pet Exp/Ext	(17) Pet Refining	Total
1958	27.4	40.7	1.0	2.6	1.2	0.4	6.2	0.3	--	0.8	--	80.6
1959	27.5	24.5	1.5	2.6	1.3	0.4	7.2	0.3	--	0.7	--	66.0
1960	21.3	26.0	1.8	3.2	1.1	0.4	8.2	0.3	--	1.2	--	63.5
1961	25.8	18.2	1.3	3.6	1.3	0.4	8.3	0.3	--	2.3	--	61.5
1962	23.3	33.6	0.9	3.7	1.4	0.5	8.7	0.4	--	3.6	--	76.1
1963	24.7	43.2	0.9	4.6	1.6	0.5	9.5	0.3	--	4.1	--	89.4
1964	26.3	29.9	1.6	4.9	1.9	0.6	10.7	0.3	--	4.0	--	80.2
1965	30.9	35.4	1.7	4.9	2.4	0.8	11.2	0.2	--	5.4	--	92.9
1966	35.2	46.6	1.3	5.3	3.3	1.1	12.1	0.2	--	8.2	--	113.3
1967	38.3	49.0	1.3	4.0	4.0	1.3	12.1	0.2	--	11.0	--	121.2
1968	38.3	36.0	1.5	6.4	5.1	1.7	13.9	0.3	--	16.9	--	120.1
1969	38.6	36.7	2.2	10.2	5.5	1.8	22.3	0.2	--	14.5	--	132.0
1970	38.9	42.4	2.0	9.3	6.2	2.1	29.3	0.3	--	16.9	--	147.4
1971	43.7	42.5	4.1	10.2	6.8	2.3	23.1	0.3	--	14.7	--	147.7
1972	58.2	64.9	1.4	10.7	6.3	2.1	23.9	0.4	--	15.0	--	182.9
1973	74.7	113.6	0.4	15.3	6.9	2.3	27.2	0.4	--	18.1	--	258.9
1974	70.9	161.0	1.8	19.2	6.8	2.3	29.2	0.5	--	37.6	--	329.3
1975	73.3	91.6	1.8	19.3	8.2	2.7	35.7	2.0	--	45.1	--	279.7
1976	62.4	83.4	2.5	29.4	9.8	3.3	37.4	7.8	--	55.6	--	291.6
1977	75.5	59.4	2.3	25.7	10.5	3.5	43.5	8.4	--	66.4	--	295.3
1978	79.6	89.5	7.0	27.4	12.0	4.0	50.1	8.9	--	80.2	--	358.7
1979	110.4	84.5	2.5	32.9	10.8	3.6	64.3	12.7	--	160.8	--	482.5
1980	124.2	41.6	2.5	35.4	10.6	3.5	88.1	17.6	--	375.3	--	698.8
1981	91.0	101.7	4.1	38.8	11.7	3.9	100.9	17.7	--	890.3	--	1,260.1
1982	89.4	119.6	2.9	33.1	12.2	4.1	78.8	16.5	--	820.8	--	1,177.4
1983	102.3	141.0	4.1	33.8	14.3	4.8	86.8	16.3	--	746.9	--	1,150.3
1984	110.6	142.2	5.8	36.0	12.9	4.3	95.9	20.7	--	651.6	--	1,080.0
1985	115.3	131.4	5.3	36.8	13.9	4.6	96.2	23.7	--	555.3	--	982.5
1986	110.9	120.8	5.0	37.0	14.1	4.7	98.3	17.9	--	249.4	--	658.1
1987	130.4	119.8	4.2	38.4	15.1	5.0	100.1	16.5	--	272.9	--	702.4
1988	143.5	53.3	4.9	41.1	16.0	5.3	104.9	10.0	--	192.7	--	571.7
1989	100.6	187.5	4.1	43.2	17.3	5.8	120.4	17.7	--	212.0	--	708.6
1990	133.0	73.4	5.2	43.9	19.2	6.4	132.4	18.7	--	259.7	--	691.9
1991	114.1	93.5	5.9	45.9	21.2	7.1	136.0	21.8	--	236.3	--	681.8
1992	124.8	146.6	7.0	49.6	23.9	7.9	146.5	19.0	--	217.7	--	743.0
1993	116.1	196.3	6.5	50.5	29.1	9.7	151.1	20.2	--	186.7	--	766.2
1994	105.7	144.3	6.3	57.2	34.9	11.6	164.2	21.7	--	162.9	--	708.8
1995	96.7	172.8	7.8	63.8	44.4	14.8	164.2	20.6	--	223.0	--	808.1
1996	95.4	190.8	5.5	69.2	58.1	19.4	169.2	2.3	--	350.0	--	959.9
1997	102.9	172.2	8.1	76.3	77.3	25.8	190.0	--	--	421.3	--	1,073.9

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TABLE 9. SALES FOR FINAL DEMAND, BY ECONOMIC SECTOR, NORTH DAKOTA REGION 8, MILLION DOLLARS (CURRENT DOLLARS), 1958-2012 cont.

