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The Economic and Fiscal Contribution of the Barnett Shale:  
Impact of Oil and Gas Exploration and Production on Business Activity  
and Tax Receipts in the Region and State

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## Introduction and Overview

**The Barnett Shale has been a significant source of economic and fiscal stimulus to the North Texas regional economy for well over a decade.** The oil- and natural gas-bearing formation lies beneath more than 5,000 square miles of North Texas, including a substantial part of the Dallas-Fort Worth Metroplex. It was discovered in the early 1980s, but it was not until about 2001 that significant development began as a result of a combination of technological improvements in recovery methods and a favorable price environment for natural gas.

In the early years of its development, drilling activity was strong and natural gas production grew rapidly. Although lower natural gas prices and the national recession temporarily slowed development, **exploration activity for both natural gas and oil is likely to increase in the future as price and market conditions change.** In addition, **ongoing production provides royalty income and other sources of benefits** for area residents, businesses, and municipalities.

Since 2001, the Barnett Shale has generated thousands of jobs and tens of billions of dollars in economic activity. Investments in exploration and production activity as well as other needed infrastructure have generated multiplier effects throughout the economy. As royalties have been spent, they have resulted in further stimulus. Pipeline infrastructure has been developed, and many headquarters and support operations have come to the area.

The Perryman Group (TPG) was recently asked to quantify the economic and fiscal benefits of oil and gas activity in the Barnett Shale on affected counties, the region, and the state as a whole.

### Highlights of Study Findings

The economic benefits (including multiplier effects) were found to be substantial, including tens of thousands of jobs and millions of dollars each year for relevant taxing entities.<sup>1</sup> Incomes and

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<sup>1</sup> The Perryman Group estimated the economic and fiscal benefits stemming from major sources of Barnett Shale stimulus (including multiplier effects). Dollar amounts are expressed in constant 2013 terms to eliminate the effects of inflation. Additional information regarding assumptions and methods used is included in this report and the accompanying Appendices. County-level findings and additional detail are also presented in the Appendices.

opportunities have been enhanced for local residents and businesses, and money available to fund local cities, counties, and schools has increased as a result of the Barnett Shale. These gains continue to improve the financial prospects of people throughout the region.

- The Barnett Shale stimulus is **significant even within the context of the large Metroplex economy**. Major categories of economic effects include those stemming from exploration and production; royalties and lease bonus payments; and pipeline construction, operation, and maintenance.
- The Perryman Group estimated the **current** gains in business activity and tax receipts related to the Barnett Shale.
  - For the relevant region as defined the Texas Railroad Commission, current benefits were found to include **\$11.8 billion** in gross product per year and more than **107,650 permanent jobs**. This economic activity generates annual tax receipts to the local government entities (including cities, counties, and school districts) and the State of an estimated **\$480.6 million** and **\$644.7 million**, respectively.
  - Approximately **86% of the output** benefits and **84% of the jobs** in the region are concentrated in the four “core” counties (Denton, Johnson, Tarrant, and Wise) identified by the Texas Railroad Commission.
  - For the state as a whole, the current impact of the Barnett Shale is estimated to be **\$12.8 billion** in gross product and almost **115,000 permanent jobs**. The tax effects for the statewide activity include **\$517.3 million** to the local governments and **\$686.3 million** for the State each year.
- The Perryman Group also measured the cumulative effects of the Barnett Shale **since 2001**, when exploration and production activity escalated.
  - For the region, benefits since 2001 include **\$110.7 billion** in gross product and almost **993,600 person-years of employment**. Tax effects within the region have totaled about **\$4.5 billion** to the local governments and more than **\$6.0 billion** for the State.
  - Over this time horizon, about **88% of gross product** and **87% of employment** in the overall region occurred in the four core counties.
  - For the state of Texas as a whole, The Perryman Group estimates that activity within the Barnett Shale has generated **\$120.2 billion** in gross product and over

**1,062,700 person-years of employment** since 2001. Tax receipts to the local government entities and the State totaled an estimated **\$4.8 billion** and **\$6.4 billion**, respectively.

- Anticipated pricing patterns for oil and natural gas will likely lead to a moderate increase in drilling activity over time. The Perryman Group measured the baseline projected economic and fiscal benefits of Barnett Shale-related activity **over the next 10 years** (2014-2023) for the region as well as the state.
  - The cumulative economic benefits for the region include an estimated **\$141.5 billion** in gross product and **1,268,161 person-years of employment**. Regional tax benefits include **\$5.7 billion** for local governments and **\$7.5 billion** for the State.
  - It is expected that approximately **87% of future output** and **85% of related jobs** will be concentrated in the core area.
  - For Texas, the contribution of the Barnett Shale is estimated to be **\$153.4 billion** in gross product and **1,354,727 person-years of employment**. The statewide activity should provide tax receipts of **\$6.1 billion** to the local governments and almost **\$8.0 billion** to the State.

The following tables summarize past, current, and projected economic and fiscal benefits of Barnett Shale-related activity for the region and state.

**Current, Past, and Projected Future Regional Benefits  
of the Barnett Shale:**

**Estimated Effects of Oil and Gas Exploration, Drilling, and Operations; Royalty and Lease Payments; and Pipeline Construction, Maintenance, and Operations in the Barnett Shale on Business Activity and Fiscal Receipts\***

**ECONOMIC BENEFITS** (Monetary Values in Billions of Constant 2013 Dollars)

	Current	Since 2001	Next 10 Years (2014-2023)
<b>Total Expenditures</b>	\$31.9	\$302.6	\$385.3
<b>Gross Product</b>	\$11.8	\$110.7	\$141.5
<b>Personal Income</b>	\$7.0	\$64.7	\$82.2
<b>Retail Sales</b>	\$3.1	\$29.3	\$36.0
<b>Employment</b>	107,656 Permanent Jobs	993,563 Person-Years	1,268,161 Person-Years

**FISCAL BENEFITS** (Monetary Values in Millions of Constant 2013 Dollars)

<b>Local Governments</b>	\$480.6	\$4,470.7	\$5,694.1
<b>State of Texas</b>	\$644.7	\$6,045.8	\$7,505.9

SOURCE: The Perryman Group

\* The Region includes Barnett Shale counties as defined by the Texas Railroad Commission including core counties of Denton, Johnson, Tarrant, and Wise and non-core counties of Archer, Bosque, Clay, Comanche, Cooke, Dallas, Eastland, Ellis, Erath, Hamilton, Hill, Hood, Jack, Montague, Palo Pinto, Parker, Shackelford, Somervell, Stephens, and Young. Coryell County was excluded due to lack of activity. Totals may not add due to rounding. Projected 2014-2023 impacts assume (1) drilling activity over time responds to projected prices in the baseline forecast of the Energy Information Administration in a manner reflective of recent academic research (which understates the responsiveness that has been historically observed within the region) and (2) established patterns of decline in individual well output (decline curves) will continue into the future and that new wells will follow similar production patterns to those presently observed in the area. Projected royalties are converted to 2013 dollars using projections of the Texas Consumer Price Index derived from the current baseline forecast from the Texas Econometric Model. Effects are fully adjusted for external ownership and leakages from the expenditure stream. Assumes that current annual patterns in pipeline and gathering system maintenance and operations are sufficient to accommodate the additional wells that are projected to be added in the future.

**Current, Past, and Projected Future Statewide Benefits  
of the Barnett Shale:**

**Estimated Effects of Oil and Gas Exploration, Drilling, and Operations; Royalty and Lease Payments; and Pipeline Construction, Maintenance, and Operations in the Barnett Shale on Business Activity and Fiscal Receipts\***

**ECONOMIC BENEFITS** (Monetary Values in Billions of Constant 2013 Dollars)

	Current	Since 2001	Next 10 Years (2014-2023)
<b>Total Expenditures</b>	\$35.4	\$336.0	\$427.3
<b>Gross Product</b>	\$12.8	\$120.2	\$153.4
<b>Personal Income</b>	\$7.5	\$70.1	\$90.0
<b>Retail Sales</b>	\$3.3	\$30.8	\$37.9
<b>Employment</b>	114,994 Permanent Jobs	1,062,706 Person-Years	1,354,727 Person-Years

**FISCAL BENEFITS** (Monetary Values in Millions of Constant 2013 Dollars)

<b>Local Governments</b>	\$517.3	\$4,818.9	\$6,130.0
<b>State of Texas</b>	\$686.3	\$6,439.8	\$7,993.6

SOURCE: The Perryman Group

\* Totals may not add due to rounding. Includes fiscal effects stemming from activity outside the region identified by the Texas Railroad Commission. Projected 2014-2023 impacts assume (1) drilling activity over time responds to projected prices in the baseline forecast of the Energy Information Administration in a manner reflective of recent academic research (which understates the responsiveness that has been historically observed within the region) and (2) established patterns of decline in individual well output (decline curves) will continue into the future and that new wells will follow similar production patterns to those presently observed in the area. Projected royalties are converted to 2013 dollars using projections of the Texas Consumer Price Index derived from the current baseline forecast from the Texas Econometric Model. Effects are fully adjusted for external ownership and leakages from the expenditure stream. Assumes that current annual patterns in pipeline and gathering system maintenance and operations are sufficient to accommodate the additional wells that are projected to be added in the future.



## The Barnett Shale

As noted, the Barnett Shale lies under much of North Texas, including the Dallas-Fort Worth Metroplex and the surrounding area. Since drilling activity began to escalate in the early 2000s, **more than 24,000 drilling permits** have been issued. While permits issued peaked in 2008 at least in part due to elevated natural gas prices, activity has remained relatively steady, with well over **900 permits issued in 2013**. More than **15 trillion cubic feet of natural gas** have been produced from the Shale since 2001, with daily average production so far in 2014 exceeding 4.75 billion cubic feet per day. Oil production in the first few months of 2014 averaged almost 4,800 barrels per day. In 2011, the daily oil production averaged over 19,800 barrels.

The Texas Railroad Commission (RRC) denotes four counties as “core” production areas: Denton, Johnson, Tarrant, and Wise. Non-core counties include Archer, Bosque, Clay, Comanche, Cooke, Coryell, Dallas, Eastland, Ellis, Erath, Hamilton, Hill, Hood, Jack, Montague, Palo Pinto, Parker, Shackelford, Somervell, Stephens, and Young. (Coryell County was omitted from The Perryman Group’s analysis due to limited activity.)

The Perryman Group has studied the economic effects of the Barnett Shale on multiple occasions. A **significant portion of the incremental growth in the economy of the region (almost 40% over some time periods of intense development) has been the result of Barnett Shale** activity. Moreover, the overall economic contribution of this phenomenon is significant even within the large regional economy.

Barnett Shale activity also **benefits both state and local governments** through property taxes, severance taxes, enhanced retail sales and real estate development, permits and fees, and other types of levies such as hotel/motel occupancy taxes and receipts stemming from various taxable activities. Furthermore, money received by local governments, schools, businesses, and individuals in the form of **royalties and bonuses** paid by natural gas operators has been significant in many areas, enhancing the quality of life as well as economic opportunities.

Many companies operating in the Barnett Shale have contributed millions of dollars in **charitable donations** as well as thousands of hours volunteering in their communities. Companies have also established scholarship programs, with one providing over \$1 million per year in scholarships which has helped hundreds of students attend college, and have donated many items including computers and other equipment to help in education. Other donations have improved quality of life for local residents. For example, contributions to the Fort Worth Zoo allowed improvements and new facilities to be constructed such as the zoo’s herpetarium.

The infusion of funds and investments has also funded programs like the Arlington Tomorrow Fund which contributes grants to local organizations.

## Study Parameters and Methods Used

The Perryman Group analyzed oil and gas drilling activity in the Barnett Shale to determine the **past, current, and projected future economic and fiscal benefits** for (1) the affected counties, (2) the region including effects on core and non-core counties as a group, and (3) the State of Texas. Summary results are provided in the body of the report, with additional industry-level detail and methodology in the Appendices.

### Summary of Methods Used

Any economic stimulus generates multiplier effects throughout the economy. The Perryman Group developed a dynamic input-output assessment model (the US Multi-Regional Impact Assessment System, which is described in further detail in the Appendices to this report) some 30 years ago to measure these multiplier effects in order to determine total economic benefits. The model has been consistently maintained and updated and has been used in hundreds of analyses throughout the country for clients ranging from major corporations to government agencies.

The system uses a variety of data (from surveys, industry information, and other sources) to describe the various goods and services (known as resources or inputs) required to produce another good/service. This process allows for estimation of the total economic impact (including multiplier effects) of oil and gas exploration activity. The Perryman Group quantified the economic benefits since 2001, currently (2013, the last year of complete data), and projected over the next 10 years (2014-2023). The process for quantifying input information is described in a subsequent section.

The submodels used in the current analysis reflect the specific industrial composition and characteristics of each county within the region as well as the state as a whole. Total economic benefits are quantified for key measures of business activity, which are different, common ways of looking at changes in the economy (such as in terms of total spending, output, income, or jobs). These measures are briefly described below and explained in further detail in the Appendices.

- **Total expenditures** (or total spending) measure the dollars changing hands as a result of the economic stimulus.
- **Gross product** (or output) is production of goods and services that will come about in each area as a result of the activity. This measure is parallel to the gross domestic product numbers commonly reported by various media outlets and is a subset of total expenditures.
- **Personal income** is dollars that end up in the hands of people in the area; the vast majority of this aggregate derives from the earnings of employees, but payments such as interest and rents are also included.
- **Job gains** are expressed as (1) person-years of employment for the transitory construction stimulus or multi-year cumulative estimates and (2) permanent jobs for ongoing effects that persist.

Monetary values were quantified on a constant basis (in 2013 dollars) to eliminate the effects of inflation. See the Appendices to this report for additional information regarding the methods used in this analysis.

The Perryman Group also estimated the likely increase in tax receipts to local entities. Economic activity generates related tax revenue. For example, retail sales will be enhanced through business purchasing and consumer spending, thereby adding to retail sales tax collections. Property values (and, thus, property tax collections) expand as a result of increases in the tax base stemming from the drilling activity as well as general growth in the economy and population of the area.

## Input Assumptions and Categories of Benefits Measured

The Perryman Group quantified the economic benefits of (1) exploration, drilling, and operations; (2) royalty and lease payments; and (3) pipeline and delivery system construction, maintenance, and operation. An initial phase in the process was to estimate the level of direct stimulus to be used as inputs to the economic impact assessment process.

In order to estimate the direct economic stimulus stemming from drilling and production, data from the Texas Railroad Commission regarding permits and completions were utilized to determine the number of wells, and data from the US Bureau of Labor Statistics (BLS), the US Bureau of the Census, and the Texas Workforce Commission were compiled regarding related

employment. Headquarters and supplier operations were allocated to the appropriate category of activity. The 2014-2023 forecast assumes drilling activity over time responds to projected prices in the baseline forecast of the Energy Information Administration in a manner reflective of recent comprehensive academic research regarding the elasticity of demand for natural gas<sup>2</sup> (which understates the responsiveness that has been historically observed within the region). Based on likely future prices, drilling is expected to increase to some extent, and the overall 10-year benefits are somewhat more than 10 times current effects.

Current royalties were estimated based on production levels and typical payment levels. Future royalties were calculated utilizing a decline curve based on historical production patterns. Amounts for future wells were added assuming wells performed as typical for the area. Estimated royalties were converted to 2013 dollars using The Perryman Group's Texas Consumer Price Index (CPI) projections and were adjusted for both out-of-area ownership and leakages from the local expenditure stream. Because of the net decline in production in existing wells, the 10-year royalty totals are only about 6.36 times the current level even with some additional wells coming online.

For the pipeline/gathering system, activity is expected to be relatively modest and assumed to be essentially limited to maintenance, operations, and adding new wells to the gathering system. A current estimate of these amounts was derived from employment data for the sector from the Bureau of Labor Statistics (BLS). Because there is currently excess capacity, it is unlikely that the added wells will materially change the annual outlays.

These major sources of economic benefits were summed to obtain an overall total estimate of current and potential gains in business activity stemming from oil and gas activity in each county. Results are summarized in the report for the region, core counties, non-core counties, and state of Texas, with additional industry-level detail in the Appendices. The county-level effects are also included in the Appendices.

