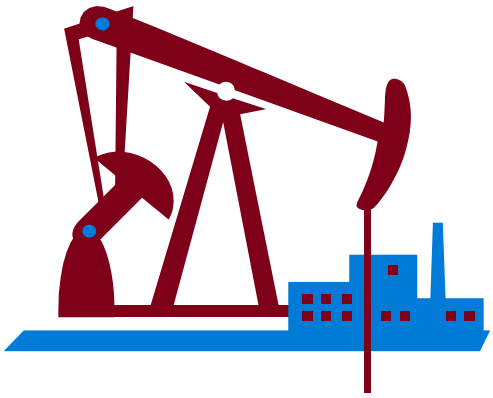
Petroleum Industry's Economic Contribution to North Dakota in 2007

Dean A. Bangsund*
F. Larry Leistritz



North Dakota's largest basic sector industries, which include agriculture, manufacturing, and energy, provide much of the economic stimuli for the state's economy. North Dakota's energy industries can be conveniently separated into the activities that produce and distribute electricity, coal, and petroleum.

Recent upswings in oil activity, due in part to increased energy prices, the availability of improved exploration and extraction technology, and substantial potential for oil recovery from various formations in the Williston Basin, have brought new attention to the petroleum industry in North Dakota. Increase in leasing activity, more well drilling rigs operating in the state, substantial increases in severance tax collections, and other financial and economic aspects of the industry have all been discussed in the media. The purpose of this report is to document the physical and economic activity associated with the petroleum industry in North Dakota.

BACKGROUND

The industrial organization of the petroleum industry in the United States is often divided into upstream and downstream components. The upstream components of the petroleum industry generally include exploration, development, and production of crude oil and natural gas. The downstream components include transportation, processing, distribution, marketing, and retail delivery of petroleum products.

The petroleum industry in North Dakota consists of both upstream and downstream components. For this study, the petroleum industry was limited to in-state exploration, extraction/production, transportation, and processing of crude oil and natural gas. The distribution, marketing, and retail sale of petroleum products (e.g., diesel, gasoline, propane, natural gas) was not included.

The exploration and extraction phases of the petroleum industry are not organized like other industries in the state. Firms that own producing wells (oil operators) contract much of the work of exploration and extraction of oil and gas to firms that specialize in various aspects of those processes. As a result, much of the expenditures incurred in the state for oil and gas production start with the oil operator but flow through the firms that provide support and service in the oil patch.

Oil and gas wells typically have royalty interests, owner/operator interests, and working interests. Royalty interests receive a share of the value of a well's output but do not share in the expenses associated with the well. Owner and working interests share, based on various percentages or arrangements, the remaining revenues and all of the expenses of a well. The

*Research scientist and professor, respectively, Department of Agribusiness and Applied Economics, North Dakota State University, Fargo.

well owner or operator is generally responsible or in charge of all operations.

Oil and gas production is limited to the western third of North Dakota (Figure 1). Production is currently concentrated in Billings, Dunn, Bowman, McKenzie, Mountrail, and Williams Counties. Those counties accounted for nearly 88 percent of state oil production in 2007 (North Dakota Industrial Commission 2008).

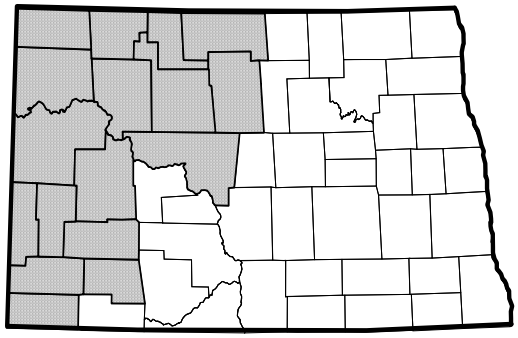


Figure 1. Oil Producing Counties, North Dakota

Nationally, North Dakota is ninth among oil producing states based on crude oil production from 1981 through 2007 (U.S. Department of Energy 2008). North Dakota ranked eighth nationally among oil producing states in 2007. From 1981 through 2007, North Dakota accounted for only 0.3 percent of national natural gas production and was ranked 20th among all states in 2007 (U.S. Department of Energy 2008).