Year	(1) Ag Lvstk	(2) Ag Crops	(4) Constr	(7) Ag Proc & Misc Mfg	(8) Retail Trade	(10) Bus & Pers Serv	(12) Households	(14) Coal Mining	(15) Coal Conversion	(16) Pet Exp/Ext	(17) Pet Refining	Total
1998	97.6	159.0	8.7	82.6	104.3	46.3	174.5	- -	- -	269.3	- -	942.3
1999	108.7	161.2	10.3	85.7	143.4	59.6	177.1	0.3	- -	340.4	- -	1,086.7
2000	111.4	197.2	10.9	91.0	154.9	64.2	191.7	0.3	- -	503.5	- -	1,325.1
2001	119.7	216.3	10.8	93.1	162.1	72.7	207.6	0.3	- -	380.7	- -	1,263.3
2002	140.3	101.8	13.2	95.1	167.7	75.8	215.0	0.4	- -	391.1	- -	1,200.4
2003	153.4	168.3	11.9	101.7	176.3	77.4	232.3	0.5	- -	443.7	- -	1,365.5
2004	163.2	174.5	12.1	111.5	183.9	80.9	256.6	1.0	- -	638.6	- -	1,622.3
2005	176.9	235.7	14.6	119.2	197.3	86.7	281.2	1.0	- -	1,096.1	- -	2,208.7
2006	164.3	150.6	14.5	124.7	207.1	92.4	283.2	1.5	- -	1,510.1	- -	2,548.4
2007	171.9	299.2	14.7	130.7	216.9	95.7	307.6	1.5	- -	1,860.9	- -	3,099.1
2008	162.7	178.8	14.4	138.6	226.2	99.6	286.5	1.6	- -	2,693.2	- -	3,801.6
2009	136.5	476.1	17.5	126.5	239.0	88.8	321.3	2.0	- -	1,710.0	- -	3,117.7
2010	171.0	434.1	21.9	140.3	252.9	93.8	353.0	1.0	- -	2,553.1	- -	4,021.1
2011	202.5	392.2	20.8	152.0	262.9	98.2	378.3	1.8	- -	3,611.3	- -	5,120.0
2012	209.7	474.9	17.7	169.3	276.3	103.9	393.1	1.5	- -	5,238.8	- -	6,885.2

(Note: 1998 - 2012 Bus &amp; Pers Serv Sector includes exportable services component)

## **Appendix B**

**Table 1. North Dakota's Economic Base, by Industrial Category, Current and Constant Dollars, Selected Years 1990 - 2012**

	Selected Industries								
Year	Agriculture <sup>1</sup>	Manufac- turing <sup>1</sup>	Coal Mining & Conversion	Oil/NG Exp., Ext. & Refining	Tourism	Exported Services	All Primary Industries	Federal Payments	Total
-----million current dollars-----									
1990	3,082.8	698.6	685.8	599.9	350.5	--	5,417.6	2,887.7	8,305.3
1995	3,450.0	1,014.4	815.4	505.9	810.1	--	6,595.8	3,678.1	10,273.9
2000	3,859.6	1,447.6	1,062.4	1,010.2	2,829.7	381.6	10,591.1	4,037.1	14,628.2
2005	4,789.0	1,895.4	1,490.6	2,104.5	3,603.5	924.7	14,807.7	5,598.3	20,406.0
2009	7,079.9	2,010.6	1,655.6	2,775.1	4,364.4	1,102.6	18,988.2	7,051.0	26,039.2
2010	7,763.9	2,229.8	1,653.0	4,608.8	4,618.4	1,216.7	22,090.6	7,746.8	29,837.4
2011	7,797.8	2,416.7	1,703.7	7,162.2	4,802.3	1,246.7	25,129.4	8,098.9	33,228.3
2012	9,018.4	2,811.8	1,734.9	14,607.1	5,047.2	1,350.6	34,570.0	7,768.7	42,338.7
-----million constant 2012 dollars-----									
1990	4,842.6	1,097.4	1,077.3	942.3	550.6	--	8,510.2	4,536.1	13,046.3
1995	4,804.4	1,412.6	1,135.5	704.5	1,128.1	--	9,185.1	5,122.0	14,307.1
2000	4,948.9	1,856.1	1,362.2	1,295.3	3,628.3	489.3	13,580.1	5,176.4	18,756.5
2005	5,466.3	2,163.5	1,701.4	2,402.1	4,113.1	1,055.5	16,901.9	6,390.0	23,291.9
2009	7,433.7	2,111.1	1,738.4	2,913.8	4,582.5	1,157.7	19,937.2	7,403.4	27,340.6
2010	8,054.7	2,313.3	1,714.9	4,781.4	4,791.4	1,262.3	22,918.0	8,036.9	30,954.9
2011	7,934.3	2,459.0	1,733.5	7,287.6	4,886.3	1,268.5	25,569.2	8,240.6	33,809.8
2012	9,018.4	2,811.8	1,734.9	14,607.1	5,047.2	1,350.6	34,570.0	7,768.7	42,338.7
Percent Change:									
2011-12	13.7	14.3	0.1	100.4	3.3	6.5	35.2	-5.7	25.2
2000-12	82.2	51.5	27.4	1,027.7	39.1	176.0	154.6	50.1	125.7
1990-12	86.2	156.2	61.0	1,450.2	816.7	--	306.2	71.3	224.5

<sup>1</sup> The processing of agricultural crops and livestock is contained in the Manufacturing sector, and can not be disaggregated due to limitations associated with data and methodologies.