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<sup>2</sup> Ponce, Micaela and Anne Neumann, "Elasticities of Supply for the US Natural Gas Market," (April 2, 2014) DIW Berlin, German Institute for Economic Research.

# Current Economic and Fiscal Effects of Oil and Gas Exploration and Related Activity in the Barnett Shale

## Regional Benefits

The Perryman Group estimated the current gains in business activity in the region stemming from the Barnett Shale to be **\$11.8 billion** in gross product per year and more than **107,650 permanent jobs** including

- \$10.8 billion in annual gross product and 93,870 permanent jobs from oil and gas exploration, drilling and operations;
- \$638 million in annual gross product and over 8,500 permanent jobs from royalty and lease payments; and
- \$420 million in annual gross product and nearly 5,300 jobs from pipeline activity.

This economic activity generates annual tax receipts to the local government entities (including cities, counties, and school districts) and the State of an estimated **\$480.6 million and \$644.7 million**, respectively.

<b>Estimated Current Regional Impact of Oil and Gas Exploration, Drilling, and Operations; Royalty and Lease Payments; and Pipeline Construction, Maintenance, and Operations in the Barnett Shale*</b>				
<b>ECONOMIC BENEFITS</b> (Monetary Values in Billions of Constant 2013 Dollars)				
	<b>Drilling</b>	<b>Royalties</b>	<b>Pipeline</b>	<b>TOTAL</b>
Total Expenditures	\$29.7	\$1.3	\$0.9	<b>\$31.9</b>
Gross Product	\$10.8	\$0.6	\$0.4	<b>\$11.8</b>
Personal Income	\$6.3	\$0.4	\$0.3	<b>\$7.0</b>
Retail Sales	\$2.6	\$0.4	\$0.1	<b>\$3.1</b>
Employment (Permanent Jobs)	93,871	8,506	5,279	<b>107,656</b>
<b>FISCAL BENEFITS</b> (Monetary Values in Millions of Constant 2013 Dollars)				
Local Governments	\$427.0	\$34.3	\$19.4	<b>\$480.6</b>
State of Texas	\$551.8	\$68.5	\$24.4	<b>\$644.7</b>
<p>SOURCE: The Perryman Group</p> <p>* Total Region includes Barnett Shale counties as defined by the Texas Railroad Commission including core counties of Denton, Johnson, Tarrant, and Wise and non-core counties of Archer, Bosque, Clay, Comanche, Cooke, Dallas, Eastland, Ellis, Erath, Hamilton, Hill, Hood, Jack, Montague, Palo Pinto, Parker, Shackelford, Somervell, Stephens, and Young. Coryell County was excluded due to lack of activity. Totals may not add due to rounding.</p>				

These benefits are concentrated in the four-county **core area** of the Barnett Shale, where the current impacts total an estimated **\$10.2 billion** in annual gross product as well as **90,900** permanent jobs. Tax effects within the core counties include **\$409.4 million** to the local governments and **\$545.3 million** for the State each year. Benefits are also substantial in the **non-core counties**, where the overall stimulus was estimated to include **\$1.7 billion** in gross product each year as well as almost **16,750** permanent jobs. Tax effects for the non-core counties were found to be **\$71.3 million** for the local governments and **\$99.5 million** to the State.

## Statewide Benefits

Looking at the state as a whole, The Perryman Group estimates the current impact of Barnett Shale activity to be **\$12.8 billion** in gross product and almost **115,000** permanent jobs, with exploration, drilling, and operations comprising the bulk of the stimulus (**\$11.7 billion** in gross product and over **100,300** permanent jobs). The tax effects for the statewide activity include **\$517.3 million** to the local governments and **\$686.3 million** for the State each year.

<b>Estimated Current Statewide Impact of Oil and Gas Exploration, Drilling, and Operations; Royalty and Lease Payments; and Pipeline Construction, Maintenance, and Operations in the Barnett Shale*</b>				
<b>ECONOMIC BENEFITS</b> (Monetary Values in Billions of Constant 2013 Dollars)				
	<b>Drilling</b>	<b>Royalties</b>	<b>Pipeline</b>	<b>TOTAL</b>
Total Expenditures	\$33.0	\$1.4	\$1.0	<b>\$35.4</b>
Gross Product	\$11.7	\$0.7	\$0.4	<b>\$12.8</b>
Personal Income	\$6.8	\$0.4	\$0.3	<b>\$7.5</b>
Retail Sales	\$2.7	\$0.4	\$0.1	<b>\$3.3</b>
Employment (Permanent Jobs)	100,336	9,095	5,563	<b>114,994</b>
<b>FISCAL BENEFITS</b> (Monetary Values in Millions of Constant 2013 Dollars)				
Local Governments**	\$460.1	\$36.7	\$20.4	<b>\$517.3</b>
State of Texas**	\$588.1	\$72.5	\$25.8	<b>\$686.3</b>
SOURCE: The Perryman Group				
* Totals may not add due to rounding.				
** Includes fiscal effects stemming from activity outside the region identified by the Texas Railroad Commission.				



## Economic and Fiscal Benefits of the Barnett Shale Since 2001

As noted, production in the Barnett Shale began to increase in about 2001. In order to provide a perspective on the magnitude of this activity through time, The Perryman Group measured the total cumulative benefits since 2001.

### Regional Benefits

The Perryman Group found the economic benefits of the Barnett Shale since 2001 for the region include **\$110.7 billion** in gross product and almost **993,600** person-years of employment. Tax effects within the region have totaled about **\$4.5 billion** to the local governments and more than **\$6.0 billion** for the State.

<b>Estimated Regional Impact of Oil and Gas Exploration, Drilling and Operations; Royalty and Lease Payments; and Pipeline Construction, Maintenance, and Operations in the Barnett Shale Since 2001*</b>				
<b>ECONOMIC BENEFITS</b> (Monetary Values in Billions of Constant 2013 Dollars)				
	<b>Drilling</b>	<b>Royalties</b>	<b>Pipeline</b>	<b>TOTAL</b>
Total Expenditures	\$279.1	\$13.6	\$9.9	<b>\$302.6</b>
Gross Product	\$99.5	\$6.8	\$4.4	<b>\$110.7</b>
Personal Income	\$57.4	\$4.2	\$3.0	<b>\$64.7</b>
Retail Sales	\$23.7	\$4.3	\$1.3	<b>\$29.3</b>
Employment (Person-Years)	847,259	90,656	55,648	<b>993,563</b>
<b>FISCAL BENEFITS</b> (Monetary Values in Millions of Constant 2013 Dollars)				
Local Governments	\$3,901.4	\$365.2	\$204.1	<b>\$4,470.7</b>
State of Texas	\$5,058.4	\$732.4	\$255.0	<b>\$6,045.8</b>
SOURCE: The Perryman Group				
* Impact of activity from 2001 through 2013. Total Region includes all Barnett Shale counties as defined by the Texas Railroad Commission including core counties of Denton, Johnson, Tarrant, and Wise and non-core counties of Archer, Bosque, Clay, Comanche, Cooke, Dallas, Eastland, Ellis, Erath, Hamilton, Hill, Hood, Jack, Montague, Palo Pinto, Parker, Shackelford, Somervell, Stephens, and Young. Coryell County was excluded due to lack of activity. Totals may not add due to rounding.				

For the **core counties** (Denton, Johnson, Tarrant, and Wise) the impact of Barnett Shale activity since 2001 was found to include more than **\$97.7 billion** in gross product and **863,000** person-years of employment. The tax effects from the core counties have included **\$3.9 billion** to the local governments and almost **\$5.3 billion** for the State. For the other, **non-core counties** within the region, the total economic benefits of Barnett Shale activity since 2001 were found to be **\$13.0 billion** in gross product and more than **130,500** person-years of employment. Cumulative tax benefits within the non-core region include **\$556.6 million** for local governments and **\$788.9 million** for the State.

## Statewide Benefits

For the state of Texas as a whole, The Perryman Group estimates that activity within the Barnett Shale has generated **\$120.2 billion** in gross product and over **1,062,700** person-years of employment since 2001. Tax receipts to the local government entities and the State totaled an estimated **\$4.8 billion** and **\$6.4 billion**, respectively. Other details of the stimulus can be found in the following table.

<b>Estimated Statewide Impact of Oil and Gas Exploration, Drilling, and Operations; Royalty and Lease Payments; and Pipeline Construction, Maintenance, and Operations in the Barnett Shale Since 2001*</b>				
<b>ECONOMIC BENEFITS</b> (Monetary Values in Billions of Constant 2013 Dollars)				
	<b>Drilling</b>	<b>Royalties</b>	<b>Pipeline</b>	<b>TOTAL</b>
Total Expenditures	\$310.3	\$15.1	\$10.6	<b>\$336.0</b>
Gross Product	\$108.2	\$7.3	\$4.7	<b>\$120.2</b>
Personal Income	\$62.3	\$4.6	\$3.2	<b>\$70.1</b>
Retail Sales	\$24.9	\$4.5	\$1.4	<b>\$30.8</b>
Employment (Person-Years)	907,080	97,029	58,596	<b>1,062,706</b>
<b>FISCAL BENEFITS</b> (Monetary Values in Millions of Constant 2013 Dollars)				
Local Governments**	\$4,212.4	\$391.5	\$215.0	<b>\$4,818.9</b>
State of Texas**	\$5,395.1	\$775.4	\$269.3	<b>\$6,439.8</b>
SOURCE: The Perryman Group				
* Impact of activity from 2001 through 2013. Totals may not add due to rounding.				
**Includes fiscal effects stemming from activity outside the region identified by the Texas Railroad Commission.				

## Projected Ten-Year Economic and Fiscal Effects

As noted, anticipated pricing patterns for oil and natural gas will likely lead to a moderate increase in drilling activity over time. The Perryman Group measured the baseline projected economic and fiscal benefits of Barnett Shale-related activity over the next 10 years (2014-2023) for the region as well as the state. County-level findings are presented in the Appendices.

### Regional Benefits

The Perryman Group found that the cumulative economic benefits (including multiplier effects) over the next 10 years (2014-2023) stemming from Barnett Shale activity include an estimated **\$141.5 billion** in gross product and **1,268,161** person-years of employment in the region. Tax benefits within the region include **\$5.7 billion** for local governments and **\$7.5 billion** for the State.

<b>Estimated Projected Regional Impact of Oil and Gas Exploration, Drilling, and Operations; Royalty and Lease Payments; and Pipeline Construction, Maintenance, and Operations in the Barnett Shale Over the Next 10 Years*</b>				
<b>ECONOMIC BENEFITS</b> (Monetary Values in Billions of Constant 2013 Dollars)				
	<b>Drilling</b>	<b>Royalties</b>	<b>Pipeline</b>	<b>TOTAL</b>
Total Expenditures	\$367.9	\$8.1	\$9.4	<b>\$385.3</b>
Gross Product	\$133.2	\$4.1	\$4.2	<b>\$141.5</b>
Personal Income	\$77.8	\$2.5	\$2.9	<b>\$83.2</b>
Retail Sales	\$32.2	\$2.5	\$1.3	<b>\$36.0</b>
Employment (Person-Years)	1,161,309	54,065	52,787	<b>1,268,161</b>
<b>FISCAL BENEFITS</b> (Monetary Values in Millions of Constant 2013 Dollars)				
Local Governments	\$5,282.7	\$217.8	\$193.6	<b>\$5,694.1</b>
State of Texas	\$6,826.8	\$435.4	\$243.7	<b>\$7,505.9</b>
<p>SOURCE: The Perryman Group</p> <p>* Impact over the 2014-2023 period. Total Region includes all Barnett Shale counties as defined by the Texas Railroad Commission including core counties of Denton, Johnson, Tarrant, and Wise and non-core counties of Archer, Bosque, Clay, Comanche, Cooke, Dallas, Eastland, Ellis, Erath, Hamilton, Hill, Hood, Jack, Montague, Palo Pinto, Parker, Shackelford, Somervell, Stephens, and Young. Coryell County was excluded due to lack of activity. Totals may not add due to rounding. Assumes drilling activity over time responds to projected prices in the baseline forecast of the Energy Information Administration in a manner reflective of recent academic research (which understates the responsiveness that has been historically observed within the region). Assumes that established patterns of decline in individual well output (decline curves) will continue into the future and that new wells will follow similar production patterns to those presently observed in the area. Projected royalties are converted to 2013 dollars using projections of the Texas Consumer Price Index derived from the current baseline forecast from the Texas Econometric Model. Effects are fully adjusted for external ownership and leakages from the expenditure stream. Assumes that current annual patterns in pipeline and gathering system maintenance and operations are sufficient to accommodate the additional wells that are projected to be added in the future.</p>				

Effects are expected to continue to be concentrated in the four-county **core area** of the Barnett Shale over the next 10 years, with economic benefits projected to include **\$122.1 billion** in gross product and over **1,076,500** person-years of employment. The tax effects for the core region are expected to be **\$4.9 billion** for the local governments and **\$6.4 billion** to the State. For the non-core counties, The Perryman Group estimates that Barnett Shale activity will generate an additional **\$19.4 billion** in gross product and **191,650** person-years of employment over the next 10 years. The non-core tax impacts are expected to yield **\$822.5 million** to the local governments and over **\$1.1 billion** to the State.

## Statewide Benefits

The Barnett Shale is expected to continue to have a major impact on the state of Texas over the next 10 years. The Perryman Group estimates the total contribution over the next 10 years (2014 through 2023) will total **\$153.4 billion** in gross product and **1,354,727** person-years of employment. The statewide activity should provide tax receipts of **\$6.1 billion** to the local governments and almost **\$8.0 billion** to the State. The following table provides additional details.

<b>Estimated Projected Statewide Impact of Oil and Gas Exploration, Drilling, and Operations; Royalty and Lease Payments; and Pipeline Construction, Maintenance, and Operations in the Barnett Shale Over the Next 10 Years*</b>				
<b>ECONOMIC BENEFITS</b> (Monetary Values in Billions of Constant 2013 Dollars)				
	<b>Drilling</b>	<b>Royalties</b>	<b>Pipeline</b>	<b>TOTAL</b>
Total Expenditures	\$408.2	\$9.0	\$10.1	<b>\$427.3</b>
Gross Product	\$144.6	\$4.4	\$4.4	<b>\$153.4</b>
Personal Income	\$84.2	\$2.7	\$3.0	<b>\$90.0</b>
Retail Sales	\$33.9	\$2.7	\$1.3	<b>\$37.9</b>
Employment (Person-Years)	1,241,286	57,809	55,632	<b>1,354,727</b>
<b>FISCAL BENEFITS</b> (Monetary Values in Millions of Constant 2013 Dollars)				
Local Governments**	\$5,692.5	\$233.3	\$204.2	<b>\$6,130.0</b>
State of Texas**	\$7,275.3	\$460.8	\$257.5	<b>\$7,993.6</b>
<p>SOURCE: The Perryman Group</p> <p>* Impact during the 2014-2023 period on the state of Texas. Totals may not add due to rounding. Assumes drilling activity over time responds to projected prices in the baseline forecast of the Energy Information Administration in a manner reflective of recent academic research (which understates the responsiveness that has been historically observed within the region). Assumes that established patterns of decline in individual well output (decline curves) will continue into the future and that new wells will follow similar production patterns to those presently observed in the area. Projected royalties are converted to 2013 dollars using projections of the Texas Consumer Price Index derived from the current baseline forecast from the Texas Econometric Model. Effects are fully adjusted for external ownership and leakages from the expenditure stream. Assumes that current annual patterns in pipeline and gathering system maintenance and operations are sufficient to accommodate the additional wells that are projected to be added in the future.</p> <p>**Includes fiscal effects stemming from activity outside the region identified by the Texas Railroad Commission.</p>				

## Conclusion

Oil and gas exploration and production in the **Barnett Shale has been and will continue to be a notable source of economic stimulus** for the region and state as a whole. The energy produced is also an **important domestic fuel source** for the nation with significant strategic and economic value.