Oil output in North Dakota has fluctuated substantially since commercial production began in the early 1950s (Figure 2). The first oil boom started in the early 1950s and lasted into the early 1960s. Oil production then rapidly declined until the next oil boom, which started in the mid 1970s and lasted until the mid 1980s. More recently, oil production has fluctuated between multiple years of increasing output and years of declining production. Currently, oil and gas production is increasing (Figure 2).

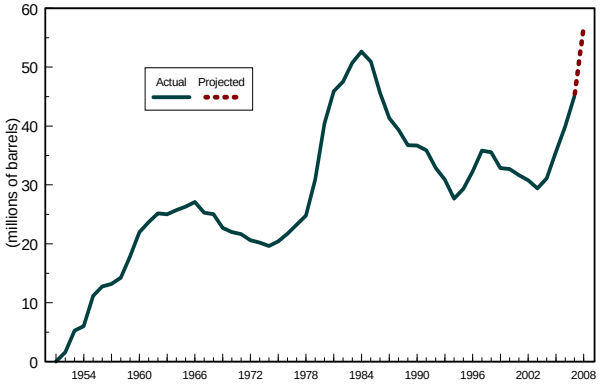


Figure 2. North Dakota Crude Oil Production, 1951 through 2007
Source: North Dakota Industrial Commission (2008).

The annual value of oil production in North Dakota was estimated using monthly average price and production data from the North Dakota Industrial Commission (2008). The overall value of oil production in North Dakota, in nominal terms, has generally paralleled oil output despite price fluctuations over time (Figure 3).

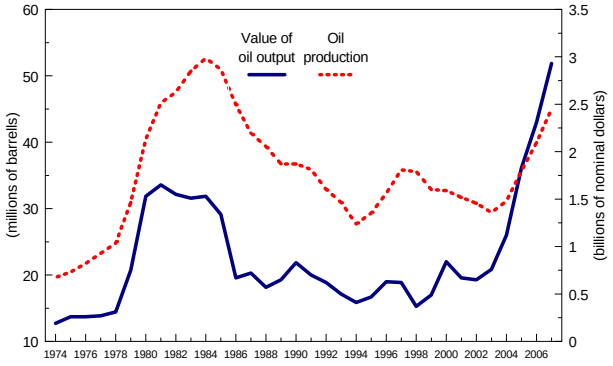


Figure 3. Production and Market Value of Crude Oil, North Dakota, 1974 through 2007
Source: North Dakota Industrial Commission (2008).

PROCEDURES

An economic contribution analysis, as defined in this study, represents an estimate of all relevant in-state expenditures and returns associated with an industry. The economic contribution approach has been used for several

other industries in North Dakota (Bangsund and Leistritz 2004, 2005; Coon and Leistritz 2008).

Industry Surveys

Firms that own or operate oil wells in the state were surveyed to obtain information on expenses for oil and gas exploration and extraction/production, general business expenses in the state, employment, measures of oil and gas production, and leasing and drilling activity. The survey of oil operators resulted in useable information from 14 firms. The firms' production from owned/operated wells represented about one-third of the state's 2007 production of crude oil and natural gas.

Another survey was conducted for firms engaged in pipeline transportation of crude oil and unprocessed natural gas in North Dakota and included firms that process crude oil and natural gas in North Dakota. The processor/pipeline survey provided estimates of the amount and type of expenditures made in North Dakota and in-state employment by those firms. Firms operating pipelines for the transport of refined or processed petroleum products were not included in the study.

Information from firms that provide service and support to oil operators in the state was obtained from a previous study of the petroleum industry (Bangsund and Leistritz 2007). A survey of companies providing leasing/brokerage services to petroleum sector firms was conducted to obtain information on oil leasing activities in North Dakota.

Estimation Techniques

The survey oil operators and processing firms, along with information from the 2005 study, provided data to set the level of spending and to determine the type and distribution of spending among sectors of the North Dakota economy. Benchmark expenses for extraction/production, transportation, and administrative expenses were estimated per barrel of oil equivalent (BOE). Total state production in 2007, expressed in BOE, was then used with survey estimates of in-state expenditures per BOE to generate state-level estimates for extraction/production, transportation, and administrative spending. In-state employment by oil operators was estimated in the same manner. Benchmark expenses for exploration were estimated per well drilled and were used with data on the number of wells drilled in North Dakota in 2007. Data from the survey of leasing/brokerage firms was used with secondary data from state agencies to estimate private lease bonuses paid to North Dakota residents.