**Table 2. North Dakota State Region 1's Economic Base, by Industrial Category, Current and Constant Dollars, Selected Years 1990 - 2012**

	Selected Industries								
Year	Agriculture <sup>1</sup>	Manufac- turing <sup>1</sup>	Coal Mining & Conversion	Oil/NG Exp., Ext. & Refining	Tourism	Exported Services	All Primary Industries	Federal Payments	Total
-----million current dollars-----									
1990	124.7	23.1	0.1	441.0	19.3	- -	608.2	97.1	705.3
1995	181.2	33.6	0.1	260.3	44.5	- -	519.7	123.1	642.8
2000	177.0	47.9	0.1	389.4	155.6	11.3	781.3	133.5	914.8
2005	222.8	62.7	0.1	720.5	198.1	34.8	1,239.0	183.3	1,422.3
2009	291.4	66.5	- -	1,194.6	240.0	38.1	1,830.6	231.1	2,061.7
2010	285.3	73.8	- -	2,503.0	254.0	39.3	3,155.4	254.5	3,409.9
2011	228.1	80.0	- -	5,572.1	264.1	43.8	6,188.1	265.4	6,453.5
2012	340.7	88.0	- -	10,547.2	277.6	44.3	11,297.8	253.9	11,551.7
-----million constant 2012 dollars-----									
1990	195.9	36.3	0.2	692.7	30.3	- -	955.4	152.5	1,107.9
1995	252.3	46.8	0.1	362.5	62.0	- -	723.7	171.4	895.1
2000	227.0	61.4	0.1	499.3	199.5	14.5	1,001.8	171.2	1,173.0
2005	254.3	71.6	0.1	822.4	226.1	39.7	1,414.2	209.2	1,623.4
2009	306.0	69.8	- -	1,254.3	252.0	40.0	1,922.1	242.7	2,614.8
2010	296.0	76.6	- -	2,596.7	263.5	40.8	3,273.6	264.0	3,537.6
2011	232.1	81.4	- -	5,669.6	268.7	44.6	6,296.4	270.0	6,566.4
2012	340.7	88.0	- -	10,547.2	277.6	44.3	11,297.8	253.9	11,551.7
Percent Change:									
2011-12	46.8	8.1	- -	86.0	3.3	-0.7	79.4	-6.0	75.9
2000-12	50.1	43.3	- -	2,012.4	39.1	205.5	1,027.8	48.3	884.8
1990-12	73.9	142.4	- -	1,422.6	816.2	- -	1,082.5	66.5	942.7

<sup>1</sup> The processing of agricultural crops and livestock is contained in the Manufacturing sector, and can not be disaggregated due to limitations associated with data and methodologies.

**Table 3. North Dakota State Region 2's Economic Base, by Industrial Category, Current and Constant Dollars, Selected Years 1990 - 2012**

	Selected Industries								
Year	Agriculture <sup>1</sup>	Manufac- turing <sup>1</sup>	Coal Mining & Conversion	Oil/NG Exp., Ext. & Refining	Tourism	Exported Services	All Primary Industries	Federal Payments	Total
	-----million current dollars-----								
1990	369.0	100.5	--	204.9	54.0	--	728.4	550.3	1,278.7
1995	475.3	145.9	--	113.9	124.8	--	859.9	700.7	1,560.6
2000	413.4	208.2	--	185.2	435.7	76.3	1,318.8	764.3	2,083.1
2005	642.5	272.6	--	333.7	554.9	167.2	1,970.9	1,061.3	3,032.2
2009	944.9	289.1	--	2,723.7	672.1	222.5	4,852.3	1,339.8	6,192.1
2010	917.8	320.6	--	4,928.6	711.2	226.7	7,104.9	1,471.5	8,576.4
2011	733.9	347.5	--	6,205.3	739.6	236.3	8,262.6	1,539.3	9,801.9
2012	1,088.4	411.9	--	8,377.2	777.3	239.1	10,893.9	1,478.0	12,371.9
	-----million constant 2012 dollars-----								
1990	579.6	157.9	--	321.9	84.8	--	1,144.2	864.4	2,008.6
1995	661.9	203.2	--	158.6	173.8	--	1,197.5	975.7	2,173.2
2000	530.1	266.9	--	237.5	558.7	97.8	1,691.0	980.0	2,671.0
2005	733.4	311.1	--	380.9	633.4	190.8	2,249.6	1,211.4	3,461.0
2009	992.1	303.6	--	2,859.8	705.7	233.6	5,094.8	1,406.8	6,501.6
2010	952.2	332.6	--	5,113.2	737.8	235.2	7,371.0	1,526.6	8,897.6
2011	746.7	353.6	--	6,313.9	752.6	240.4	8,407.2	1,566.2	9,973.4
2012	1,088.4	411.9	--	8,377.2	777.3	239.1	10,893.9	1,478.0	12,371.9
Percent Change:									
2011-12	45.8	16.5	--	32.7	3.3	-0.5	29.6	-5.6	24.0
2000-12	105.3	54.3	--	3,427.2	39.1	144.5	544.2	50.8	363.2
1990-12	87.8	160.9	--	2,502.4	816.6	--	852.1	71.0	515.9

<sup>1</sup> The processing of agricultural crops and livestock is contained in the Manufacturing sector, and can not be disaggregated due to limitations associated with data and methodologies.