The Perryman Group estimates that exploration and production, royalty, and pipeline stimulus from the **Barnett Shale currently generates economic benefits of \$11.8 billion in gross product annually as well as 107,656 permanent jobs in the region** (as of 2013). In addition, local taxing entities (including cities, counties, school districts) within the region currently receive tax receipts of an estimated **\$480.6 million** due to this economic stimulus which can be used to fund local priorities and education. For the state, the current economic gains stemming from the Barnett Shale (including those occurring both within the Barnett Shale region and elsewhere) are estimated to be \$12.8 billion in gross product per year as well as 114,994 permanent jobs, with an associated increment in tax receipts of approximately \$686.3 million. Over the next 10 years, these gains can be expected to increase.

Natural gas and oil exploration and production and related activities are subject to market and geologic forces, and will fluctuate over time. However, **the Barnett Shale is expected to continue to serve as an important source of economic stimulus for the local area and the state**. Even in the context of a large economy such as that of the Metroplex region, the gains in opportunities for local residents, businesses, and other entities are significant and will likely remain so for decades to come.



## APPENDICES

## Appendix A: About The Perryman Group

- The Perryman Group (TPG) is an economic research and analysis firm based in Waco, Texas. The firm has more than 30 years of experience in assessing the economic impact of corporate expansions, regulatory changes, real estate developments, public policy initiatives, and myriad other factors affecting business activity. TPG has conducted hundreds of impact analyses for local areas, regions, and states throughout the United States. Impact studies have been performed for hundreds of clients including many of the largest corporations in the world, governmental entities at all levels, educational institutions, major health care systems, utilities, and economic development organizations.
- Dr. M. Ray Perryman, founder and President of the firm, developed the US Multi-Regional Impact Assessment System (USMRIAS—used in this study) in the early 1980s and has consistently maintained, expanded, and updated it since that time. The model has been used in hundreds of diverse applications and has an excellent reputation for reliability.
- The firm has also conducted numerous investigations related to the oil and gas industry. These analyses include an assessment of the effects of offshore drilling for the US Department of the Interior, several studies of specific production areas, and projections of natural gas prices and output. Information has been prepared for the Interstate Oil Compact Commission, the US Department of Energy, the Texas Railroad Commission, and numerous legislative committees regarding energy policy. Additionally, over the past several years, TPG has performed multiple comprehensive assessments of the impact of the Barnett Shale on the local area, as well as the impact of Barnett Shale-related activity on local and state taxing authorities. The firm has also studied the effects of other shale formations around the country. Most recently, the firm analyzed the potential negative economic and fiscal effects of a ban on hydraulic fracturing in the City of Denton.

## Appendix B: Methods Used

- The basic modeling technique employed in this study is known as dynamic input-output analysis. This methodology essentially uses extensive survey data, industry information, and a variety of corroborative source materials to create a matrix describing the various goods and services (known as resources or inputs) required to produce one unit (a dollar's worth) of output for a given sector. Once the base information is compiled, it can be mathematically simulated to generate evaluations of the magnitude of successive rounds of activity involved in the overall production process.
- There are two essential steps in conducting an input-output analysis once the system is operational. The first major endeavor is to accurately define the levels of direct activity to be evaluated; this process was described within the report. In the case of a prospective evaluation, it is necessary to first calculate reasonable estimates of the direct activity. The process used to determine the input information was described within the report.
- The second major phase of the analysis is the simulation of the input-output system to measure overall economic effects of the oil and gas related stimulus. The present study was conducted within the context of the USMRIAS which was developed and is maintained by The Perryman Group. This model has been used in hundreds of diverse applications across the country and has an excellent reputation for accuracy and credibility. The systems used in the current simulations reflect the unique industrial structures of the economies of each county in the affected region and Texas.
- The USMRIAS is somewhat similar in format to the Input-Output Model of the United States and the Regional Input-Output Modeling System, both of which are maintained by the US Department of Commerce. The model developed by TPG, however, incorporates several important enhancements and refinements. Specifically, the expanded system includes (1) comprehensive 500-sector coverage for any county, multi-county, or urban region; (2) calculation of both total expenditures and value-added by industry and region; (3) direct estimation of expenditures for multiple basic input choices (expenditures, output, income, or employment); (4) extensive parameter localization; (5) price adjustments for real and nominal assessments by sectors and areas; (6) measurement of the induced impacts associated with payrolls and consumer spending; (7) embedded modules to estimate multi-sectoral direct spending effects; (8) estimation of retail spending activity by consumers; and (9) comprehensive linkage and integration capabilities with a wide variety of econometric, real estate, occupational, and fiscal impact models. Moreover, the model uses specific local taxing patterns to estimate the fiscal effects of activity on a detailed sectoral basis. The models used for the present investigation have been thoroughly tested for reasonableness and historical reliability.

- The impact assessment (input-output) process essentially estimates the amounts of all types of goods and services required to produce one unit (a dollar's worth) of a specific type of output. For purposes of illustrating the nature of the system, it is useful to think of inputs and outputs in dollar (rather than physical) terms. As an example, the construction of a new building will require specific dollar amounts of lumber, glass, concrete, hand tools, architectural services, interior design services, paint, plumbing, and numerous other elements. Each of these suppliers must, in turn, purchase additional dollar amounts of inputs. This process continues through multiple rounds of production, thus generating subsequent increments to business activity. The initial process of building the facility is known as the *direct effect*. The ensuing transactions in the output chain constitute the *indirect effect*.
- Another pattern that arises in response to any direct economic activity comes from the payroll dollars received by employees at each stage of the production cycle. As workers are compensated, they use some of their income for taxes, savings, and purchases from external markets. A substantial portion, however, is spent locally on food, clothing, health care services, utilities, housing, recreation, and other items. Typical purchasing patterns in the relevant areas are obtained from the *ACCRA Cost of Living Index*, a privately compiled inter-regional measure which has been widely used for several decades, and the *Consumer Expenditure Survey* of the US Department of Labor. These initial outlays by area residents generate further secondary activity as local providers acquire inputs to meet this consumer demand. These consumer spending impacts are known as the *induced effect*. The USMRIAS is designed to provide realistic, yet conservative, estimates of these phenomena.
- Sources for information used in this process include the Bureau of the Census, the Bureau of Labor Statistics, the Regional Economic Information System of the US Department of Commerce, and other public and private sources. The pricing data are compiled from the US Department of Labor and the US Department of Commerce. The verification and testing procedures make use of extensive public and private sources.
- Impacts were measured in constant 2013 dollars (the last year for which complete data was available) to eliminate the effects of inflation. Note that totals may not add due to rounding.
- The USMRIAS generates estimates of the effects on several measures of business activity. The most comprehensive measure of economic activity used in this study is **Total Expenditures**. This measure incorporates every dollar that changes hands in any transaction. For example, suppose a farmer sells wheat to a miller for \$0.50; the miller then sells flour to a baker for \$0.75; the baker, in turn, sells bread to a customer for \$1.25. The Total Expenditures recorded in this instance would be \$2.50, that is, \$0.50 + \$0.75 + \$1.25. This measure is quite broad, but is useful in that (1) it reflects the overall interplay of all industries in the economy, and (2) some key fiscal variables such as sales taxes are linked to aggregate spending.

- A second measure of business activity frequently employed in this analysis is that of **Gross Product**. This indicator represents the regional equivalent of Gross Domestic Product, the most commonly reported statistic regarding national economic performance. In other words, the Gross Product of Texas is the amount of US output that is produced in that state; it is defined as the value of all final goods produced in a given region for a specific period of time. Stated differently, it captures the amount of value-added (gross area product) over intermediate goods and services at each stage of the production process, that is, it eliminates the double counting in the Total Expenditures concept. Using the example above, the Gross Product is \$1.25 (the value of the bread) rather than \$2.50. Alternatively, it may be viewed as the sum of the value-added by the farmer, \$0.50; the miller, \$0.25 (\$0.75 - \$0.50); and the baker, \$0.50 (\$1.25 - \$0.75). The total value-added is, therefore, \$1.25, which is equivalent to the final value of the bread. In many industries, the primary component of value-added is the wage and salary payments to employees.
- The third gauge of economic activity used in this evaluation is **Personal Income**. As the name implies, Personal Income is simply the income received by individuals, whether in the form of wages, salaries, interest, dividends, proprietors' profits, or other sources. It may thus be viewed as the segment of overall impacts which flows directly to the citizenry.
- The fourth measure, **Retail Sales**, represents the component of Total Expenditures which occurs in retail outlets (general merchandise stores, automobile dealers and service stations, building materials stores, food stores, drugstores, restaurants, and so forth). Retail Sales is a commonly used measure of consumer activity.
- The final aggregates used are **Permanent Jobs and Person-Years of Employment**. The Person-Years of Employment measure reveals the full-time equivalent jobs generated by an activity. It should be noted that, unlike the dollar values described above, Permanent Jobs is a "stock" rather than a "flow." In other words, if an area produces \$1 million in output in 2010 and \$1 million in 2011, it is appropriate to say that \$2 million was achieved in the 2010-2011 period. If the same area has 100 people working in 2010 and 100 in 2011, it only has 100 Permanent Jobs. When a flow of jobs is measured, such as in a construction project or a cumulative assessment over multiple years, it is appropriate to measure employment in Person-Years (a person working for a year). This concept is distinct from Permanent Jobs, which anticipates that the relevant positions will be maintained on a continuing basis.

## **Appendix C: Detailed Sectoral Results for Current and Potential Future Economic Benefits**

## **Estimated Current Impact of the Barnett Shale**

## **Core Counties**



**Estimated Current Impact of Oil and Gas Exploration, Drilling,  
 and Operations; Royalty and Lease Payments; and Pipeline  
 Construction, Maintenance, and Operations in the  
 Barnett Shale:  
 Core Counties\***

<b>ECONOMIC BENEFITS</b> (Monetary Values in Billions of Constant 2013 Dollars)				
	<b>Drilling</b>	<b>Royalties</b>	<b>Pipeline</b>	<b>TOTAL</b>
Total Expenditures	\$26.2	\$1.1	\$0.3	<b>\$27.6</b>
Gross Product	\$9.5	\$0.5	\$0.1	<b>\$10.2</b>
Personal Income	\$5.5	\$0.3	\$0.1	<b>\$6.0</b>
Retail Sales	\$2.2	\$0.3	\$0.04	<b>\$2.6</b>
Employment (Permanent Jobs)	81,817	7,305	1,789	<b>90,911</b>
<b>FISCAL BENEFITS</b> (Monetary Values in Millions of Constant 2013 Dollars)				
Local Governments	\$373.3	\$29.4	\$6.6	<b>\$409.4</b>
State of Texas	\$478.7	\$58.6	\$7.9	<b>\$545.3</b>

SOURCE: The Perryman Group

\* Core counties as defined by the Texas Railroad Commission include Denton, Johnson, Tarrant, and Wise. Totals may not add due to rounding.

## Estimated Current Annual Impact (as of 2013) of Exploration, Drilling, and Operations in the Barnett Shale on Business Activity in the Core Counties

Sector	Total Expenditures	Real Gross Product	Personal Income	Employment
	<i>(2013 Dollars)</i>	<i>(2013 Dollars)</i>	<i>(2013 Dollars)</i>	<i>(Permanent Jobs)</i>
Agriculture	\$133,044,161	\$38,116,135	\$25,445,747	393
Mining	\$12,343,858,484	\$2,707,099,374	\$1,249,798,534	5,973
Construction	\$2,458,540,101	\$1,202,097,919	\$990,603,533	13,577
Nondurable Manufacturing	\$1,275,030,008	\$378,293,422	\$199,349,049	3,252
Durable Manufacturing	\$921,901,200	\$364,529,843	\$236,619,698	3,363
Transportation and Utilities	\$958,939,385	\$427,070,469	\$258,914,622	3,051
Information	\$257,157,361	\$158,247,676	\$68,502,099	629
Wholesale Trade	\$593,497,552	\$401,247,723	\$231,362,980	2,516
Retail Trade	\$2,238,788,206	\$1,669,787,045	\$968,748,033	29,110
Finance, Insurance, and Real Estate	\$2,890,258,723	\$882,495,864	\$272,545,424	2,632
Business Services	\$687,210,121	\$416,243,076	\$339,547,683	4,015
Health Services	\$497,666,736	\$347,774,922	\$294,046,898	4,720
Other Services	\$938,157,379	\$475,727,536	\$381,036,132	8,586
<b>TOTAL</b>	<b>\$26,194,049,418</b>	<b>\$9,468,731,004</b>	<b>\$5,516,520,432</b>	<b>81,817</b>
Source: US Multi-Regional Impact Assessment System, The Perryman Group				

## Estimated Current Annual Impact (as of 2013) of Royalty and Lease Payments Associated with Activity in the Barnett Shale on Business Activity in the Core Counties

Sector	Total Expenditures	Real Gross Product	Personal Income	Employment
	<i>(2013 Dollars)</i>	<i>(2013 Dollars)</i>	<i>(2013 Dollars)</i>	<i>(Permanent Jobs)</i>
Agriculture	\$16,473,677	\$4,608,824	\$3,084,538	48
Mining	\$8,187,787	\$1,875,593	\$968,959	5
Construction	\$30,145,990	\$15,448,623	\$12,730,628	174
Nondurable Manufacturing	\$75,989,365	\$23,517,154	\$12,520,410	211
Durable Manufacturing	\$24,857,357	\$9,742,182	\$6,244,175	88
Transportation and Utilities	\$100,588,302	\$38,316,036	\$21,976,484	234
Information	\$30,288,983	\$18,670,398	\$8,077,491	74
Wholesale Trade	\$31,879,311	\$21,572,787	\$12,439,061	135
Retail Trade	\$341,396,575	\$257,791,777	\$150,163,457	4,420
Finance, Insurance, and Real Estate	\$224,093,674	\$31,614,679	\$11,702,463	116
Business Services	\$35,547,105	\$20,176,035	\$16,458,475	195
Health Services	\$64,272,675	\$45,574,018	\$38,533,254	618
Other Services	\$116,588,437	\$60,618,569	\$47,900,980	986
<b>TOTAL</b>	<b>\$1,100,309,237</b>	<b>\$549,526,674</b>	<b>\$342,800,375</b>	<b>7,305</b>

Source: US Multi-Regional Impact Assessment System, The Perryman Group

## Estimated Current Annual Impact (as of 2013) of Pipeline Development, Maintenance, and Operations Associated with Activity in the Barnett Shale on Business Activity in the Core Counties

Sector	Total Expenditures	Real Gross Product	Personal Income	Employment
	<i>(2013 Dollars)</i>	<i>(2013 Dollars)</i>	<i>(2013 Dollars)</i>	<i>(Permanent Jobs)</i>
Agriculture	\$3,705,151	\$1,062,366	\$706,205	12
Mining	\$4,148,809	\$976,779	\$533,618	3
Construction	\$90,074,597	\$41,438,952	\$34,148,277	478
Nondurable Manufacturing	\$13,373,318	\$4,177,140	\$2,226,886	42
Durable Manufacturing	\$21,008,670	\$8,395,776	\$5,330,320	84
Transportation and Utilities	\$58,836,791	\$16,545,879	\$10,357,956	162
Information	\$4,300,810	\$2,646,306	\$1,148,035	12
Wholesale Trade	\$10,018,407	\$6,781,033	\$3,910,003	46
Retail Trade	\$40,054,561	\$30,036,207	\$17,459,453	558
Finance, Insurance, and Real Estate	\$31,145,058	\$7,447,428	\$3,110,754	34
Business Services	\$15,372,985	\$9,788,025	\$7,984,520	98
Health Services	\$8,167,009	\$5,717,953	\$4,834,582	83
Other Services	\$17,926,150	\$9,044,777	\$7,245,386	177
<b>TOTAL</b>	<b>\$318,132,318</b>	<b>\$144,058,619</b>	<b>\$98,995,995</b>	<b>1,789</b>
Source: US Multi-Regional Impact Assessment System, The Perryman Group				

## Estimated Current Annual Impact (as of 2013) of All Major Sources of Stimulus Associated with the Barnett Shale on Business Activity in the Core Counties