Other in-state expenditures, such as severance taxes, public lease bonuses, and royalty payments represented a combination of survey data, state-level statistics, and information obtained from various state and federal governmental agencies.

Input-Output Analysis

Economic activity from a project, program, policy, or activity can be categorized into direct and secondary impacts. Direct impacts are those changes in output, employment, or income that represent the initial or first-round effects of the project, program, policy, or activity. Secondary impacts (sometimes further categorized into indirect and induced effects) result from subsequent rounds of spending and respending within the economy. Input-output (I-O) analysis traces linkages (i.e., the amount of spending and respending) among sectors of an economy and calculates the total business activity resulting from a direct impact in a basic sector (Coon et al. 1985).

This process of spending and respending can be explained by using an example. A single dollar from a North Dakota wheat producer (*Households* sector) may be spent for a loaf of bread at the local store (*Retail Trade* sector); the store uses part of that dollar to pay for the next shipment of bread (*Transportation* and *Agricultural Processing* sectors) and part to pay the store employee (*Households* sector) who shelved or sold the bread; the bread supplier uses part of that dollar to pay for the grain used to make the bread (*Agriculture-Crops* sector) ... and so on.

RESULTS

The economic contribution of the petroleum industry was primarily based on estimates of in-state expenditures from exploration, extraction/production, transportation, and processing of crude oil and natural gas. Estimates of in-state expenditures were combined with estimates of oil and gas royalties, state severance taxes, and lease bonuses to determine total direct impacts. Subsequently, the direct impacts were applied to the North Dakota Input-Output Model to estimate the secondary impacts.

Direct Economic Impacts

The direct impacts from the petroleum industry in North Dakota included expenditures for exploration, extraction/production, transportation, and processing of crude oil and natural gas in North Dakota. Direct impacts also included various revenue streams originating from either oil and gas exploration, such as lease bonuses, or oil and gas production, such as severance taxes and royalty payments.

Exploration

The economic effects of exploration come from expenditures within North Dakota for activities such as seismic testing, geological research, lease expenses, environmental research, land survey work, excavation, road building, construction of drill site, delivery of electricity, pipeline development, and actual drilling of oil and/or gas wells.

In-state expenditures for exploration and drilling were estimated at about $4.3 million per well drilled. The petroleum industry drilled 336 wells in North Dakota in 2007, yielding about $1.4 billion in direct impacts. Lease bonuses in North Dakota were estimated at over $100 million in 2007, which included $6.3 million for state leases, $2.6 million for federal leases (U.S. Department of Interior 2008), and about $91.5 million for private mineral leases. The $2.6 million in federal lease bonuses represented the portion returned to North Dakota. The combination of exploration expenses and lease bonuses resulted in $1.54 billion in direct impacts in 2007.

Extraction

The economic effects of oil and gas production come from expenditures for removing crude oil and natural gas from the ground, maintenance and inspections of equipment, and all other production related activities, such as well work overs, well idling, shutdown, and abandonment activities. Also included were the general business expenditures incurred in North Dakota by oil operators. Royalty revenues, both private and public, as well as state collections from the gross production tax and extraction tax (severance taxes), were included as direct impacts.

Estimates of total in-state expenditures in 2006 for extraction/production and general business expenses were derived from the survey of oil operators and estimated on a BOE basis. North Dakota produced 45,057,874 barrels of oil and 70,799,663 mcf of natural gas in 2007. Those volumes of oil and gas resulted in an estimated $441.5 million for in-state expenditures for extraction and $362.5 million for general business expenses. State royalties were about $36.1 million (North Dakota State Land Department 2008). Total federal royalties returned to North Dakota were about $19.3 million (U.S. Department of the Interior 2008, U.S. Forest Service 2008).