**Table 4. North Dakota State Region 3's Economic Base, by Industrial Category, Current and Constant Dollars, Selected Years 1990 - 2012**

	Selected Industries								
Year	Agriculture <sup>1</sup>	Manufac- turing <sup>1</sup>	Coal Mining & Conversion	Oil/NG Exp., Ext. & Refining	Tourism	Exported Services	All Primary Industries	Federal Payments	Total
-----million current dollars-----									
1990	312.8	25.9	--	--	30.2	--	368.9	293.7	662.6
1995	325.4	37.5	--	--	69.6	--	432.5	374.1	806.6
2000	281.7	53.6	--	--	243.3	16.0	594.6	413.3	1,007.9
2005	414.1	70.1	--	--	309.9	20.1	814.2	573.5	1,387.7
2009	667.7	74.4	--	--	375.3	33.2	1,150.6	722.0	1,872.6
2010	816.1	82.5	--	--	397.2	34.1	1,329.9	792.1	2,122.0
2011	877.1	89.4	--	--	413.1	26.5	1,406.1	829.0	2,235.1
2012	956.8	119.2	--	--	434.1	28.6	1,538.7	796.1	2,334.8
-----million constant 2012 dollars-----									
1990	491.4	40.7	--	--	47.4	--	579.4	461.4	1,040.9
1995	453.2	52.2	--	--	96.9	--	602.3	520.9	1,123.2
2000	361.2	68.7	--	--	312.0	20.5	762.4	529.9	1,292.3
2005	472.7	80.0	--	--	353.7	22.9	929.3	654.6	1,583.9
2009	701.1	78.1	--	--	394.0	34.9	1,208.1	758.1	1,966.2
2010	846.6	85.6	--	--	412.1	35.4	1,379.7	821.8	2,201.5
2011	892.5	90.9	--	--	420.3	27.0	1,430.7	843.5	2,274.2
2012	956.8	119.2	--	--	434.1	28.6	1,538.7	796.1	2,334.8
Percent Change:									
2011-12	7.2	31.1	--	--	3.3	5.9	7.5	-5.6	2.7
2000-12	164.9	73.5	--	--	39.1	39.5	101.8	50.2	80.7
1990-12	94.7	192.9	--	--	815.8	--	165.6	72.5	124.3

<sup>1</sup> The processing of agricultural crops and livestock is contained in the Manufacturing sector, and can not be disaggregated due to limitations associated with data and methodologies.

**Table 5. North Dakota State Region 4's Economic Base, by Industrial Category, Current and Constant Dollars, Selected Years 1990 - 2012**

	Selected Industries								
Year	Agriculture <sup>1</sup>	Manufac- turing <sup>1</sup>	Coal Mining & Conversion	Oil/NG Exp., Ext. & Refining	Tourism	Exported Services	All Primary Industries	Federal Payments	Total
	-----million current dollars-----								
1990	452.0	129.7	--	--	48.0	--	629.7	557.1	1,186.8
1995	520.2	188.4	--	--	110.9	--	819.5	711.5	1,531.0
2000	633.7	268.8	--	--	387.7	10.2	1,300.4	782.8	2,083.2
2005	549.0	352.0	--	--	493.7	51.7	1,446.4	1,091.3	2,537.7
2009	851.8	373.4	--	--	597.9	54.6	1,877.7	1,378.7	3,256.4
2010	950.8	414.1	--	--	632.7	52.9	2,050.5	1,512.3	3,562.8
2011	1,077.1	448.8	--	--	657.9	54.4	2,238.2	1,584.3	3,822.5
2012	1,042.5	493.7	--	--	691.5	61.5	2,289.2	1,522.3	3,811.5
	-----million constant 2012 dollars-----								
1990	710.0	203.8	--	--	75.4	--	989.2	875.1	1,864.3
1995	724.4	262.4	--	--	154.4	--	1,141.2	990.8	2,132.0
2000	812.5	344.7	--	--	497.1	13.1	1,667.4	1,003.7	2,671.1
2005	626.7	401.8	--	--	563.5	59.0	1,651.0	1,245.6	2,896.9
2009	894.4	392.1	--	--	627.8	57.3	1,971.6	1,447.6	3,419.2
2010	986.4	429.6	--	--	656.4	54.9	2,127.3	1,568.9	3,696.2
2011	1,095.9	456.7	--	--	669.4	55.4	2,277.4	1,612.0	3,889.4
2012	1,042.5	493.7	--	--	691.5	61.5	2,289.2	1522.3	3,811.5
Percent Change:									
2011-12	-4.9	8.1	--	--	3.3	11.0	0.5	-5.6	-2.0
2000-12	28.3	43.2	--	--	39.1	369.5	37.3	51.7	42.7
1990-12	46.8	142.2	--	--	817.1	--	131.4	74.0	104.4

<sup>1</sup> The processing of agricultural crops and livestock is contained in the Manufacturing sector, and can not be disaggregated due to limitations associated with data and methodologies.