Sector	Total Expenditures	Real Gross Product	Personal Income	Employment
	<i>(2013 Dollars)</i>	<i>(2013 Dollars)</i>	<i>(2013 Dollars)</i>	<i>(Permanent Jobs)</i>
Agriculture	\$153,222,989	\$43,787,325	\$29,236,491	452
Mining	\$12,356,195,080	\$2,709,951,745	\$1,251,301,111	5,981
Construction	\$2,578,760,689	\$1,258,985,494	\$1,037,482,438	14,229
Nondurable Manufacturing	\$1,364,392,691	\$405,987,715	\$214,096,345	3,506
Durable Manufacturing	\$967,767,226	\$382,667,800	\$248,194,193	3,535
Transportation and Utilities	\$1,118,364,479	\$481,932,383	\$291,249,062	3,447
Information	\$291,747,155	\$179,564,381	\$77,727,624	715
Wholesale Trade	\$635,395,271	\$429,601,543	\$247,712,044	2,697
Retail Trade	\$2,620,239,342	\$1,957,615,028	\$1,136,370,943	34,087
Finance, Insurance, and Real Estate	\$3,145,497,455	\$921,557,971	\$287,358,641	2,783
Business Services	\$738,130,211	\$446,207,135	\$363,990,678	4,308
Health Services	\$570,106,420	\$399,066,893	\$337,414,734	5,422
Other Services	\$1,072,671,966	\$545,390,882	\$436,182,498	9,749
<b>TOTAL</b>	<b>\$27,612,490,973</b>	<b>\$10,162,316,296</b>	<b>\$5,958,316,801</b>	<b>90,911</b>
Source: US Multi-Regional Impact Assessment System, The Perryman Group				

## **Non-Core Counties**

<b>Estimated Current Impact of Oil and Gas Exploration, Drilling, and Operations; Royalty and Lease Payments; and Pipeline Construction, Maintenance, and Operations in the Barnett Shale:</b>				
<b>Other Affected (Non-Core) Counties*</b>				
<b>ECONOMIC BENEFITS</b> (Monetary Values in Billions of Constant 2013 Dollars)				
	<b>Drilling</b>	<b>Royalties</b>	<b>Pipeline</b>	<b>TOTAL</b>
Total Expenditures	\$3.5	\$0.2	\$0.6	<b>\$4.3</b>
Gross Product	\$1.3	\$0.1	\$0.3	<b>\$1.7</b>
Personal Income	\$0.8	\$0.1	\$0.2	<b>\$1.0</b>
Retail Sales	\$0.4	\$0.1	\$0.1	<b>\$0.5</b>
Employment (Permanent Jobs)	12,054	1,201	3,489	<b>16,745</b>
<b>FISCAL BENEFITS</b> (Monetary Values in Millions of Constant 2013 Dollars)				
Local Governments	\$53.7	\$4.8	\$12.8	<b>\$71.3</b>
State of Texas	\$73.1	\$9.8	\$16.5	<b>\$99.5</b>
<p>SOURCE: The Perryman Group</p> <p>* Non-core counties as defined by the Texas Railroad Commission include Archer, Bosque, Clay, Comanche, Cooke, Dallas, Eastland, Ellis, Erath, Hamilton, Hill, Hood, Jack, Montague, Palo Pinto, Parker, Shackelford, Somervell, Stephens, and Young. Coryell County was excluded due to lack of activity. Totals may not add due to rounding.</p>				

## Estimated Current Annual Impact (as of 2013) of Exploration, Drilling, and Operations in the Barnett Shale on Business Activity in the Non-Core Counties

Sector	Total Expenditures	Real Gross Product	Personal Income	Employment
	<i>(2013 Dollars)</i>	<i>(2013 Dollars)</i>	<i>(2013 Dollars)</i>	<i>(Permanent Jobs)</i>
Agriculture	\$34,385,441	\$9,777,633	\$6,548,618	101
Mining	\$1,569,692,173	\$344,461,568	\$159,179,478	762
Construction	\$404,169,485	\$193,520,782	\$159,473,177	2,186
Nondurable Manufacturing	\$84,557,647	\$27,086,440	\$14,893,014	255
Durable Manufacturing	\$89,392,625	\$35,914,419	\$23,299,732	338
Transportation and Utilities	\$184,230,382	\$68,953,060	\$39,518,030	421
Information	\$26,011,183	\$16,013,312	\$6,969,211	65
Wholesale Trade	\$46,385,245	\$31,366,760	\$18,086,356	197
Retail Trade	\$362,960,440	\$271,337,440	\$157,542,181	4,715
Finance, Insurance, and Real Estate	\$417,871,901	\$115,782,690	\$35,115,501	329
Business Services	\$100,325,751	\$61,343,869	\$50,040,878	592
Health Services	\$67,565,555	\$47,430,414	\$40,102,856	644
Other Services	\$153,075,000	\$77,857,396	\$62,805,319	1,451
<b>TOTAL</b>	<b>\$3,540,622,827</b>	<b>\$1,300,845,783</b>	<b>\$773,574,352</b>	<b>12,054</b>
Source: US Multi-Regional Impact Assessment System, The Perryman Group				



## Estimated Current Annual Impact (as of 2013) of Royalty and Lease Payments Associated with Activity in the Barnett Shale on Business Activity in the Non-Core Counties

Sector	Total Expenditures <i>(2013 Dollars)</i>	Real Gross Product <i>(2013 Dollars)</i>	Personal Income <i>(2013 Dollars)</i>	Employment <i>(Permanent Jobs)</i>
Agriculture	\$3,572,153	\$996,169	\$668,010	10
Mining	\$1,414,108	\$327,416	\$171,965	1
Construction	\$4,753,399	\$2,435,928	\$2,007,357	28
Nondurable Manufacturing	\$6,648,467	\$2,201,160	\$1,221,696	22
Durable Manufacturing	\$2,479,523	\$1,001,428	\$640,709	9
Transportation and Utilities	\$18,721,665	\$6,572,491	\$3,658,794	37
Information	\$4,083,047	\$2,519,923	\$1,094,139	10
Wholesale Trade	\$3,007,563	\$2,035,224	\$1,173,528	13
Retail Trade	\$57,930,689	\$43,744,334	\$25,481,089	750
Finance, Insurance, and Real Estate	\$40,884,050	\$5,905,781	\$2,030,167	20
Business Services	\$5,745,914	\$3,237,744	\$2,641,170	31
Health Services	\$10,169,279	\$7,219,917	\$6,104,507	98
Other Services	\$20,037,099	\$10,429,407	\$8,255,327	173
<b>TOTAL</b>	<b>\$179,446,957</b>	<b>\$88,626,921</b>	<b>\$55,148,456</b>	<b>1,201</b>

Source: US Multi-Regional Impact Assessment System, The Perryman Group

## Estimated Current Annual Impact (as of 2013) of Pipeline Development, Maintenance, and Operations Associated with Activity in the Barnett Shale on Business Activity in the Non-Core Counties

Sector	Total Expenditures <i>(2013 Dollars)</i>	Real Gross Product <i>(2013 Dollars)</i>	Personal Income <i>(2013 Dollars)</i>	Employment <i>(Permanent Jobs)</i>
Agriculture	\$8,882,993	\$2,492,450	\$1,678,183	28
Mining	\$5,223,680	\$1,257,661	\$647,870	4
Construction	\$165,337,599	\$76,069,048	\$62,685,633	876
Nondurable Manufacturing	\$22,376,371	\$7,323,026	\$3,982,046	78
Durable Manufacturing	\$30,082,539	\$11,942,264	\$7,645,041	123
Transportation and Utilities	\$120,223,183	\$32,604,147	\$19,824,817	297
Information	\$5,773,755	\$3,553,040	\$1,550,834	16
Wholesale Trade	\$12,807,949	\$8,669,093	\$4,998,677	59
Retail Trade	\$86,862,264	\$65,160,187	\$37,880,533	1,196
Finance, Insurance, and Real Estate	\$75,226,311	\$16,800,090	\$6,472,821	69
Business Services	\$30,066,123	\$19,050,189	\$15,540,072	191
Health Services	\$16,704,706	\$11,727,158	\$9,915,422	169
Other Services	\$37,590,413	\$19,120,009	\$15,399,188	382
<b>TOTAL</b>	<b>\$617,157,885</b>	<b>\$275,768,362</b>	<b>\$188,221,136</b>	<b>3,489</b>

Source: US Multi-Regional Impact Assessment System, The Perryman Group

## Estimated Current Annual Impact (as of 2013) of All Major Sources of Stimulus Associated with the Barnett Shale on Business Activity in the Non-Core Counties

Sector	Total Expenditures	Real Gross Product	Personal Income	Employment
	<i>(2013 Dollars)</i>	<i>(2013 Dollars)</i>	<i>(2013 Dollars)</i>	<i>(Permanent Jobs)</i>
Agriculture	\$46,840,588	\$13,266,252	\$8,894,810	139
Mining	\$1,576,329,961	\$346,046,644	\$159,999,313	767
Construction	\$574,260,482	\$272,025,758	\$224,166,167	3,089
Nondurable Manufacturing	\$113,582,485	\$36,610,626	\$20,096,755	355
Durable Manufacturing	\$121,954,687	\$48,858,110	\$31,585,482	471
Transportation and Utilities	\$323,175,230	\$108,129,699	\$63,001,642	755
Information	\$35,867,985	\$22,086,275	\$9,614,185	91
Wholesale Trade	\$62,200,757	\$42,071,076	\$24,258,561	268
Retail Trade	\$507,753,394	\$380,241,961	\$220,903,803	6,661
Finance, Insurance, and Real Estate	\$533,982,261	\$138,488,561	\$43,618,489	418
Business Services	\$136,137,788	\$83,631,802	\$68,222,119	814
Health Services	\$94,439,540	\$66,377,488	\$56,122,785	911
Other Services	\$210,702,512	\$107,406,812	\$86,459,834	2,006
<b>TOTAL</b>	<b>\$4,337,227,669</b>	<b>\$1,665,241,066</b>	<b>\$1,016,943,944</b>	<b>16,745</b>
Source: US Multi-Regional Impact Assessment System, The Perryman Group				

## **Total Region**

## Estimated Current Annual Impact (as of 2013) of Exploration, Drilling, and Operations in the Barnett Shale on Business Activity in the Total Region

Sector	Total Expenditures	Real Gross Product	Personal Income	Employment
	<i>(2013 Dollars)</i>	<i>(2013 Dollars)</i>	<i>(2013 Dollars)</i>	<i>(Permanent Jobs)</i>
Agriculture	\$167,429,602	\$47,893,769	\$31,994,366	494
Mining	\$13,913,550,657	\$3,051,560,941	\$1,408,978,012	6,735
Construction	\$2,862,709,586	\$1,395,618,701	\$1,150,076,710	15,762
Nondurable Manufacturing	\$1,359,587,655	\$405,379,861	\$214,242,063	3,507
Durable Manufacturing	\$1,011,293,825	\$400,444,262	\$259,919,430	3,700
Transportation and Utilities	\$1,143,169,768	\$496,023,529	\$298,432,653	3,472
Information	\$283,168,544	\$174,260,989	\$75,471,310	695
Wholesale Trade	\$639,882,797	\$432,614,484	\$249,449,336	2,712
Retail Trade	\$2,601,748,647	\$1,941,124,484	\$1,126,290,214	33,825
Finance, Insurance, and Real Estate	\$3,308,130,624	\$998,278,554	\$307,660,926	2,962
Business Services	\$787,535,872	\$477,586,945	\$389,588,561	4,607
Health Services	\$565,232,290	\$395,205,336	\$334,149,754	5,364
Other Services	\$1,091,232,379	\$553,584,932	\$443,841,451	10,037
<b>TOTAL</b>	<b>\$29,734,672,245</b>	<b>\$10,769,576,787</b>	<b>\$6,290,094,784</b>	<b>93,871</b>
Source: US Multi-Regional Impact Assessment System, The Perryman Group				

## Estimated Current Annual Impact (as of 2013) of Royalty and Lease Payments Associated with Activity in the Barnett Shale on Business Activity in the Total Region

Sector	Total Expenditures	Real Gross Product	Personal Income	Employment
	<i>(2013 Dollars)</i>	<i>(2013 Dollars)</i>	<i>(2013 Dollars)</i>	<i>(Permanent Jobs)</i>
Agriculture	\$20,045,830	\$5,604,992	\$3,752,548	58
Mining	\$9,601,895	\$2,203,009	\$1,140,924	6
Construction	\$34,899,389	\$17,884,551	\$14,737,984	202
Nondurable Manufacturing	\$82,637,832	\$25,718,314	\$13,742,106	233
Durable Manufacturing	\$27,336,880	\$10,743,610	\$6,884,884	97
Transportation and Utilities	\$119,309,967	\$44,888,527	\$25,635,278	271
Information	\$34,372,030	\$21,190,321	\$9,171,630	84
Wholesale Trade	\$34,886,875	\$23,608,010	\$13,612,589	148
Retail Trade	\$399,327,264	\$301,536,111	\$175,644,546	5,170
Finance, Insurance, and Real Estate	\$264,977,723	\$37,520,460	\$13,732,630	136
Business Services	\$41,293,019	\$23,413,779	\$19,099,644	226
Health Services	\$74,441,954	\$52,793,934	\$44,637,761	716
Other Services	\$136,625,536	\$71,047,976	\$56,156,307	1,158
<b>TOTAL</b>	<b>\$1,279,756,195</b>	<b>\$638,153,595</b>	<b>\$397,948,831</b>	<b>8,506</b>

Source: US Multi-Regional Impact Assessment System, The Perryman Group

## Estimated Current Annual Impact (as of 2013) of Pipeline Development, Maintenance, and Operations Associated with Activity in the Barnett Shale on Business Activity in the Total Region

Sector	Total Expenditures	Real Gross Product	Personal Income	Employment
	<i>(2013 Dollars)</i>	<i>(2013 Dollars)</i>	<i>(2013 Dollars)</i>	<i>(Permanent Jobs)</i>
Agriculture	\$12,588,145	\$3,554,816	\$2,384,387	39
Mining	\$9,372,489	\$2,234,439	\$1,181,489	8
Construction	\$255,412,196	\$117,508,000	\$96,833,910	1,353
Nondurable Manufacturing	\$35,749,689	\$11,500,166	\$6,208,931	121
Durable Manufacturing	\$51,091,208	\$20,338,039	\$12,975,361	208
Transportation and Utilities	\$179,059,974	\$49,150,026	\$30,182,773	459
Information	\$10,074,565	\$6,199,346	\$2,698,869	27
Wholesale Trade	\$22,826,356	\$15,450,125	\$8,908,680	105
Retail Trade	\$126,916,825	\$95,196,394	\$55,339,986	1,754
Finance, Insurance, and Real Estate	\$106,371,369	\$24,247,518	\$9,583,575	103
Business Services	\$45,439,108	\$28,838,214	\$23,524,592	289
Health Services	\$24,871,715	\$17,445,111	\$14,750,004	252
Other Services	\$55,516,563	\$28,164,786	\$22,644,573	560
<b>TOTAL</b>	<b>\$935,290,202</b>	<b>\$419,826,981</b>	<b>\$287,217,131</b>	<b>5,279</b>

Source: US Multi-Regional Impact Assessment System, The Perryman Group

## Estimated Current Annual Impact (as of 2013) of All Major Sources of Stimulus Associated with the Barnett Shale on Business Activity in the Total Region

Sector	Total Expenditures	Real Gross Product	Personal Income	Employment
	<i>(2013 Dollars)</i>	<i>(2013 Dollars)</i>	<i>(2013 Dollars)</i>	<i>(Permanent Jobs)</i>
Agriculture	\$200,063,577	\$57,053,577	\$38,131,301	591
Mining	\$13,932,525,041	\$3,055,998,389	\$1,411,300,424	6,749
Construction	\$3,153,021,171	\$1,531,011,253	\$1,261,648,605	17,318
Nondurable Manufacturing	\$1,477,975,175	\$442,598,342	\$234,193,100	3,860
Durable Manufacturing	\$1,089,721,913	\$431,525,911	\$279,779,675	4,005
Transportation and Utilities	\$1,441,539,709	\$590,062,083	\$354,250,703	4,202
Information	\$327,615,140	\$201,650,656	\$87,341,809	806
Wholesale Trade	\$697,596,028	\$471,672,619	\$271,970,605	2,965
Retail Trade	\$3,127,992,736	\$2,337,856,989	\$1,357,274,746	40,748
Finance, Insurance, and Real Estate	\$3,679,479,716	\$1,060,046,531	\$330,977,130	3,201
Business Services	\$874,267,999	\$529,838,938	\$432,212,797	5,122
Health Services	\$664,545,960	\$465,444,381	\$393,537,519	6,333
Other Services	\$1,283,374,478	\$652,797,694	\$522,642,331	11,755
<b>TOTAL</b>	<b>\$31,949,718,642</b>	<b>\$11,827,557,363</b>	<b>\$6,975,260,745</b>	<b>107,656</b>
Source: US Multi-Regional Impact Assessment System, The Perryman Group				