Total royalties reported by oil operators were estimated at 14.9 percent and 14.2 percent of well output for oil and gas, respectively. Private royalties were estimated by subtracting state and gross federal royalties from estimated total royalties. Total private royalties from oil and gas production in North Dakota in 2005 were estimated at $369.2 million. However, date from the survey of leasing/brokerage firms revealed an in-state mineral ownership ratio of 53.8 percent. Applying the in-state mineral ownership ratio to the total private royalties generated an estimate of $198.7 million in payments to North Dakota residents. Total collections from the gross production tax and extraction tax in calendar year 2007 were about $141.9 million and $108.4 million, respectively (Office of State Tax Commissioner 2008). Total direct impacts in the extraction/production segment of the industry were estimated at $1.3 billion.

Processing

The processing segment of the industry included transportation of crude oil and natural gas by truck and pipeline to collection points and processing centers, natural gas processing, and crude oil refining. Estimates of in-state expenditures for natural gas pipeline operation, crude oil pipeline operation, natural gas processing, and crude oil refining were obtained from the survey of processors. Direct impacts included $69.3 million in transportation expenses paid to in-state entities by oil operators. Processing activities, which included pipeline transportation of unprocessed natural gas and crude oil, natural gas processing, and crude oil refining were estimated to have in-state expenditures of $192.4 million. Total direct impacts were estimated at $261.7 million. To avoid double counting of potential impacts, in-state purchases of crude oil and unprocessed natural gas by processors were excluded in the study.

Secondary Economic Impacts

Secondary economic impacts were estimated for exploration, extraction, and processing components of the industry. Results from the North Dakota Input-Output Model revealed that secondary economic impacts from exploration in North Dakota in 2007 would be nearly $2.7 billion. The $1.31 billion in direct impacts for oil and gas production activities produced an estimated $1.96 billion in secondary economic impacts. Finally, the transportation and processing segment was responsible for $445 million in secondary economic impacts. Total secondary economic impacts from all components of the petroleum industry were estimated at $5.1 billion. Across all industry segments, considerable secondary impacts were generated in the *households* ($1.6 billion), *retail trade* ($1.6 billion), *finance, insurance, and real estate* ($358 million), *government* ($331 million), and *communications and public utilities* sectors ($250 million).

Government Revenues

Governmental revenues, usually based on tax collections, are another important measure of the economic effect of an industry on an economy. The petroleum industry is unlike many other industries in North Dakota in that severance taxes (taxes placed on the value of oil and gas removed from the ground) are based on gross revenues produced by the industry. In contrast, taxation for most other industries is more traditional and usually limited to real property and net income. Another distinction that makes the petroleum industry different from most industries is that governments can hold mineral leases and receive royalties and lease bonuses. Of course, the petroleum industry also generates revenues from traditional sources, such as personal income, corporate income, sales and use, and property tax collections.

Severance taxes, sales and use taxes, personal income taxes, corporate income taxes, property taxes, royalties, lease bonuses, charitable donations, and licenses, fees, and permits combined for $520 million in government revenues that were directly attributable to the petroleum industry in North Dakota in 2007 (Table 1). Exploration, extraction/production, and processing segments of the industry were responsible for about 21, 76, and 3 percent, respectively, of the total government revenues from the petroleum industry in North Dakota.

Table 1. State and Local Government Revenues, Petroleum Industry, North Dakota, 2007

Revenue Type	Included as direct impacts	Estimated from secondary impacts
	---------- 000s $ ----------	
Severance Taxes	250,314	not applicable
Property Taxes	78,957	not applicable
Royalties	55,744	not applicable
Licenses, Permits,	14,298	not available
Corporate Income	10,982	not available
Lease Bonuses	8,920	not applicable
Personal Income	7,723	45,960
Sales and Use Taxes	5,984	73,985
Charitable Donations	126	not available
Undetermined Taxes[a]	86,795	not applicable
Total	519,843	119,945

[a] Represents general in-state taxes paid that were not specifically identified by survey respondents.

Gross Business Volume

The total economic effect of an industry on a local, state, or regional economy can be measured by estimating the total amount of business activity generated by that industry. Total business activity, sometimes called gross business volume, is generally defined as a combination of direct and secondary economic impacts.

The in-state gross business volume (direct and secondary impacts) of oil and gas exploration was estimated at $4.26 billion in 2007. Extraction of oil and gas generated a gross business volume of $3.26 billion in 2007. The processing component of the petroleum industry in 2007 was estimated to generate a gross business volume of about $707 million (Table 2).