**Table 6. North Dakota State Region 5's Economic Base, by Industrial Category, Current and Constant Dollars, Selected Years 1990 - 2012**

	Selected Industries								
Year	Agriculture <sup>1</sup>	Manufac- turing <sup>1</sup>	Coal Mining & Conversion	Oil/NG Exp., Ext. & Refining	Tourism	Exported Services	All Primary Industries	Federal Payments	Total
-----million current dollars-----									
1990	617.0	201.8	--	--	64.1	--	882.9	445.0	1,327.9
1995	641.5	292.9	--	--	148.3	--	1,082.7	569.2	1,651.9
2000	857.8	418.1	--	--	517.9	166.1	1,959.9	628.3	2,588.2
2005	882.8	547.4	--	--	659.5	417.7	2,507.4	875.5	3,382.9
2009	1,329.1	580.7	--	--	798.7	496.9	3,205.4	1,105.5	4,310.9
2010	1,600.4	644.0	--	--	845.2	598.0	3,687.6	1,214.5	4,902.1
2011	1,416.2	698.0	--	--	878.8	613.3	3,606.3	1,272.6	4,878.9
2012	1,778.7	772.9	--	--	923.6	702.3	4,177.5	1,222.4	5,399.9
-----million constant 2012 dollars-----									
1990	969.2	317.0	--	--	100.7	--	1,386.9	699.0	2,085.9
1995	893.3	407.9	--	--	206.5	--	1,507.7	792.7	2,300.4
2000	1,099.9	536.1	--	--	664.0	213.0	2,513.0	805.6	3,318.6
2005	1,007.6	624.8	--	--	752.8	476.8	2,862.0	999.3	3,861.3
2009	1,395.5	609.7	--	--	838.6	521.8	3,365.6	1,160.8	4,526.4
2010	1,660.3	668.1	--	--	876.9	620.4	3,825.7	1,260.0	5,085.7
2011	1,441.0	710.2	--	--	894.2	624.0	3,669.4	1,294.9	4,964.3
2012	1,778.7	772.9	--	--	923.6	702.3	4,177.5	1,222.4	5,399.9
Percent Change:									
2011-12	23.4	8.8	--	--	3.3	12.5	13.8	-5.6	8.8
2000-12	61.7	44.2	--	--	39.1	229.7	66.2	51.7	62.7
1990-12	83.5	143.8	--	--	817.2	--	201.2	74.9	158.9

<sup>1</sup> The processing of agricultural crops and livestock is contained in the Manufacturing sector, and can not be disaggregated due to limitations associated with data and methodologies.

**Table 7. North Dakota State Region 6's Economic Base, by Industrial Category, Current and Constant Dollars, Selected Years 1990 - 2012**

	Selected Industries								
Year	Agriculture <sup>1</sup>	Manufac- turing <sup>1</sup>	Coal Mining & Conversion	Oil/NG Exp., Ext. & Refining	Tourism	Exported Services	All Primary Industries	Federal Payments	Total
-----million current dollars-----									
1990	623.2	62.0	--	--	50.1	--	735.3	268.7	1,004.0
1995	600.6	90.1	--	--	115.9	--	806.6	339.0	1,145.6
2000	686.8	128.5	--	--	404.7	22.8	1,242.8	375.3	1,618.1
2005	954.1	168.3	--	--	515.3	34.8	1,672.5	515.2	2,187.7
2009	1,431.8	178.5	--	--	624.1	60.2	2,294.6	641.3	2,935.9
2010	1,575.2	198.0	--	--	660.4	58.0	2,491.6	703.4	3,195.0
2011	1,685.0	214.6	--	--	686.7	65.8	2,652.1	733.5	3,385.6
2012	1,887.0	291.8	--	--	721.7	55.0	2,955.5	703.7	3,659.2
-----million constant 2012 dollars-----									
1990	978.9	97.4	--	--	78.7	--	1,155.0	422.1	1,577.1
1995	836.4	125.4	--	--	161.4	--	1,123.2	472.1	1,595.3
2000	880.6	164.8	--	--	518.9	29.2	1,593.5	481.2	2,074.7
2005	1,089.0	192.1	--	--	588.2	39.7	1,909.0	588.1	2,497.1
2009	1,503.4	187.4	--	--	655.3	63.2	2,409.3	673.3	3,082.6
2010	1,634.2	205.4	--	--	685.1	60.2	2,584.9	729.7	3,314.6
2011	1,714.5	218.3	--	--	698.7	67.0	2,698.5	746.4	3,444.9
2012	1,887.0	291.8	--	--	721.7	55.0	2,955.5	703.7	3,659.2
Percent Change:									
2011-12	10.1	33.7	--	--	3.3	-17.9	9.5	-5.7	6.2
2000-12	114.3	77.1	--	--	39.1	88.4	85.5	46.2	76.4
1990-12	92.8	199.6	--	--	817.0	--	155.9	66.7	132.0

<sup>1</sup> The processing of agricultural crops and livestock is contained in the Manufacturing sector, and can not be disaggregated due to limitations associated with data and methodologies.

**Table 8. North Dakota State Region 7's Economic Base, by Industrial Category, Current and Constant Dollars, Selected Years 1990 - 2012**