## Texas

## Estimated Current Annual Impact (as of 2013) of Exploration, Drilling, and Operations in the Barnett Shale on Business Activity in Texas

Sector	Total Expenditures	Real Gross Product	Personal Income	Employment
	<i>(2013 Dollars)</i>	<i>(2013 Dollars)</i>	<i>(2013 Dollars)</i>	<i>(Permanent Jobs)</i>
Agriculture	\$396,161,292	\$115,837,390	\$76,375,230	1,175
Mining	\$15,695,434,446	\$3,443,292,800	\$1,590,926,123	7,611
Construction	\$3,000,992,482	\$1,470,170,632	\$1,211,512,142	16,604
Nondurable Manufacturing	\$1,792,317,762	\$490,284,601	\$255,107,610	3,940
Durable Manufacturing	\$1,109,452,410	\$438,643,304	\$286,517,343	4,040
Transportation and Utilities	\$1,392,785,782	\$554,082,894	\$324,480,878	3,598
Information	\$286,341,734	\$176,211,631	\$76,318,795	703
Wholesale Trade	\$644,715,962	\$435,882,109	\$251,333,477	2,733
Retail Trade	\$2,737,490,339	\$2,044,314,920	\$1,186,503,051	35,581
Finance, Insurance, and Real Estate	\$3,349,322,463	\$1,009,385,718	\$310,294,488	2,987
Business Services	\$792,381,797	\$480,525,669	\$391,985,807	4,635
Health Services	\$616,514,874	\$431,061,657	\$364,466,605	5,850
Other Services	\$1,185,389,890	\$598,818,525	\$481,490,328	10,880
<b>TOTAL</b>	<b>\$32,999,301,233</b>	<b>\$11,688,511,851</b>	<b>\$6,807,311,877</b>	<b>100,336</b>
Source: US Multi-Regional Impact Assessment System, The Perryman Group				

## Estimated Current Annual Impact (as of 2013) of Royalty and Lease Payments Associated with Activity in the Barnett Shale on Business Activity in Texas

Sector	Total Expenditures	Real Gross Product	Personal Income	Employment
	<i>(2013 Dollars)</i>	<i>(2013 Dollars)</i>	<i>(2013 Dollars)</i>	<i>(Permanent Jobs)</i>
Agriculture	\$47,400,084	\$13,511,537	\$8,940,914	138
Mining	\$11,443,822	\$2,674,025	\$1,470,110	8
Construction	\$39,226,533	\$20,102,041	\$16,565,334	227
Nondurable Manufacturing	\$107,470,820	\$30,273,306	\$15,949,224	258
Durable Manufacturing	\$29,256,538	\$11,470,574	\$7,389,507	104
Transportation and Utilities	\$153,111,883	\$52,632,174	\$29,066,967	287
Information	\$34,757,061	\$21,427,457	\$9,274,579	85
Wholesale Trade	\$35,150,382	\$23,786,327	\$13,715,408	149
Retail Trade	\$420,375,772	\$317,705,935	\$185,111,549	5,441
Finance, Insurance, and Real Estate	\$268,418,019	\$37,901,486	\$13,840,424	137
Business Services	\$41,547,106	\$23,557,851	\$19,217,170	227
Health Services	\$81,195,949	\$57,583,840	\$48,687,670	781
Other Services	\$147,932,277	\$76,604,573	\$60,700,650	1,252
<b>TOTAL</b>	<b>\$1,417,286,245</b>	<b>\$689,231,125</b>	<b>\$429,929,505</b>	<b>9,095</b>

Source: US Multi-Regional Impact Assessment System, The Perryman Group

## Estimated Current Annual Impact (as of 2013) of Pipeline Development, Maintenance, and Operations Associated with Activity in the Barnett Shale on Business Activity in Texas

Sector	Total Expenditures	Real Gross Product	Personal Income	Employment
	<i>(2013 Dollars)</i>	<i>(2013 Dollars)</i>	<i>(2013 Dollars)</i>	<i>(Permanent Jobs)</i>
Agriculture	\$29,758,636	\$8,545,224	\$5,672,004	94
Mining	\$11,317,994	\$2,765,789	\$1,551,490	10
Construction	\$258,223,327	\$118,959,884	\$98,030,354	1,373
Nondurable Manufacturing	\$46,065,413	\$13,516,005	\$7,194,696	135
Durable Manufacturing	\$55,133,630	\$21,881,784	\$14,022,470	223
Transportation and Utilities	\$199,124,257	\$53,793,125	\$32,284,831	473
Information	\$10,187,758	\$6,268,897	\$2,729,276	28
Wholesale Trade	\$22,998,768	\$15,566,823	\$8,975,969	106
Retail Trade	\$133,571,171	\$100,278,426	\$58,310,252	1,845
Finance, Insurance, and Real Estate	\$107,649,968	\$24,470,844	\$9,649,839	104
Business Services	\$45,718,707	\$29,015,663	\$23,669,345	291
Health Services	\$27,128,285	\$19,027,877	\$16,088,247	275
Other Services	\$60,337,541	\$30,478,071	\$24,572,252	607
<b>TOTAL</b>	<b>\$1,007,215,457</b>	<b>\$444,568,412</b>	<b>\$302,751,026</b>	<b>5,563</b>

Source: US Multi-Regional Impact Assessment System, The Perryman Group

## Estimated Current Annual Impact (as of 2013) of All Major Sources of Stimulus Associated with the Barnett Shale on Business Activity in Texas

Sector	Total Expenditures	Real Gross Product	Personal Income	Employment
	<i>(2013 Dollars)</i>	<i>(2013 Dollars)</i>	<i>(2013 Dollars)</i>	<i>(Permanent Jobs)</i>
Agriculture	\$473,320,012	\$137,894,151	\$90,988,149	1,406
Mining	\$15,718,196,263	\$3,448,732,614	\$1,593,947,723	7,629
Construction	\$3,298,442,342	\$1,609,232,558	\$1,326,107,830	18,204
Nondurable Manufacturing	\$1,945,853,995	\$534,073,913	\$278,251,529	4,334
Durable Manufacturing	\$1,193,842,578	\$471,995,661	\$307,929,320	4,367
Transportation and Utilities	\$1,745,021,922	\$660,508,193	\$385,832,677	4,357
Information	\$331,286,553	\$203,907,985	\$88,322,650	815
Wholesale Trade	\$702,865,112	\$475,235,258	\$274,024,854	2,987
Retail Trade	\$3,291,437,282	\$2,462,299,281	\$1,429,924,852	42,867
Finance, Insurance, and Real Estate	\$3,725,390,450	\$1,071,758,048	\$333,784,751	3,228
Business Services	\$879,647,611	\$533,099,183	\$434,872,322	5,153
Health Services	\$724,839,107	\$507,673,374	\$429,242,522	6,907
Other Services	\$1,393,659,708	\$705,901,169	\$566,763,229	12,739
<b>TOTAL</b>	<b>\$35,423,802,935</b>	<b>\$12,822,311,388</b>	<b>\$7,539,992,408</b>	<b>114,994</b>
Source: US Multi-Regional Impact Assessment System, The Perryman Group				

# **Estimated Impact of the Barnett Shale Since 2001**

## **Core Counties**

**Estimated Impact of Oil and Gas Exploration, Drilling, and Operations; Royalty and Lease Payments; and Pipeline Construction, Maintenance, and Operations in the Barnett Shale Since 2001:  
Core Counties\***

<b>ECONOMIC BENEFITS</b> (Monetary Values in Billions of Constant 2013 Dollars)				
	<b>Drilling</b>	<b>Royalties</b>	<b>Pipeline</b>	<b>TOTAL</b>
Total Expenditures	\$253.0	\$11.6	\$3.8	<b>\$268.4</b>
Gross Product	\$90.2	\$5.8	\$1.7	<b>\$97.7</b>
Personal Income	\$52.0	\$3.6	\$1.2	<b>\$56.8</b>
Retail Sales	\$21.1	\$3.6	\$0.5	<b>\$25.3</b>
Employment (Person-Years)	764,126	77,374	21,509	<b>863,010</b>
<b>FISCAL BENEFITS</b> (Monetary Values in Millions of Constant 2013 Dollars)				
Local Governments	\$3,523.3	\$311.8	\$94.6	<b>\$3,914.1</b>
State of Texas	\$4,539.2	\$623.1	\$79.0	<b>\$5,256.9</b>
SOURCE: The Perryman Group				
* Impact of activity from 2001 through 2013. Core counties as defined by the Texas Railroad Commission include Denton, Johnson, Tarrant, and Wise. Totals may not add due to rounding.				



## Estimated Cumulative Impact (2001-2013) of Exploration, Drilling, and Operations in the Barnett Shale on Business Activity in the Core Counties

Sector	Total Expenditures <i>(2013 Dollars)</i>	Real Gross Product <i>(2013 Dollars)</i>	Personal Income <i>(2013 Dollars)</i>	Employment <i>(Person-Years)</i>
Agriculture	\$1,249,226,311	\$358,020,418	\$239,025,549	3,694
Mining	\$124,000,807,721	\$27,193,170,693	\$12,553,272,094	59,988
Construction	\$21,306,682,594	\$10,522,653,999	\$8,671,322,039	118,845
Nondurable Manufacturing	\$12,151,455,024	\$3,601,821,769	\$1,897,583,882	30,893
Durable Manufacturing	\$8,441,687,220	\$3,342,847,025	\$2,170,943,841	30,644
Transportation and Utilities	\$9,054,083,022	\$4,023,612,289	\$2,438,044,306	28,704
Information	\$2,425,069,425	\$1,492,299,578	\$645,951,840	5,934
Wholesale Trade	\$5,584,905,257	\$3,775,476,113	\$2,176,972,908	23,670
Retail Trade	\$21,143,173,951	\$15,763,418,940	\$9,144,110,107	274,956
Finance, Insurance, and Real Estate	\$27,897,858,065	\$8,592,301,193	\$2,624,235,560	25,301
Business Services	\$6,214,782,977	\$3,738,940,065	\$3,050,016,953	36,066
Health Services	\$4,697,640,760	\$3,282,491,718	\$2,775,376,950	44,550
Other Services	\$8,834,681,950	\$4,480,401,167	\$3,588,967,677	80,882
<b>TOTAL</b>	<b>\$253,002,054,278</b>	<b>\$90,167,454,969</b>	<b>\$51,975,823,705</b>	<b>764,126</b>

Source: US Multi-Regional Impact Assessment System, The Perryman Group

## Estimated Cumulative Impact (2001-2013) of Royalty and Lease Payments Associated with Activity in the Barnett Shale on Business Activity in the Core Counties

Sector	Total Expenditures <i>(2013 Dollars)</i>	Real Gross Product <i>(2013 Dollars)</i>	Personal Income <i>(2013 Dollars)</i>	Employment <i>(Person-Years)</i>
Agriculture	\$195,959,394	\$54,797,792	\$36,684,817	566
Mining	\$82,803,000	\$19,136,932	\$10,156,187	54
Construction	\$322,059,856	\$165,042,890	\$136,005,622	1,864
Nondurable Manufacturing	\$746,204,459	\$232,805,394	\$124,060,827	2,100
Durable Manufacturing	\$259,138,725	\$101,942,379	\$65,194,451	920
Transportation and Utilities	\$1,082,185,995	\$407,136,727	\$232,506,107	2,459
Information	\$319,897,303	\$197,207,470	\$85,311,764	782
Wholesale Trade	\$333,633,034	\$225,770,072	\$130,181,035	1,415
Retail Trade	\$3,632,210,999	\$2,742,716,822	\$1,597,629,855	47,022
Finance, Insurance, and Real Estate	\$2,347,198,297	\$322,297,629	\$118,144,206	1,169
Business Services	\$366,097,890	\$206,895,977	\$168,774,101	1,996
Health Services	\$679,428,606	\$481,814,987	\$407,379,033	6,539
Other Services	\$1,240,875,511	\$644,972,649	\$509,902,662	10,489
<b>TOTAL</b>	<b>\$11,607,693,068</b>	<b>\$5,802,537,718</b>	<b>\$3,621,930,666</b>	<b>77,374</b>

Source: US Multi-Regional Impact Assessment System, The Perryman Group

## Estimated Cumulative Impact (2001-2013) of Pipeline Development, Maintenance, and Operations Associated with Activity in the Barnett Shale on Business Activity in the Core Counties

Sector	Total Expenditures	Real Gross Product	Personal Income	Employment
	<i>(2013 Dollars)</i>	<i>(2013 Dollars)</i>	<i>(2013 Dollars)</i>	<i>(Person-Years)</i>
Agriculture	\$38,868,183	\$11,121,134	\$7,402,285	122
Mining	\$45,539,661	\$10,652,611	\$5,697,729	36
Construction	\$1,062,793,224	\$488,939,839	\$402,916,879	5,635
Nondurable Manufacturing	\$192,437,591	\$58,880,220	\$31,269,589	589
Durable Manufacturing	\$257,937,684	\$102,226,020	\$65,273,416	1,031
Transportation and Utilities	\$687,995,004	\$194,389,954	\$122,062,533	1,914
Information	\$52,588,939	\$32,360,183	\$14,033,401	141
Wholesale Trade	\$124,257,370	\$84,104,452	\$48,495,364	572
Retail Trade	\$477,666,341	\$358,206,735	\$208,220,829	6,649
Finance, Insurance, and Real Estate	\$385,756,895	\$93,635,297	\$39,218,087	432
Business Services	\$196,586,787	\$125,324,618	\$102,232,773	1,255
Health Services	\$101,291,428	\$70,889,405	\$59,937,648	1,033
Other Services	\$212,326,892	\$107,236,123	\$85,858,752	2,100
<b>TOTAL</b>	<b>\$3,836,045,999</b>	<b>\$1,737,966,589</b>	<b>\$1,192,619,285</b>	<b>21,509</b>

Source: US Multi-Regional Impact Assessment System, The Perryman Group

## Estimated Cumulative Impact (2001-2013) of All Major Sources of Stimulus Associated with the Barnett Shale on Business Activity in the Core Counties

Sector	Total Expenditures <i>(2013 Dollars)</i>	Real Gross Product <i>(2013 Dollars)</i>	Personal Income <i>(2013 Dollars)</i>	Employment <i>(Person-Years)</i>
Agriculture	\$1,484,053,888	\$423,939,344	\$283,112,650	4,383
Mining	\$124,129,150,382	\$27,222,960,236	\$12,569,126,011	60,078
Construction	\$22,691,535,674	\$11,176,636,728	\$9,210,244,540	126,344
Nondurable Manufacturing	\$13,090,097,073	\$3,893,507,383	\$2,052,914,297	33,582
Durable Manufacturing	\$8,958,763,629	\$3,547,015,424	\$2,301,411,707	32,595
Transportation and Utilities	\$10,824,264,021	\$4,625,138,971	\$2,792,612,946	33,078
Information	\$2,797,555,668	\$1,721,867,231	\$745,297,005	6,856
Wholesale Trade	\$6,042,795,662	\$4,085,350,637	\$2,355,649,307	25,656
Retail Trade	\$25,253,051,291	\$18,864,342,497	\$10,949,960,791	328,627
Finance, Insurance, and Real Estate	\$30,630,813,257	\$9,008,234,118	\$2,781,597,854	26,901
Business Services	\$6,777,467,655	\$4,071,160,660	\$3,321,023,827	39,317
Health Services	\$5,478,360,793	\$3,835,196,109	\$3,242,693,630	52,121
Other Services	\$10,287,884,353	\$5,232,609,940	\$4,184,729,091	93,470
<b>TOTAL</b>	<b>\$268,445,793,345</b>	<b>\$97,707,959,276</b>	<b>\$56,790,373,656</b>	<b>863,010</b>