Industry-wide direct impacts from the petroleum industry were estimated at $3.1 billion in 2007. Total secondary economic impacts associated with the industry were estimated at $5.1 billion. The gross business volume for the petroleum industry in North Dakota in 2007 was estimated at $8.2 billion (Table 2).

Employment

Estimates of direct employment within the petroleum industry were generated from the survey of oil operators and processors, and information from the 2005 study (Bangsund and Leistritz 2007). Employment figures from the survey of oil operators were extrapolated to state totals based on a BOE basis, while employment data from the survey of processors was extrapolated based on state-level processing volumes.

Oil operators (firms owning or operating wells) contract much of the work of exploration and extraction of oil and gas to firms that specialize in various aspects of the those processes. Key parameters from the service and support survey in the 2005 study were used with expenditure data from the oil operator survey to estimate employment in the oil patch.

Employment in North Dakota by oil operators in 2007 was estimated at 1,808 full-time equivalent (FTE) positions. Employment in the processing segment of the industry, which included some pipeline employment, was estimated at 579 FTE jobs. Total employment in the oil field for contract work, which includes exploration and extraction segments of the industry, was estimated at 5,332 FTE jobs. The petroleum industry, as defined and evaluated in this study, was estimated to create and support 7,719 FTE positions in North Dakota in 2007.

Secondary employment is a term used to describe jobs that are created and supported by the volume of business activity generated by an industry, but does not include jobs that are part of the industry. The petroleum industry in North Dakota was estimated to generate $5.1 billion in secondary business activity, which was sufficient to support 38,500 FTE jobs in North Dakota.

Table 2. Direct and Secondary Economic Impacts, Petroleum Industry, North Dakota, 2007

Economic Sector	Industry Component			
	Exploration	Extraction	Processing	Totals
	---------- 000s $ ----------			
Construction	108,129	80,045	88,675	276,849
Transportation	14,177	17,477	72,967	104,621
Communications and Public Utilities	139,692	117,565	56,225	340,359
Ag Processing and Misc Manufacturing	60,226	219,178	9,626	289,030
Retail Trade	1,158,385	665,264	130,750	1,954,399
Finance, Insurance, and Real Estate	277,774	192,008	36,623	506,405
Business and Personal Services	173,900	145,654	17,009	336,563
Professional and Social Services	155,975	85,822	14,585	256,382
Households (personal income)	1,759,815	1,094,210	209,948	3,063,973
Government	239,801	480,050	50,625	770,476
Other sectors[a]	142,990	167,444	20,132	330,566
Gross Business Volume	4,257,741	3,264,717	707,165	8,229,623

[a] Includes various agricultural and mining sectors.

COMPARISON OF 2005 AND 2007 INDUSTRY ASSESSMENTS

The first comprehensive economic evaluation of the petroleum industry in North Dakota was conducted in 2006 and was reflective of conditions present in the industry in calendar year 2005 (Bangsund and Leistritz 2007). The results reported in this study were based on conditions present in the industry in calendar year 2007.

While energy prices were not directly used to generate estimates of industry activity, prices directly influence some measures of industry output, such tax collections and royalties. Oil prices increased from 2005 to 2007 in real terms by 20 percent to around $65 per barrel, but 2007 average annual prices remained well below the extreme price spikes observed in 2008. Gas prices decreased by 26 percent in real terms over the two-year period to about $6.70 per mcf. Oil production increased from 35 million barrels to 45 million barrels over the two-year period. Gas production jumped from 58 million mcf in 2005 to nearly 71 million mcf in 2007 (Table 3).

The number of wells drilled increased from 240 in 2005 to 336 in 2007. The average cost to drill a well in the state increased in real terms from $1.6 million in 2005 to nearly $4.3 million in 2007. The result of those changes increased exploration expenditures in the state by about 275 percent from 2005 to 2007.

An increase in oil and gas output and an increase in per unit expenses contributed to higher expenditures for the production segment of the industry. From 2005 to 2007, royalty payments and collections of severance taxes both increased reflecting an increase in the overall value of oil and gas production in the state. From 2005 to 2007, total direct expenditures for oil and gas production increased by about 36 percent in real terms.

The change in direct expenditures in the processing and transportation segment of the industry reflected an increase in processing and transporting volumes, one-time construction expenditures associated infrastructure expansion, and an increase in transportation expenses. Direct impacts in this segment of the industry increased in real terms from 2005 to 2007 by 87 percent.