	Selected Industries								
Year	Agriculture <sup>1</sup>	Manufac- turing <sup>1</sup>	Coal Mining & Conversion	Oil/NG Exp., Ext. & Refining	Tourism	Exported Services	All Primary Industries	Federal Payments	Total
	-----million current dollars-----								
1990	377.7	111.7	667.0	412.9	59.2	- -	1,628.5	545.9	2,174.4
1995	436.3	162.2	794.7	345.3	136.9	- -	1,875.4	697.0	2,572.4
2000	500.6	231.5	1,062.0	659.3	478.3	66.3	2,998.0	764.2	3,762.2
2005	711.1	303.1	1,489.5	1,201.7	609.0	177.5	4,491.9	1,059.2	5,551.1
2009	950.6	321.5	1,653.6	1,180.8	737.6	188.0	5,032.1	1,333.2	6,365.3
2010	1,013.2	356.5	1,652.0	1,488.8	780.5	198.2	5,489.2	1,469.9	6,959.1
2011	1,185.7	386.4	1,701.9	2,009.6	811.6	196.0	6,291.2	1,532.9	7,824.1
2012	1,239.7	465.0	1,733.4	2,497.0	853.0	208.0	6,996.1	1,465.3	8,461.4
	-----million constant 2012 dollars-----								
1990	593.3	175.5	1,047.7	648.6	93.0	- -	2,558.1	857.5	3,415.6
1995	607.6	225.9	1,106.7	480.8	190.6	- -	2,611.6	970.6	3,582.2
2000	641.9	296.8	1,361.7	845.4	613.3	85.0	3,844.1	979.9	4,824.0
2005	811.7	346.0	1,700.2	1,371.6	695.1	202.6	5,127.2	1,209.0	6,336.2
2009	998.1	337.6	1,736.2	1,239.8	774.5	197.4	5,283.6	1,399.8	6,683.4
2010	1,051.1	369.9	1,713.9	1,544.6	809.7	205.6	5,694.8	1,524.9	7,219.7
2011	1,206.4	393.2	1,731.7	2,044.8	825.8	199.4	6,401.3	1,559.7	7,961.0
2012	1,239.7	465.0	1,733.4	2,497.0	853.0	208.0	6,996.1	1,465.3	8,461.4
Percent Change:									
2011-12	2.8	18.3	0.1	22.1	3.3	4.3	9.3	-6.1	6.3
2000-12	93.1	56.7	27.3	195.4	39.1	144.7	82.0	49.5	75.4
1990-12	108.9	165.0	65.4	285.0	817.2	- -	173.5	65.1	147.7

<sup>1</sup> The processing of agricultural crops and livestock is contained in the Manufacturing sector, and can not be disaggregated due to limitations associated with data and methodologies.

**Table 9. North Dakota State Region 8's Economic Base, by Industrial Category, Current and Constant Dollars, Selected Years 1990 - 2012**

	Selected Industries								
Year	Agriculture <sup>1</sup>	Manufac- turing <sup>1</sup>	Coal Mining & Conversion	Oil/NG Exp., Ext. & Refining	Tourism	Exported Services	All Primary Industries	Federal Payments	Total
-----million current dollars-----									
1990	206.4	43.9	18.7	267.4	25.6	- -	562.0	129.9	691.9
1995	269.5	63.8	20.6	231.5	59.2	- -	644.6	163.5	808.1
2000	308.6	91.0	0.3	530.7	206.5	12.6	1,149.7	175.4	1,325.1
2005	412.6	119.2	1.0	1,152.9	263.1	20.9	1,969.7	239.0	2,208.7
2009	612.6	126.5	2.0	1,749.4	318.7	9.1	2,818.3	299.4	3,117.7
2010	605.1	140.3	1.0	2,599.4	337.2	9.5	3,692.5	328.6	4,021.1
2011	594.7	152.0	1.8	3,668.5	350.5	10.6	4,778.1	341.9	5,120.0
2012	684.6	169.3	1.5	5,322.6	368.4	11.8	6,558.2	327.0	6,885.2
-----million constant 2012 dollars-----									
1990	324.2	69.0	29.4	420.0	40.2	- -	882.8	204.1	1,086.9
1995	375.3	88.8	28.7	322.4	82.4	- -	897.6	227.7	1,125.3
2000	395.7	116.7	0.4	680.5	264.8	16.1	1,474.2	224.9	1,699.1
2005	471.0	136.1	1.1	1,315.9	300.3	23.9	2,248.3	272.8	2,521.1
2009	643.2	132.8	2.1	1,836.8	334.6	9.6	2,959.1	314.4	3,273.5
2010	627.8	145.6	1.0	2,696.7	349.8	9.9	3,830.8	340.9	4,171.7
2011	605.1	154.7	1.8	3,732.7	356.6	10.8	4,861.7	347.9	5,109.6
2012	684.6	169.3	1.5	5,322.6	368.4	11.8	6,558.2	327.0	6,885.2
Percent Change:									
2011-12	13.1	9.4	-16.7	42.6	3.3	9.3	34.9	-6.0	34.8
2000-12	73.0	45.1	275.0	682.2	39.1	-26.7	344.9	45.4	305.2
1990-12	111.2	145.4	-94.9	1,167.3	816.4	- -	642.9	60.2	533.5

<sup>1</sup> The processing of agricultural crops and livestock is contained in the Manufacturing sector, and can not be disaggregated due to limitations associated with data and methodologies.