Source: US Multi-Regional Impact Assessment System, The Perryman Group

## **Non-Core Counties**

<b>Estimated Impact of Oil and Gas Exploration, Drilling, and Operations; Royalty and Lease Payments; and Pipeline Construction, Maintenance, and Operations in the Barnett Shale Since 2001:</b>				
<b>Other Affected (Non-Core) Counties*</b>				
<b>ECONOMIC BENEFITS</b> (Monetary Values in Billions of Constant 2013 Dollars)				
	<b>Drilling</b>	<b>Royalties</b>	<b>Pipeline</b>	<b>TOTAL</b>
Total Expenditures	\$26.1	\$2.0	\$6.0	<b>\$34.2</b>
Gross Product	\$9.3	\$1.0	\$2.7	<b>\$13.0</b>
Personal Income	\$5.4	\$0.6	\$1.8	<b>\$7.9</b>
Retail Sales	\$2.6	\$0.6	\$0.8	<b>\$4.0</b>
Employment (Person-Years)	83,132	13,282	34,139	<b>130,553</b>
<b>FISCAL BENEFITS</b> (Monetary Values in Millions of Constant 2013 Dollars)				
Local Governments	\$378.1	\$53.4	\$125.1	<b>\$556.6</b>
State of Texas	\$519.2	\$109.3	\$160.4	<b>\$788.9</b>
<p>SOURCE: The Perryman Group</p> <p>* Impact of activity from 2001 through 2013. Non-core counties as defined by the Texas Railroad Commission include Archer, Bosque, Clay, Comanche, Cooke, Dallas, Eastland, Ellis, Erath, Hamilton, Hill, Hood, Jack, Montague, Palo Pinto, Parker, Shackelford, Somervell, Stephens, and Young. Coryell County was excluded due to lack of activity. Totals may not add due to rounding.</p>				

## Estimated Cumulative Impact (2001-2013) of Exploration, Drilling, and Operations in the Barnett Shale on Business Activity in the Non-Core Counties

Sector	Total Expenditures <i>(2013 Dollars)</i>	Real Gross Product <i>(2013 Dollars)</i>	Personal Income <i>(2013 Dollars)</i>	Employment <i>(Person-Years)</i>
Agriculture	\$230,948,657	\$65,992,250	\$44,097,925	680
Mining	\$12,854,903,837	\$2,820,542,497	\$1,303,213,081	6,238
Construction	\$2,470,554,226	\$1,196,527,508	\$986,013,185	13,513
Nondurable Manufacturing	\$549,079,911	\$178,318,699	\$98,228,716	1,687
Durable Manufacturing	\$627,671,104	\$251,106,121	\$163,747,737	2,353
Transportation and Utilities	\$1,320,142,589	\$490,556,026	\$280,486,958	2,972
Information	\$195,560,588	\$120,443,581	\$52,302,032	486
Wholesale Trade	\$319,459,249	\$215,997,024	\$124,545,816	1,353
Retail Trade	\$2,553,306,647	\$1,907,756,454	\$1,107,457,223	33,178
Finance, Insurance, and Real Estate	\$2,833,809,113	\$791,141,496	\$239,277,390	2,233
Business Services	\$645,872,060	\$390,809,780	\$318,800,632	3,770
Health Services	\$469,309,220	\$329,437,311	\$278,542,304	4,471
Other Services	\$1,069,083,668	\$543,408,055	\$439,356,543	10,198
<b>TOTAL</b>	<b>\$26,139,700,871</b>	<b>\$9,302,036,801</b>	<b>\$5,436,069,542</b>	<b>83,132</b>

Source: US Multi-Regional Impact Assessment System, The Perryman Group

## Estimated Cumulative Impact (2001-2013) of Royalty and Lease Payments Associated with Activity in the Barnett Shale on Business Activity in the Non-Core Counties

Sector	Total Expenditures <i>(2013 Dollars)</i>	Real Gross Product <i>(2013 Dollars)</i>	Personal Income <i>(2013 Dollars)</i>	Employment <i>(Person-Years)</i>
Agriculture	\$37,670,851	\$10,470,303	\$7,035,449	109
Mining	\$14,659,374	\$3,367,256	\$1,701,058	9
Construction	\$51,526,710	\$26,405,393	\$21,759,689	298
Nondurable Manufacturing	\$71,122,156	\$22,944,684	\$12,664,332	220
Durable Manufacturing	\$27,125,959	\$10,973,920	\$7,000,369	103
Transportation and Utilities	\$209,166,862	\$72,272,261	\$39,982,442	396
Information	\$45,777,856	\$28,252,184	\$12,264,272	114
Wholesale Trade	\$32,974,827	\$22,314,125	\$12,866,522	140
Retail Trade	\$643,871,663	\$486,218,072	\$283,225,835	8,335
Finance, Insurance, and Real Estate	\$444,361,692	\$62,650,134	\$21,575,923	208
Business Services	\$65,092,609	\$36,770,588	\$29,995,377	355
Health Services	\$111,672,432	\$79,302,478	\$67,050,981	1,076
Other Services	\$222,320,914	\$115,673,449	\$91,582,194	1,918
<b>TOTAL</b>	<b>\$1,977,343,905</b>	<b>\$977,614,846</b>	<b>\$608,704,443</b>	<b>13,282</b>

Source: US Multi-Regional Impact Assessment System, The Perryman Group



## Estimated Cumulative Impact (2001-2013) of Pipeline Development, Maintenance, and Operations Associated with Activity in the Barnett Shale on Business Activity in the Non-Core Counties

Sector	Total Expenditures <i>(2013 Dollars)</i>	Real Gross Product <i>(2013 Dollars)</i>	Personal Income <i>(2013 Dollars)</i>	Employment <i>(Person-Years)</i>
Agriculture	\$84,158,009	\$23,685,001	\$15,917,608	264
Mining	\$53,897,328	\$12,915,787	\$6,574,437	42
Construction	\$1,635,067,535	\$752,048,066	\$619,734,449	8,656
Nondurable Manufacturing	\$219,687,575	\$72,293,052	\$39,233,903	773
Durable Manufacturing	\$289,191,758	\$114,863,704	\$73,548,879	1,191
Transportation and Utilities	\$1,192,023,567	\$320,847,338	\$194,553,439	2,915
Information	\$54,738,708	\$33,690,927	\$14,702,907	149
Wholesale Trade	\$118,441,890	\$80,167,738	\$46,225,441	544
Retail Trade	\$847,021,869	\$635,364,360	\$369,359,803	11,673
Finance, Insurance, and Real Estate	\$723,579,397	\$159,842,709	\$60,954,562	647
Business Services	\$298,437,800	\$189,228,710	\$154,362,135	1,895
Health Services	\$164,024,264	\$115,115,494	\$97,331,225	1,661
Other Services	\$365,545,513	\$185,791,929	\$149,847,724	3,731
<b>TOTAL</b>	<b>\$6,045,815,211</b>	<b>\$2,695,854,816</b>	<b>\$1,842,346,512</b>	<b>34,139</b>

Source: US Multi-Regional Impact Assessment System, The Perryman Group

## Estimated Cumulative Impact (2001-2013) of All Major Sources of Stimulus Associated with the Barnett Shale on Business Activity in the Non-Core Counties

Sector	Total Expenditures <i>(2013 Dollars)</i>	Real Gross Product <i>(2013 Dollars)</i>	Personal Income <i>(2013 Dollars)</i>	Employment <i>(Person-Years)</i>
Agriculture	\$352,777,517	\$100,147,554	\$67,050,982	1,053
Mining	\$12,923,460,539	\$2,836,825,540	\$1,311,488,577	6,289
Construction	\$4,157,148,471	\$1,974,980,967	\$1,627,507,323	22,467
Nondurable Manufacturing	\$839,889,642	\$273,556,434	\$150,126,950	2,680
Durable Manufacturing	\$943,988,821	\$376,943,745	\$244,296,985	3,647
Transportation and Utilities	\$2,721,333,018	\$883,675,626	\$515,022,838	6,282
Information	\$296,077,152	\$182,386,692	\$79,269,210	749
Wholesale Trade	\$470,875,966	\$318,478,887	\$183,637,779	2,037
Retail Trade	\$4,044,200,178	\$3,029,338,885	\$1,760,042,861	53,186
Finance, Insurance, and Real Estate	\$4,001,750,202	\$1,013,634,339	\$321,807,875	3,088
Business Services	\$1,009,402,469	\$616,809,077	\$503,158,145	6,020
Health Services	\$745,005,915	\$523,855,283	\$442,924,509	7,207
Other Services	\$1,656,950,094	\$844,873,433	\$680,786,462	15,846
<b>TOTAL</b>	<b>\$34,162,859,986</b>	<b>\$12,975,506,463</b>	<b>\$7,887,120,497</b>	<b>130,553</b>

Source: US Multi-Regional Impact Assessment System, The Perryman Group

## Total Region

## Estimated Cumulative Impact (2001-2013) of Exploration, Drilling, and Operations in the Barnett Shale on Business Activity in the Total Region

Sector	Total Expenditures <i>(2013 Dollars)</i>	Real Gross Product <i>(2013 Dollars)</i>	Personal Income <i>(2013 Dollars)</i>	Employment <i>(Person-Years)</i>
Agriculture	\$1,480,174,969	\$424,012,668	\$283,123,474	4,374
Mining	\$136,855,711,558	\$30,013,713,190	\$13,856,485,176	66,226
Construction	\$23,777,236,820	\$11,719,181,506	\$9,657,335,224	132,358
Nondurable Manufacturing	\$12,700,534,935	\$3,780,140,467	\$1,995,812,597	32,580
Durable Manufacturing	\$9,069,358,325	\$3,593,953,146	\$2,334,691,578	32,997
Transportation and Utilities	\$10,374,225,612	\$4,514,168,316	\$2,718,531,264	31,676
Information	\$2,620,630,013	\$1,612,743,160	\$698,253,871	6,420
Wholesale Trade	\$5,904,364,506	\$3,991,473,138	\$2,301,518,724	25,024
Retail Trade	\$23,696,480,598	\$17,671,175,394	\$10,251,567,330	308,134
Finance, Insurance, and Real Estate	\$30,731,667,178	\$9,383,442,689	\$2,863,512,950	27,533
Business Services	\$6,860,655,037	\$4,129,749,845	\$3,368,817,585	39,837
Health Services	\$5,166,949,979	\$3,611,929,028	\$3,053,919,254	49,020
Other Services	\$9,903,765,617	\$5,023,809,222	\$4,028,324,221	91,079
<b>TOTAL</b>	<b>\$279,141,755,149</b>	<b>\$99,469,491,769</b>	<b>\$57,411,893,247</b>	<b>847,259</b>

Source: US Multi-Regional Impact Assessment System, The Perryman Group

## Estimated Cumulative Impact (2001-2013) of Royalty and Lease Payments Associated with Activity in the Barnett Shale on Business Activity in the Total Region

Sector	Total Expenditures <i>(2013 Dollars)</i>	Real Gross Product <i>(2013 Dollars)</i>	Personal Income <i>(2013 Dollars)</i>	Employment <i>(Person-Years)</i>
Agriculture	\$233,630,245	\$65,268,094	\$43,720,266	675
Mining	\$97,462,374	\$22,504,188	\$11,857,245	63
Construction	\$373,586,566	\$191,448,283	\$157,765,311	2,162
Nondurable Manufacturing	\$817,326,614	\$255,750,078	\$136,725,159	2,320
Durable Manufacturing	\$286,264,684	\$112,916,299	\$72,194,820	1,023
Transportation and Utilities	\$1,291,352,857	\$479,408,988	\$272,488,549	2,855
Information	\$365,675,160	\$225,459,653	\$97,576,036	896
Wholesale Trade	\$366,607,861	\$248,084,197	\$143,047,557	1,554
Retail Trade	\$4,276,082,662	\$3,228,934,893	\$1,880,855,690	55,358
Finance, Insurance, and Real Estate	\$2,791,559,989	\$384,947,763	\$139,720,129	1,377
Business Services	\$431,190,499	\$243,666,565	\$198,769,479	2,351
Health Services	\$791,101,037	\$561,117,464	\$474,430,013	7,615
Other Services	\$1,463,196,424	\$760,646,098	\$601,484,856	12,407
<b>TOTAL</b>	<b>\$13,585,036,973</b>	<b>\$6,780,152,564</b>	<b>\$4,230,635,109</b>	<b>90,656</b>

Source: US Multi-Regional Impact Assessment System, The Perryman Group

## Estimated Cumulative Impact (2001-2013) of Pipeline Development, Maintenance, and Operations Associated with Activity in the Barnett Shale on Business Activity in the Total Region

Sector	Total Expenditures	Real Gross Product	Personal Income	Employment
	<i>(2013 Dollars)</i>	<i>(2013 Dollars)</i>	<i>(2013 Dollars)</i>	<i>(Person-Years)</i>
Agriculture	\$123,026,191	\$34,806,135	\$23,319,893	386
Mining	\$99,436,989	\$23,568,398	\$12,272,167	78
Construction	\$2,697,860,758	\$1,240,987,905	\$1,022,651,328	14,291
Nondurable Manufacturing	\$412,125,166	\$131,173,272	\$70,503,492	1,362
Durable Manufacturing	\$547,129,441	\$217,089,724	\$138,822,295	2,221
Transportation and Utilities	\$1,880,018,571	\$515,237,293	\$316,615,972	4,829
Information	\$107,327,647	\$66,051,110	\$28,736,308	290
Wholesale Trade	\$242,699,260	\$164,272,189	\$94,720,805	1,115
Retail Trade	\$1,324,688,210	\$993,571,095	\$577,580,632	18,322
Finance, Insurance, and Real Estate	\$1,109,336,292	\$253,478,006	\$100,172,650	1,079
Business Services	\$495,024,587	\$314,553,327	\$256,594,908	3,150
Health Services	\$265,315,692	\$186,004,899	\$157,268,873	2,694
Other Services	\$577,872,405	\$293,028,052	\$235,706,476	5,831
<b>TOTAL</b>	<b>\$9,881,861,210</b>	<b>\$4,433,821,405</b>	<b>\$3,034,965,797</b>	<b>55,648</b>

Source: US Multi-Regional Impact Assessment System, The Perryman Group

## Estimated Cumulative Impact (2001-2013) of All Major Sources of Stimulus Associated with the Barnett Shale on Business Activity in the Total Region

Sector	Total Expenditures <i>(2013 Dollars)</i>	Real Gross Product <i>(2013 Dollars)</i>	Personal Income <i>(2013 Dollars)</i>	Employment <i>(Person-Years)</i>
Agriculture	\$1,836,831,405	\$524,086,898	\$350,163,633	5,436
Mining	\$137,052,610,921	\$30,059,785,776	\$13,880,614,588	66,367
Construction	\$26,848,684,145	\$13,151,617,695	\$10,837,751,863	148,811
Nondurable Manufacturing	\$13,929,986,716	\$4,167,063,818	\$2,203,041,248	36,263
Durable Manufacturing	\$9,902,752,450	\$3,923,959,169	\$2,545,708,692	36,241
Transportation and Utilities	\$13,545,597,040	\$5,508,814,596	\$3,307,635,785	39,360
Information	\$3,093,632,820	\$1,904,253,923	\$824,566,215	7,606
Wholesale Trade	\$6,513,671,627	\$4,403,829,523	\$2,539,287,087	27,694
Retail Trade	\$29,297,251,470	\$21,893,681,382	\$12,710,003,651	381,813
Finance, Insurance, and Real Estate	\$34,632,563,459	\$10,021,868,458	\$3,103,405,729	29,990
Business Services	\$7,786,870,124	\$4,687,969,737	\$3,824,181,971	45,337
Health Services	\$6,223,366,709	\$4,359,051,392	\$3,685,618,140	59,329
Other Services	\$11,944,834,447	\$6,077,483,373	\$4,865,515,553	109,317
<b>TOTAL</b>	<b>\$302,608,653,331</b>	<b>\$110,683,465,738</b>	<b>\$64,677,494,153</b>	<b>993,563</b>