From 2005 to 2007, state and local governmental revenues from the petroleum industry increased by over $285 million or 80 percent in real terms (Table 4).

Employment in the industry also showed substantial change from 2005 through 2007. Overall, total direct employment within the industry was estimated to increase by over 2,400 FTE jobs from 2005 to 2007 (Table 5) .

Table 3. Oil and Gas Production Statistics, North Dakota, 2005 and 2007

Measures of Industry Output	Calendar Year 2005	Calendar Year 2007	Percent Change (2005 - 2007)
Crude oil (barrels)	35,659,583	45,057,874	26.4
Natural gas produced (mcf)	57,970,459	70,799,663	22.1
Natural gas sold (mcf)	50,695,691	55,094,857	8.7
Number of operating/active wells	3,391	3,759	10.8
Number of wells drilled	240	336	40.0
Average annual price per barrel of crude oil in North Dakota*	$51.41 nominal $54.20 real	$65.10 nominal $65.10 real	26.6 20.1
Average annual price per mcf of natural gas in North Dakota*	$8.57 nominal $9.04 real	$6.69 nominal $6.69 real	-22.0 -26.0

* Nominal dollars adjusted to real (2007) dollars using the Gross Domestic Product-Implicit Price Deflator.
Source: Oil and Gas Division, North Dakota Industrial Commission (2008).

Table 4. Estimates of State and Local Government Revenues Generated by Petroleum Industry, North Dakota, 2005 and 2007

State and Local Government Revenues	2005*	2007	Percent Change
	---------- 000s $ ----------		
Included as Direct Impacts			
Sales and Use, Property, and Income taxes	$39,000	$103,600	166
Royalties	$40,100	$55,700	39
Severance Taxes	$160,800	$250,300	56
Lease Bonuses (net federal and state)	$18,100	$8,900	-51
Licenses, Fees, Permits, Donations, and undisclosed/undetermined taxes	$38,300	$101,200	164
Totals	$296,100	$519,800	75
Estimated from Secondary Economic Activity			
Sales and Use	$37,800	$73,985	96
Personal Income	$20,700	$45,960	122
Direct and Secondary Estimates of State and Local Government Revenues	$354,600	$639,800	80

* Nominal 2005 dollars adjusted for inflation using Gross Domestic Product-Implicit Price Deflator and reflect 2007-equivalent dollars.

All segments of the industry showed substantial gains, in real terms, in direct and secondary economic impacts from 2005 to 2007. The difference in gross business volume for extraction in 2005 and 2007 was nearly $3 billion. The gross business volume for extraction/production segment of the industry increased by $800 million or by 34 percent. Economic activity associated with processing and transportation increased by over $300 million. The gross business volume for the entire industry doubled over the period from $4.1 billion in 2005 to $8.2 billion in 2007 (Table 5).

SUMMARY

The purpose of this study was to estimate the economic contribution of crude oil and natural gas exploration, extraction, transportation, and processing in North Dakota in 2007. Data for the study came from a survey of oil operators (i.e., firms that own or operate oil wells), a survey of pipeline and processing firms, and a third survey involved lease/brokerage firms. Additional information was obtained from various governmental agencies.

The economic effects of the industry were defined by first estimating industry expenditures and other revenue streams associated with oil and gas exploration, production, transportation, and processing. Industry expenditures and government revenues were allocated to the North Dakota Input-Output Model to estimate the secondary economic effects that result from spending and re-spending of the direct expenditures within the economy. Gross business volume is a combination of direct and secondary economic effects.

Industry-wide direct and secondary economic impacts from the petroleum industry were estimated at $3.1 billion and $5.1 billion, respectively. The gross business volume for the entire industry in North Dakota in 2007 was estimated at $8.2 billion. A gross business volume of $8.2 billion translates to about $145 per BOE. Based on active wells in the state, the overall economic effect (direct and secondary impacts from all segments of the industry) would be about $2.2 million annually per active well.

Other notable economic measures included 7,719 full-time jobs, economy-wide personal income of $3 billion, statewide retail sales of over $2 billion, direct contributions to local and state government tax revenues of $520 million, indirect contribution of $120 million in general state tax collections, and secondary employment of over 38,500 FTE jobs.