## **Appendix C**

**TABLE 1. ESTIMATES OF PERSONAL INCOME AND DIFFERENCES IN ESTIMATES, NORTH DAKOTA, 1958-2012**

Year	Department of Commerce Estimate	I-O Analysis Estimate	Percent Difference
	-----\$000-----		-----Percent-----
1958	1,094,030	1,022,412	-6.55
1959	1,008,057	978,420	-2.94
1960	1,128,267	942,488	-16.47
1961	1,035,582	1,011,462	-2.33
1962	1,460,980	1,285,790	-11.99
1963	1,365,020	1,353,864	-0.82
1964	1,367,166	1,521,191	11.27
1965	1,497,762	1,470,129	-1.84
1966	1,555,539	1,662,394	6.87
1967	1,595,042	1,573,010	-1.38
1968	1,643,964	1,684,451	2.46
1969	1,850,417	1,890,973	2.19
1970	1,913,283	2,117,319	10.66
1971	2,158,416	2,156,642	-0.08
1972	2,676,385	2,601,416	-2.80
1973	3,841,862	3,674,738	-4.35
1974	3,379,859	4,104,667	21.44
1975	3,919,075	4,009,827	2.32
1976	3,860,259	3,860,970	0.02
1977	4,067,233	3,829,503	-5.85
1978	5,006,746	4,481,331	-10.49
1979	5,463,873	5,187,221	-5.06
1980	5,589,756	5,930,502	6.10
1981	6,709,944	6,899,460	2.82
1982	7,069,655	6,305,332	-10.81
1983	7,360,558	7,223,150	-1.87
1984	7,930,244	7,313,802	-7.77
1985	8,182,182	7,713,453	-5.73
1986	8,386,307	7,425,914	-11.45
1987	8,526,996	7,672,128	-10.03
1988	8,162,964	8,104,626	-0.71
1989	9,047,120	7,868,061	-13.03
1990	9,649,930	8,875,195	-8.03
1991	9,842,901	8,930,915	-9.27
1992	10,762,348	9,854,454	-8.44
1993	10,859,605	10,039,493	-7.55
1994	11,612,277	10,569,131	-8.98
1995	11,640,079	10,783,732	-7.36
1996	12,982,928	11,372,008	-12.41
1997	12,885,281	12,260,750	-4.85
1998	13,855,000	12,101,933	-12.65
1999	14,747,353	12,769,997	-13.41
2000	15,836,129	13,702,728	-13.47
2001	16,421,689	14,637,516	-10.86
2002	16,779,969	14,934,817	-11.00

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**TABLE 1. ESTIMATES OF PERSONAL INCOME AND DIFFERENCES IN ESTIMATES, NORTH DAKOTA, 1958-2012 cont.**

Year	Department of Commerce Estimate	I-O Analysis Estimate	Percent Difference
	-----\$000-----		-----Percent-----
2003	18,077,751	16,516,549	-8.64
2004	18,553,456	17,585,438	-5.22
2005	19,883,207	18,967,258	-4.61
2006	20,514,819	18,867,456	-8.0
2007	23,016,715	21,361,934	-7.2
2008	26,896,401	25,524,526	-5.1
2009	26,181,372	24,832,791	-5.2
2010	28,934,964	28,059,493	-3.0
2011	32,332,079	30,250,269	-6.4
2012	38,389,622	35,069,712	-8.7
Absolute Average Difference	7.11		
Mean Difference	-4.70		
Standard Deviation	7.0084		
Thiel's U <sub>1</sub>	0.0409		

## **Appendix D**

Table 1. North Dakota's Economic Base and Year-to-Year Changes, In Nominal and Current Dollars, 1958-2012

Year	Nominal Dollars Economic Base			Constant Dollars Economic Base		
	Change	Change		Change	Change	
	-----million \$-----	----%----		-----million \$-----	----%----	
1958	970.0			6,043.6		
1959	931.7	-38.3	-3.9	5,670.7	-372.9	-6.2
1960	900.9	-30.8	-3.3	5,407.6	-263.2	-4.6
1961	942.2	41.3	4.6	5,595.0	187.4	3.5
1962	1,161.2	219.0	23.2	6,810.6	1,215.5	21.7
1963	1,241.4	80.2	6.9	7,200.7	390.1	5.7
1964	1,333.3	91.9	7.4	7,614.5	413.8	5.7
1965	1,359.7	26.4	2.0	7,625.9	11.4	0.1
1966	1,526.4	166.7	12.3	8,327.3	701.4	9.2
1967	1,472.2	-54.2	-3.6	7,805.9	-521.4	-6.3
1968	1,567.7	95.5	6.5	7,974.1	168.1	2.2
1969	1,761.8	194.1	12.4	8,540.0	565.9	7.1
1970	2,018.1	256.3	14.5	9,291.4	751.4	8.8
1971	2,001.1	-17.0	-0.8	8,769.1	-522.4	-5.6
1972	2,434.5	433.4	21.7	10,224.7	1,455.6	16.6
1973	3,509.8	1,075.3	44.2	13,977.7	3,753.0	36.7
1974	3,953.5	443.7	12.6	14,444.6	466.9	3.3
1975	3,732.0	-221.5	-5.6	12,481.6	-1,963.0	-13.6
1976	3,618.8	-113.2	-3.0	11,473.7	-1,007.9	-8.1
1977	3,585.5	-33.3	-0.9	10,703.0	-770.7	-6.7
1978	4,250.6	665.1	18.5	11,856.6	1,153.6	10.8
1979	4,920.3	669.7	15.8	12,677.9	821.3	6.9
1980	5,706.5	786.2	16.0	13,487.4	809.4	6.4
1981	7,039.2	1,332.7	23.4	15,216.6	1,729.2	12.8
1982	6,512.5	-526.7	-7.5	13,255.6	-1,961.0	-12.9
1983	7,253.7	741.2	11.4	14,203.4	947.8	7.2
1984	7,210.8	-42.9	-0.6	13,636.2	-567.3	-4.0
1985	7,545.6	334.8	4.6	13,827.4	191.2	1.4
1986	6,963.3	-582.3	-7.7	12,508.2	-1,319.2	-9.5
1987	7,363.9	400.6	5.8	12,898.8	390.6	3.1
1988	7,781.4	417.5	5.7	13,168.7	270.0	2.1
1989	7,418.9	-362.5	-4.7	12,084.9	-1,083.9	-8.2
1990	8,305.3	886.4	11.9	13,046.3	961.5	8.0
1991	8,421.6	116.3	1.4	12,802.7	-243.7	-1.9
1992	9,275.9	854.3	10.1	13,787.0	984.3	7.7
1993	9,444.6	168.7	1.8	13,711.7	-75.3	-0.5
1994	9,853.6	409.0	4.3	14,006.5	294.9	2.2
1995	10,273.9	420.3	4.3	14,307.1	300.5	2.1
1996	11,107.2	833.3	8.1	15,188.3	881.2	6.2
1997	11,987.5	880.3	7.9	16,116.6	928.3	6.1
1998	12,285.5	298.0	2.5	16,341.4	224.9	1.4
1999	13,424.3	1,138.8	9.3	17,603.3	1,261.9	7.7
2000	14,628.2	1,203.9	9.0	18,756.5	1,153.2	6.6
2001	15,352.8	724.6	5.0	19,243.9	487.4	2.6
2002	15,667.4	314.6	2.0	19,342.5	98.5	0.5
2003	17,284.0	1,616.6	10.3	20,919.9	1,577.4	8.2
2004	18,452.0	1,168.0	6.8	21,736.4	816.5	3.9
2005	20,406.0	1,954.0	10.6	23,291.9	1,555.5	7.2