Source: US Multi-Regional Impact Assessment System, The Perryman Group

## Texas



## Estimated Cumulative Impact (2001-2013) of Exploration, Drilling, and Operations in the Barnett Shale on Business Activity in Texas

Sector	Total Expenditures <i>(2013 Dollars)</i>	Real Gross Product <i>(2013 Dollars)</i>	Personal Income <i>(2013 Dollars)</i>	Employment <i>(Person-Years)</i>
Agriculture	\$3,502,720,534	\$1,026,230,012	\$676,121,631	10,402
Mining	\$154,374,809,657	\$33,864,027,794	\$15,643,584,306	74,818
Construction	\$25,108,751,822	\$12,437,361,165	\$10,249,159,967	140,470
Nondurable Manufacturing	\$16,742,827,725	\$4,575,193,288	\$2,378,315,693	36,614
Durable Manufacturing	\$9,963,794,515	\$3,942,929,338	\$2,578,035,172	36,074
Transportation and Utilities	\$12,625,247,535	\$5,037,866,599	\$2,953,567,459	32,817
Information	\$2,649,992,218	\$1,630,793,483	\$706,093,174	6,493
Wholesale Trade	\$5,948,961,370	\$4,021,621,544	\$2,318,902,562	25,213
Retail Trade	\$24,932,269,787	\$18,610,229,580	\$10,799,437,790	324,126
Finance, Insurance, and Real Estate	\$31,114,799,319	\$9,488,393,560	\$2,888,192,601	27,771
Business Services	\$6,902,870,542	\$4,155,161,336	\$3,389,546,849	40,082
Health Services	\$5,635,738,739	\$3,939,633,329	\$3,330,996,258	53,468
Other Services	\$10,758,867,047	\$5,434,579,766	\$4,370,237,026	98,733
<b>TOTAL</b>	<b>\$310,261,650,810</b>	<b>\$108,164,020,794</b>	<b>\$62,282,190,490</b>	<b>907,080</b>

Source: US Multi-Regional Impact Assessment System, The Perryman Group

## Estimated Cumulative Impact (2001-2013) of Royalty and Lease Payments Associated with Activity in the Barnett Shale on Business Activity in Texas

Sector	Total Expenditures <i>(2013 Dollars)</i>	Real Gross Product <i>(2013 Dollars)</i>	Personal Income <i>(2013 Dollars)</i>	Employment <i>(Person-Years)</i>
Agriculture	\$552,315,089	\$157,210,831	\$104,121,419	1,603
Mining	\$117,195,694	\$27,615,135	\$15,545,049	86
Construction	\$419,907,226	\$215,185,783	\$177,326,489	2,430
Nondurable Manufacturing	\$1,076,968,548	\$303,261,388	\$159,728,615	2,589
Durable Manufacturing	\$306,230,971	\$120,520,042	\$77,465,370	1,088
Transportation and Utilities	\$1,662,975,683	\$564,462,659	\$310,153,866	3,025
Information	\$369,771,230	\$227,982,632	\$98,671,241	906
Wholesale Trade	\$369,376,925	\$249,958,027	\$144,128,024	1,566
Retail Trade	\$4,501,475,801	\$3,402,086,735	\$1,982,231,671	58,263
Finance, Insurance, and Real Estate	\$2,827,868,832	\$388,856,446	\$140,809,766	1,388
Business Services	\$433,843,733	\$245,165,912	\$199,992,562	2,365
Health Services	\$862,876,316	\$612,026,717	\$517,474,258	8,306
Other Services	\$1,584,567,287	\$820,271,258	\$650,257,740	13,415
<b>TOTAL</b>	<b>\$15,085,373,334</b>	<b>\$7,334,603,564</b>	<b>\$4,577,906,070</b>	<b>97,029</b>
Source: US Multi-Regional Impact Assessment System, The Perryman Group				

## Estimated Cumulative Impact (2001-2013) of Pipeline Development, Maintenance, and Operations Associated with Activity in the Barnett Shale on Business Activity in Texas

Sector	Total Expenditures <i>(2013 Dollars)</i>	Real Gross Product <i>(2013 Dollars)</i>	Personal Income <i>(2013 Dollars)</i>	Employment <i>(Person-Years)</i>
Agriculture	\$290,991,455	\$83,811,271	\$55,527,345	916
Mining	\$119,099,452	\$28,893,683	\$15,869,646	104
Construction	\$2,727,094,136	\$1,256,087,181	\$1,035,094,073	14,496
Nondurable Manufacturing	\$524,130,680	\$153,002,517	\$81,175,815	1,514
Durable Manufacturing	\$590,481,900	\$233,567,862	\$150,015,769	2,389
Transportation and Utilities	\$2,088,675,987	\$563,526,950	\$338,486,139	4,968
Information	\$108,533,127	\$66,791,925	\$29,059,934	293
Wholesale Trade	\$244,532,417	\$165,512,970	\$95,436,251	1,124
Retail Trade	\$1,394,140,595	\$1,046,611,274	\$608,580,414	19,277
Finance, Insurance, and Real Estate	\$1,122,671,521	\$255,815,529	\$100,866,868	1,087
Business Services	\$498,070,610	\$316,488,861	\$258,173,807	3,169
Health Services	\$289,387,342	\$202,880,814	\$171,537,615	2,938
Other Services	\$628,166,246	\$317,151,015	\$255,812,308	6,321
<b>TOTAL</b>	<b>\$10,625,975,469</b>	<b>\$4,690,141,853</b>	<b>\$3,195,635,983</b>	<b>58,596</b>

Source: US Multi-Regional Impact Assessment System, The Perryman Group

## Estimated Cumulative Impact (2001-2013) of All Major Sources of Stimulus Associated with the Barnett Shale on Business Activity in Texas

Sector	Total Expenditures <i>(2013 Dollars)</i>	Real Gross Product <i>(2013 Dollars)</i>	Personal Income <i>(2013 Dollars)</i>	Employment <i>(Person-Years)</i>
Agriculture	\$4,346,027,079	\$1,267,252,114	\$835,770,395	12,921
Mining	\$154,611,104,802	\$33,920,536,612	\$15,674,999,000	75,009
Construction	\$28,255,753,183	\$13,908,634,128	\$11,461,580,529	157,396
Nondurable Manufacturing	\$18,343,926,953	\$5,031,457,193	\$2,619,220,124	40,717
Durable Manufacturing	\$10,860,507,387	\$4,297,017,243	\$2,805,516,311	39,551
Transportation and Utilities	\$16,376,899,205	\$6,165,856,207	\$3,602,207,464	40,810
Information	\$3,128,296,575	\$1,925,568,040	\$833,824,349	7,692
Wholesale Trade	\$6,562,870,711	\$4,437,092,542	\$2,558,466,837	27,903
Retail Trade	\$30,827,886,183	\$23,058,927,590	\$13,390,249,874	401,665
Finance, Insurance, and Real Estate	\$35,065,339,672	\$10,133,065,535	\$3,129,869,235	30,246
Business Services	\$7,834,784,885	\$4,716,816,109	\$3,847,713,219	45,616
Health Services	\$6,788,002,398	\$4,754,540,860	\$4,020,008,131	64,712
Other Services	\$12,971,600,580	\$6,572,002,038	\$5,276,307,073	118,468
<b>TOTAL</b>	<b>\$335,972,999,613</b>	<b>\$120,188,766,211</b>	<b>\$70,055,732,542</b>	<b>1,062,706</b>
Source: US Multi-Regional Impact Assessment System, The Perryman Group				

# Projected Impact of the Barnett Shale through 2023

## **Core Counties**

<b>Estimated Potential Impact of Oil and Gas Exploration, Drilling, and Operations; Royalty and Lease Payments; and Pipeline Construction, Maintenance, and Operations in the Barnett Shale Over the Next 10 Years: Core Counties*</b>				
<b>ECONOMIC BENEFITS</b> (Monetary Values in Billions of Constant 2013 Dollars)				
	<b>Drilling</b>	<b>Royalties</b>	<b>Pipeline</b>	<b>TOTAL</b>
Total Expenditures	\$324.1	\$7.0	\$3.2	<b>\$334.2</b>
Gross Product	\$117.1	\$3.5	\$1.4	<b>\$122.1</b>
Personal Income	\$68.2	\$2.2	\$1.0	<b>\$71.4</b>
Retail Sales	\$27.7	\$2.2	\$0.4	<b>\$30.3</b>
Employment (Person-Years)	1,012,181	46,431	17,895	<b>1,076,507</b>
<b>FISCAL BENEFITS</b> (Monetary Values in Millions of Constant 2013 Dollars)				
Local Governments	\$4,618.7	\$187.1	\$65.7	<b>\$4,871.6</b>
State of Texas	\$5,921.9	\$372.8	\$79.0	<b>\$6,373.7</b>
<p>SOURCE: The Perryman Group</p> <p>* Impact over the 2014-2023 period. Core counties as defined by the Texas Railroad Commission include Denton, Johnson, Tarrant, and Wise. Totals may not add due to rounding. Assumes drilling activity over time responds to projected prices in the baseline forecast of the Energy Information Administration in a manner reflective of recent academic research (which understates the responsiveness that has been historically observed within the region). Assumes that established patterns of decline in individual well output (decline curves) will continue into the future and that new wells will follow similar production patterns to those presently observed in the area. Projected royalties are converted to 2013 dollars using projections of the Texas Consumer Price Index derived from the current baseline forecast from the Texas Econometric Model. Effects are fully adjusted for external ownership and leakages from the expenditure stream. Assumes that current annual patterns in pipeline and gathering system maintenance and operations are sufficient to accommodate the additional wells that are projected to be added in the future.</p>				

## Projected 10-Year Impact (2014-2023) of Exploration, Drilling, and Operations in the Barnett Shale on Business Activity in the Core Counties

Sector	Total Expenditures <i>(2013 Dollars)</i>	Real Gross Product <i>(2013 Dollars)</i>	Personal Income <i>(2013 Dollars)</i>	Employment <i>(Person-Years)</i>
Agriculture	\$1,645,930,906	\$471,546,628	\$314,797,296	4,862
Mining	\$152,709,732,255	\$33,490,372,650	\$15,461,648,378	73,892
Construction	\$30,415,368,187	\$14,871,529,158	\$12,255,065,986	167,960
Nondurable Manufacturing	\$15,773,794,828	\$4,679,986,182	\$2,466,209,410	40,236
Durable Manufacturing	\$11,405,127,948	\$4,509,712,643	\$2,927,296,251	41,599
Transportation and Utilities	\$11,863,338,922	\$5,283,422,284	\$3,203,113,734	37,745
Information	\$3,181,374,109	\$1,957,731,477	\$847,460,877	7,787
Wholesale Trade	\$7,342,343,761	\$4,963,961,022	\$2,862,263,753	31,122
Retail Trade	\$27,696,748,795	\$20,657,457,540	\$11,984,684,763	360,125
Finance, Insurance, and Real Estate	\$35,756,294,222	\$10,917,632,220	\$3,371,744,646	32,562
Business Services	\$8,501,691,238	\$5,149,473,214	\$4,200,650,540	49,671
Health Services	\$6,156,790,769	\$4,302,432,278	\$3,637,746,098	58,394
Other Services	\$11,606,238,226	\$5,885,374,076	\$4,713,917,113	106,225
<b>TOTAL</b>	<b>\$324,054,774,166</b>	<b>\$117,140,631,374</b>	<b>\$68,246,598,843</b>	<b>1,012,181</b>

Source: US Multi-Regional Impact Assessment System, The Perryman Group



## Projected 10-Year Impact (2014-2023) of Royalty and Lease Payments Associated with Activity in the Barnett Shale on Business Activity in the Core Counties

Sector	Total Expenditures <i>(2013 Dollars)</i>	Real Gross Product <i>(2013 Dollars)</i>	Personal Income <i>(2013 Dollars)</i>	Employment <i>(Person-Years)</i>
Agriculture	\$104,710,895	\$29,294,860	\$19,606,114	303
Mining	\$52,043,664	\$11,921,747	\$6,158,951	32
Construction	\$191,615,608	\$98,195,392	\$80,919,120	1,109
Nondurable Manufacturing	\$483,007,797	\$149,481,032	\$79,582,920	1,342
Durable Manufacturing	\$157,999,703	\$61,923,796	\$39,689,570	560
Transportation and Utilities	\$639,364,923	\$243,546,502	\$139,688,141	1,490
Information	\$192,524,506	\$118,673,815	\$51,342,591	471
Wholesale Trade	\$202,633,040	\$137,122,140	\$79,065,848	859
Retail Trade	\$2,170,003,765	\$1,638,590,333	\$954,477,260	28,093
Finance, Insurance, and Real Estate	\$1,424,396,588	\$200,950,968	\$74,383,844	740
Business Services	\$225,946,470	\$128,244,027	\$104,614,266	1,237
Health Services	\$408,533,528	\$289,680,088	\$244,927,198	3,931
Other Services	\$741,065,862	\$385,307,097	\$304,470,853	6,265
<b>TOTAL</b>	<b>\$6,993,846,349</b>	<b>\$3,492,931,798</b>	<b>\$2,178,926,675</b>	<b>46,431</b>

Source: US Multi-Regional Impact Assessment System, The Perryman Group

Note: Assumes that established patterns of decline in well output continue and that new wells are of those observed in the area. Projected royalties are converted to 2013 dollars using projections of the Texas Consumer Price Index derived from the current baseline forecast from the Texas Econometric Model. Effects are fully adjusted for external ownership and leakages from the expenditure stream.

## Projected 10-Year Impact (2014-2023) of Pipeline Development, Maintenance, and Operations Associated with Activity in the Barnett Shale on Business Activity in the Core Counties

Sector	Total Expenditures	Real Gross Product	Personal Income	Employment
	<i>(2013 Dollars)</i>	<i>(2013 Dollars)</i>	<i>(2013 Dollars)</i>	<i>(Person-Years)</i>
Agriculture	\$37,051,512	\$10,623,657	\$7,062,049	117
Mining	\$41,488,091	\$9,767,785	\$5,336,184	34
Construction	\$900,745,972	\$414,389,521	\$341,482,773	4,776
Nondurable Manufacturing	\$133,733,181	\$41,771,397	\$22,268,855	425
Durable Manufacturing	\$210,086,696	\$83,957,756	\$53,303,204	843
Transportation and Utilities	\$588,367,913	\$165,458,789	\$103,579,556	1,619
Information	\$43,008,105	\$26,463,063	\$11,480,346	115
Wholesale Trade	\$100,184,070	\$67,810,326	\$39,100,030	461
Retail Trade	\$400,545,614	\$300,362,065	\$174,594,533	5,577
Finance, Insurance, and Real Estate	\$311,450,577	\$74,474,278	\$31,107,538	341
Business Services	\$153,729,854	\$97,880,249	\$79,845,200	980
Health Services	\$81,670,091	\$57,179,534	\$48,345,824	833
Other Services	\$179,261,500	\$90,447,767	\$72,453,855	1,773
<b>TOTAL</b>	<b>\$3,181,323,176</b>	<b>\$1,440,586,188</b>	<b>\$989,959,947</b>	<b>17,895</b>

Source: US Multi-Regional Impact Assessment System, The Perryman Group

Note: Assumes that current annual patterns in pipeline and gathering system maintenance and operations are sufficient to accommodate the additional wells that are projected to be added in the future.