Energy prices were not directly used in the study to generate estimates of industry activity; however, prices influence some measures of industry output, such tax collections and royalties. Oil prices increased from 2005 to 2007 in real terms by 20 percent to around $65 per barrel, but remained well below the extreme price spikes observed in 2008. Gas prices, both in nominal and real terms, decreased by 26 percent over the two-year period to about $6.70 per mcf. Oil production increased from 35 million barrels to 45 million barrels over the two-year period. Gas production jumped from around 58 million mcf in 2005 to nearly 71 million mcf in 2007. In addition to increases in oil and gas production, exploration activities continued to increase as the number of wells drilled in the state went from 240 in 2005 to 336 in 2007.

Gross business volume for exploration increased in real terms by over 230 percent from 2005 due to an increase in drilling activity combined with an increase in the drilling cost per well. Gross business volume associated with oil and gas production increased by $800 million or by 34 percent, changes that largely paralleled increased oil and gas production. The gross business volume for transportation and processing increased by $300 million. The gross business volume for the entire industry doubled over the period from $4.1 billion in 2005 to $8.2 billion in 2007. Other notable increases included employment expanding by 47 percent and government revenues rising by 80 percent.

CONCLUSIONS

Changes in energy prices, drilling activity, and oil and gas production in North Dakota have made the petroleum industry the one of largest single basic-sector industries in the state. Comparisons of the industry's economic importance in 2007 with previous estimates from 2005 reveal the industry doubled its economic size in two years. The primary reason for the substantial increase has been due to expenditures for oil drilling/exploration activities.

The figures reported in this study are substantial, and comparisons to other basic-sector industries may be helpful in placing results from this study in context. From 2001 through 2003, the wheat industry in North Dakota was estimated to produce a gross business volume of $4.1 billion annually (in 2007 dollars). In 2007, the lignite industry in North Dakota was estimated to generate $2.4 billion in gross business volume (Coon and Leistritz 2008). Estimates of the gross business volume for the petroleum industry were $4.1 billion in real terms in 2005 and nearly $8.2 billion in 2007. Direct employment in the coal industry was estimated at 3,882 FTE positions, compared to 5,267 FTE jobs in the petroleum industry in 2005 and 7,719 FTE positions in 2007.

Economic estimates presented in this report represent a snapshot in time, and will not necessarily reflect the future economic impact of the industry. The sheer size of the industry in 2007 suggests that much of North Dakota's recent economic vitality can be linked to the expansion of petroleum exploration, production, and processing in the state. Current activity levels in the petroleum industry clearly make it one of the key forces in the North Dakota economy.

Table 5. Key Economic Values, Petroleum Industry, North Dakota, 2005 and 2007

Category	2005*	2007	Percent Change
	---------- 000s $ ----------		
Direct Impacts			
Exploration	$469,300	$1,536,000	227
Extraction/Production	$959,000	$1,308,000	36
Processing/Transportation	$139,700	$261,700	87
All Segments	$1,568,000	$3,106,000	98
Secondary Impacts			
Exploration	$817,000	$2,721,000	233
Extraction/Production	$1,485,000	$1,956,000	32
Processing/Transportation	$251,000	$445,000	77
All Segments	$2,553,000	$5,123,000	101
Gross Business Volume			
Exploration	$1,286,000	$4,258,000	231
Extraction/Production	$2,444,000	$3,265,000	34
Processing/Transportation	$391,000	$707,000	81
All Segments	$4,121,000	$8,229,000	100
Governmental Revenues	$354,600	$640,000	80
Industry-wide Employment	5,267	7,719	47

* Nominal 2005 dollars adjusted for inflation using Gross Domestic Product-Implicit Price Deflator and reflect 2007-equivalent dollars.

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Further Information

This document is a summary of a more comprehensive report which contains additional information. Single copies of this summary publication are available free of charge. Please address your inquiry to Agribusiness and Applied Economics, NDSU Dept 7610, PO Box 6050, Fargo, ND 58108-6050, phone (701-231-7441), fax (701-231-7400), or e-mail: Norma.Ackerson@ndsu.edu.

The main report and this summary document are also available electronically at the following web sites: http://ageconsearch.umn.edu/ or http://www.ndoil.org/ .

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