-continued-

Table 1. North Dakota's Economic Base and Year-to-Year Changes, In Nominal and Current Dollars, 1958-2012

Year	Nominal Dollars Economic Base			Constant Dollars Economic Base		
		Change	Change		Change	Change
	-----million \$-----		----%----	-----million \$-----		---%----
2006	20,843.2	437.2	2.1	23,082.2	-209.7	-0.9
2007	23,466.7	2,623.5	12.6	25,317.4	2,235.2	9.7
2008	27,294.0	3,827.3	16.3	28,879.5	3,562.1	14.1
2009	26,039.2	-1,254.8	-4.6	27,340.6	-1,538.9	-5.3
2010	29,837.4	3,798.2	14.6	30,954.9	3,614.3	13.2
2011	33,228.3	3,390.9	11.4	33,809.8	2,855.0	9.2
2012	42,338.7	9,110.4	27.4	42,338.7	8,528.9	25.2

**TABLE 2. GROSS DOMESTIC PRODUCT IMPLICIT PRICE DEFLATORS FOR 2000, 2009, AND 2012 BASE, 1958-2012**

Year	GDP Implicit Price Deflators		
	2000 = 100 Base	2009 = 100 Base	2012 = 100 Base
1958	20.58	16.84	16.05
1959	21.07	17.25	16.43
1960	21.36	17.49	16.66
1961	21.60	17.69	16.84
1962	21.86	17.90	17.05
1963	22.11	18.11	17.24
1964	22.45	18.38	17.51
1965	22.86	18.72	17.83
1966	23.50	19.25	18.33
1967	24.18	19.81	18.86
1968	25.21	20.65	19.66
1969	26.45	21.66	20.63
1970	27.85	22.81	21.72
1971	29.26	23.96	22.82
1972	30.53	25.01	23.81
1973	32.20	26.37	25.11
1974	35.09	28.73	27.37
1975	38.34	31.40	29.90
1976	40.44	33.12	31.54
1977	42.95	35.17	33.50
1978	45.97	37.64	35.85
1979	49.76	40.75	38.81
1980	54.25	44.23	42.31
1981	59.31	48.57	46.26
1982	62.99	51.59	49.13
1983	65.48	53.62	51.07
1984	67.80	55.26	52.88
1985	69.97	57.30	54.57
1986	71.39	58.46	55.67
1987	73.21	59.95	57.09
1988	75.77	62.05	59.09
1989	78.71	64.46	61.39
1990	81.63	66.85	63.66
1991	84.34	69.07	65.78
1992	86.27	70.64	67.28
1993	88.32	72.33	68.88
1994	90.20	73.87	70.35
1995	92.08	75.41	71.81
1996	93.76	76.78	73.13
1997	95.37	78.10	74.38
1998	96.40	78.94	75.18
1999	97.78	80.07	76.26
2000	100.00	81.89	77.99
2001	102.29	83.77	79.78
2002	103.86	85.05	81.00
2003	105.94	86.75	82.62
2004	108.84	89.13	84.89
2005	112.33	91.99	87.61
2006	115.79	94.82	90.30
2007	118.86	97.34	92.69

- continued -

**TABLE 2. GROSS DOMESTIC PRODUCT IMPLICIT PRICE DEFLATORS FOR 2000, 2009, AND 2012 BASE, 1958-2012 continued**

Year	GDP Implicit Price Deflators		
	2000 = 100 Base	2009 = 100 Base	2012 = 100 Base
2007	118.86	97.34	
2008	121.18	99.24	94.51
2009	122.11	100.00	95.24
2010	123.59	101.21	96.39
2011	126.02	103.20	98.28
2012	128.22	105.00	100.00

Source:, Bureau of Economic Analysis. February 2014. Historical Measures. Survey of Current Business Online. Volume 94, No.2. [www.bea.gov/scb/index.htm](http://www.bea.gov/scb/index.htm). Washington, D.C.: U.S. Department of Commerce.