## Projected 10-Year Impact (2014-2023) of All Major Sources of Stimulus Associated with the Barnett Shale on Business Activity in the Core Counties

Sector	Total Expenditures <i>(2013 Dollars)</i>	Real Gross Product <i>(2013 Dollars)</i>	Personal Income <i>(2013 Dollars)</i>	Employment <i>(Person-Years)</i>
Agriculture	\$1,787,693,312	\$511,465,145	\$341,465,458	5,281
Mining	\$152,803,264,010	\$33,512,062,183	\$15,473,143,513	73,959
Construction	\$31,507,729,767	\$15,384,114,072	\$12,677,467,880	173,846
Nondurable Manufacturing	\$16,390,535,806	\$4,871,238,612	\$2,568,061,185	42,002
Durable Manufacturing	\$11,773,214,347	\$4,655,594,195	\$3,020,289,025	43,002
Transportation and Utilities	\$13,091,071,758	\$5,692,427,574	\$3,446,381,431	40,854
Information	\$3,416,906,720	\$2,102,868,356	\$910,283,814	8,373
Wholesale Trade	\$7,645,160,870	\$5,168,893,488	\$2,980,429,632	32,442
Retail Trade	\$30,267,298,173	\$22,596,409,939	\$13,113,756,555	393,794
Finance, Insurance, and Real Estate	\$37,492,141,387	\$11,193,057,465	\$3,477,236,028	33,643
Business Services	\$8,881,367,563	\$5,375,597,490	\$4,385,110,005	51,889
Health Services	\$6,646,994,387	\$4,649,291,901	\$3,931,019,120	63,159
Other Services	\$12,526,565,589	\$6,361,128,940	\$5,090,841,821	114,263
<b>TOTAL</b>	<b>\$334,229,943,690</b>	<b>\$122,074,149,359</b>	<b>\$71,415,485,466</b>	<b>1,076,507</b>

Source: US Multi-Regional Impact Assessment System, The Perryman Group

Note: Includes (1) drilling, exploration, and production; (2) royalty and lease payments; and (3) pipeline maintenance and operations. Assumes drilling activity over time responds to projected prices in the baseline forecast of the Energy Information Administration in a manner reflective of recent academic research (which understates the responsiveness that has been historically observed within the region). Assumes that established patterns of decline in individual well output (decline curves) will continue into the future and that new wells will follow similar production patterns to those presently observed in the area. Projected royalties are converted to 2013 dollars using projections of the Texas Consumer Price Index derived from the current baseline forecast from the Texas Econometric Model. Effects are fully adjusted for external ownership and leakages from the expenditure stream. Assumes that current annual patterns in pipeline and gathering system maintenance and operations are sufficient to accommodate the additional wells that are projected to be added in the future.

## **Non-Core Counties**

<b>Estimated Potential Impact of Oil and Gas Explorations, Drilling, and Operations; Royalty and Lease Payments; and Pipeline Construction, Maintenance, and Operations in the Barnett Shale Over the Next 10 Years: Other Affected (Non-Core) Counties*</b>				
<b>ECONOMIC BENEFITS</b> (Monetary Values in Billions of Constant 2013 Dollars)				
	<b>Drilling</b>	<b>Royalties</b>	<b>Pipeline</b>	<b>TOTAL</b>
Total Expenditures	\$43.8	\$1.1	\$6.2	<b>\$51.1</b>
Gross Product	\$16.1	\$0.6	\$2.8	<b>\$19.4</b>
Personal Income	\$9.6	\$0.4	\$1.9	<b>\$11.8</b>
Retail Sales	\$4.5	\$0.4	\$0.9	<b>\$5.7</b>
Employment (Person-Years)	149,128	7,634	34,892	<b>191,654</b>
<b>FISCAL BENEFITS</b> (Monetary Values in Millions of Constant 2013 Dollars)				
Local Governments	\$663.9	\$30.7	\$128.0	<b>\$822.5</b>
State of Texas	\$904.9	\$62.6	\$164.7	<b>\$1,132.2</b>
<p>SOURCE: The Perryman Group</p> <p>* Impact during the 2014-2023 period. Non-core counties as defined by the Texas Railroad Commission include Archer, Bosque, Clay, Comanche, Cooke, Dallas, Eastland, Ellis, Erath, Hamilton, Hill, Hood, Jack, Montague, Palo Pinto, Parker, Shackelford, Somervell, Stephens, and Young. Coryell County was excluded due to lack of activity. Totals may not add due to rounding. Assumes drilling activity over time responds to projected prices in the baseline forecast of the Energy Information Administration in a manner reflective of recent academic research (which understates the responsiveness that has been historically observed within the region). Assumes that established patterns of decline in individual well output (decline curves) will continue into the future and that new wells will follow similar production patterns to those presently observed in the area. Projected royalties are converted to 2013 dollars using projections of the Texas Consumer Price Index derived from the current baseline forecast from the Texas Econometric Model. Effects are fully adjusted for external ownership and leakages from the expenditure stream. Assumes that current annual patterns in pipeline and gathering system maintenance and operations are sufficient to accommodate the additional wells that are projected to be added in the future.</p>				

## Projected 10-Year Impact (2014-2023) of Exploration, Drilling, and Operations in the Barnett Shale on Business Activity in the Non-Core Counties

Sector	Total Expenditures <i>(2013 Dollars)</i>	Real Gross Product <i>(2013 Dollars)</i>	Personal Income <i>(2013 Dollars)</i>	Employment <i>(Person-Years)</i>
Agriculture	\$425,393,041	\$120,962,158	\$81,015,002	1,250
Mining	\$19,419,152,588	\$4,261,441,738	\$1,969,259,084	9,430
Construction	\$5,000,107,047	\$2,394,106,098	\$1,972,892,532	27,039
Nondurable Manufacturing	\$1,046,089,085	\$335,094,813	\$184,246,128	3,149
Durable Manufacturing	\$1,105,904,114	\$444,308,503	\$288,248,269	4,178
Transportation and Utilities	\$2,279,171,654	\$853,039,867	\$488,889,906	5,203
Information	\$321,792,472	\$198,105,690	\$86,218,294	809
Wholesale Trade	\$573,846,367	\$388,047,998	\$223,751,962	2,432
Retail Trade	\$4,490,297,074	\$3,356,800,293	\$1,949,003,574	58,332
Finance, Insurance, and Real Estate	\$5,169,623,917	\$1,432,383,850	\$434,424,846	4,076
Business Services	\$1,241,161,231	\$758,904,181	\$619,071,340	7,322
Health Services	\$835,874,599	\$586,776,477	\$496,124,975	7,962
Other Services	\$1,893,738,674	\$963,198,185	\$776,984,231	17,946
<b>TOTAL</b>	<b>\$43,802,151,864</b>	<b>\$16,093,169,851</b>	<b>\$9,570,130,142</b>	<b>149,128</b>

Source: US Multi-Regional Impact Assessment System, The Perryman Group

Note: Assumes drilling activity over time responds to projected prices in the baseline forecast of the Energy Information Administration in a manner reflective of recent academic research (which understates the responsiveness that has been historically observed within the region).

## Projected 10-Year Impact (2014-2023) of Royalty and Lease Payments Associated with Activity in the Barnett Shale on Business Activity in the Non-Core Counties

Sector	Total Expenditures <i>(2013 Dollars)</i>	Real Gross Product <i>(2013 Dollars)</i>	Personal Income <i>(2013 Dollars)</i>	Employment <i>(Person-Years)</i>
Agriculture	\$22,705,518	\$6,331,902	\$4,246,039	66
Mining	\$8,988,433	\$2,081,138	\$1,093,052	6
Construction	\$30,213,816	\$15,483,381	\$12,759,270	175
Nondurable Manufacturing	\$42,259,355	\$13,991,137	\$7,765,410	137
Durable Manufacturing	\$15,760,480	\$6,365,331	\$4,072,508	60
Transportation and Utilities	\$118,999,681	\$41,776,433	\$23,256,228	233
Information	\$25,952,891	\$16,017,274	\$6,954,629	65
Wholesale Trade	\$19,116,840	\$12,936,400	\$7,459,243	81
Retail Trade	\$368,222,248	\$278,050,152	\$161,964,306	4,767
Finance, Insurance, and Real Estate	\$259,869,454	\$37,538,651	\$12,904,258	125
Business Services	\$36,522,497	\$20,579,930	\$16,787,949	199
Health Services	\$64,638,533	\$45,891,633	\$38,801,802	623
Other Services	\$127,360,916	\$66,291,972	\$52,472,968	1,098
<b>TOTAL</b>	<b>\$1,140,610,663</b>	<b>\$563,335,333</b>	<b>\$350,537,663</b>	<b>7,634</b>

Source: US Multi-Regional Impact Assessment System, The Perryman Group

Note: Assumes that established patterns of decline in well output continue and that new wells are of those observed in the area. Projected royalties are converted to 2013 dollars using projections of the Texas Consumer Price Index derived from the current baseline forecast from the Texas Econometric Model. Effects are fully adjusted for external ownership and leakages from the expenditure stream.

## Projected 10-Year Impact (2014-2023) of Pipeline Development, Maintenance, and Operations Associated with Activity in the Barnett Shale on Business Activity in the Non-Core Counties

Sector	Total Expenditures	Real Gross Product	Personal Income	Employment
	<i>(2013 Dollars)</i>	<i>(2013 Dollars)</i>	<i>(2013 Dollars)</i>	<i>(Person-Years)</i>
Agriculture	\$88,829,934	\$24,924,500	\$16,781,826	278
Mining	\$52,236,803	\$12,576,607	\$6,478,703	42
Construction	\$1,653,375,985	\$760,690,477	\$626,856,330	8,758
Nondurable Manufacturing	\$223,763,706	\$73,230,264	\$39,820,458	785
Durable Manufacturing	\$300,825,388	\$119,422,638	\$76,450,409	1,235
Transportation and Utilities	\$1,202,231,830	\$326,041,473	\$198,248,174	2,975
Information	\$57,737,549	\$35,530,399	\$15,508,341	157
Wholesale Trade	\$128,079,486	\$86,690,926	\$49,986,770	588
Retail Trade	\$868,622,640	\$651,601,874	\$378,805,330	11,961
Finance, Insurance, and Real Estate	\$752,263,111	\$168,000,900	\$64,728,208	690
Business Services	\$300,661,226	\$190,501,888	\$155,400,720	1,908
Health Services	\$167,047,063	\$117,271,579	\$99,154,218	1,690
Other Services	\$375,904,128	\$191,200,095	\$153,991,876	3,825
<b>TOTAL</b>	<b>\$6,171,578,849</b>	<b>\$2,757,683,619</b>	<b>\$1,882,211,363</b>	<b>34,892</b>

Source: US Multi-Regional Impact Assessment System, The Perryman Group

Note: Assumes that current annual patterns in pipeline and gathering system maintenance and operations are sufficient to accommodate the additional wells that are projected to be added in the future.



## Projected 10-Year Impact (2014-2023) of All Major Sources of Stimulus Associated with the Barnett Shale on Business Activity in the Non-Core Counties

Sector	Total Expenditures <i>(2013 Dollars)</i>	Real Gross Product <i>(2013 Dollars)</i>	Personal Income <i>(2013 Dollars)</i>	Employment <i>(Person-Years)</i>
Agriculture	\$536,928,494	\$152,218,561	\$102,042,867	1,594
Mining	\$19,480,377,824	\$4,276,099,483	\$1,976,830,839	9,477
Construction	\$6,683,696,848	\$3,170,279,956	\$2,612,508,133	35,972
Nondurable Manufacturing	\$1,312,112,146	\$422,316,213	\$231,831,996	4,071
Durable Manufacturing	\$1,422,489,982	\$570,096,472	\$368,771,186	5,472
Transportation and Utilities	\$3,600,403,165	\$1,220,857,772	\$710,394,308	8,411
Information	\$405,482,913	\$249,653,363	\$108,681,265	1,031
Wholesale Trade	\$721,042,694	\$487,675,324	\$281,197,975	3,101
Retail Trade	\$5,727,141,962	\$4,286,452,319	\$2,489,773,210	75,060
Finance, Insurance, and Real Estate	\$6,181,756,482	\$1,637,923,401	\$512,057,313	4,891
Business Services	\$1,578,344,953	\$969,985,999	\$791,260,009	9,428
Health Services	\$1,067,560,194	\$749,939,690	\$634,080,994	10,275
Other Services	\$2,397,003,719	\$1,220,690,251	\$983,449,074	22,869
<b>TOTAL</b>	<b>\$51,114,341,376</b>	<b>\$19,414,188,803</b>	<b>\$11,802,879,168</b>	<b>191,654</b>

Source: US Multi-Regional Impact Assessment System, The Perryman Group

NOTE: Includes (1) drilling, exploration, and production; (2) royalty and lease payments; and (3) pipeline maintenance and operations. Assumes drilling activity over time responds to projected prices in the baseline forecast of the Energy Information Administration in a manner reflective of recent academic research (which understates the responsiveness that has been historically observed within the region). Assumes that established patterns of decline in individual well output (decline curves) will continue into the future and that new wells will follow similar production patterns to those presently observed in the area. Projected royalties are converted to 2013 dollars using projections of the Texas Consumer Price Index derived from the current baseline forecast from the Texas Econometric Model. Effects are fully adjusted for external ownership and leakages from the expenditure stream. Assumes that current annual patterns in pipeline and gathering system maintenance and operations are sufficient to accommodate the additional wells that are projected to be added in the future.

## Total Region

## Projected 10-Year Impact (2014-2023) of Exploration, Drilling, and Operations in the Barnett Shale on Business Activity in the Total Region

Sector	Total Expenditures <i>(2013 Dollars)</i>	Real Gross Product <i>(2013 Dollars)</i>	Personal Income <i>(2013 Dollars)</i>	Employment <i>(Person-Years)</i>
Agriculture	\$2,071,323,946	\$592,508,786	\$395,812,298	6,112
Mining	\$172,128,884,843	\$37,751,814,389	\$17,430,907,461	83,322
Construction	\$35,415,475,234	\$17,265,635,256	\$14,227,958,518	194,999
Nondurable Manufacturing	\$16,819,883,913	\$5,015,080,995	\$2,650,455,537	43,385
Durable Manufacturing	\$12,511,032,062	\$4,954,021,147	\$3,215,544,520	45,777
Transportation and Utilities	\$14,142,510,576	\$6,136,462,150	\$3,692,003,640	42,948
Information	\$3,503,166,582	\$2,155,837,168	\$933,679,171	8,596
Wholesale Trade	\$7,916,190,128	\$5,352,009,020	\$3,086,015,715	33,554
Retail Trade	\$32,187,045,868	\$24,014,257,833	\$13,933,688,337	418,457
Finance, Insurance, and Real Estate	\$40,925,918,140	\$12,350,016,070	\$3,806,169,492	36,638
Business Services	\$9,742,852,469	\$5,908,377,395	\$4,819,721,880	56,993
Health Services	\$6,992,665,368	\$4,889,208,756	\$4,133,871,073	66,357
Other Services	\$13,499,976,900	\$6,848,572,261	\$5,490,901,343	124,171
<b>TOTAL</b>	<b>\$367,856,926,030</b>	<b>\$133,233,801,225</b>	<b>\$77,816,728,985</b>	<b>1,161,309</b>

Source: US Multi-Regional Impact Assessment System, The Perryman Group

Note: Assumes drilling activity over time responds to projected prices in the baseline forecast of the Energy Information Administration in a manner reflective of recent academic research (which understates the responsiveness that has been historically observed within the region).

## Projected 10-Year Impact (2014-2023) of Royalty and Lease Payments Associated with Activity in the Barnett Shale on Business Activity in the Total Region

Sector	Total Expenditures <i>(2013 Dollars)</i>	Real Gross Product <i>(2013 Dollars)</i>	Personal Income <i>(2013 Dollars)</i>	Employment <i>(Person-Years)</i>
Agriculture	\$127,416,413	\$35,626,762	\$23,852,153	368
Mining	\$61,032,097	\$14,002,885	\$7,252,003	38
Construction	\$221,829,424	\$113,678,773	\$93,678,391	1,284
Nondurable Manufacturing	\$525,267,152	\$163,472,169	\$87,348,330	1,479
Durable Manufacturing	\$173,760,183	\$68,289,126	\$43,762,078	619
Transportation and Utilities	\$758,364,605	\$285,322,934	\$162,944,369	1,723
Information	\$218,477,397	\$134,691,089	\$58,297,221	535
Wholesale Trade	\$221,749,880	\$150,058,540	\$86,525,091	940
Retail Trade	\$2,538,226,013	\$1,916,640,486	\$1,116,441,565	32,860
Finance, Insurance, and Real Estate	\$1,684,266,042	\$238,489,619	\$87,288,102	865
Business Services	\$262,468,967	\$148,823,957	\$121,402,215	1,436
Health Services	\$473,172,060	\$335,571,722	\$283,728,999	4,554
Other Services	\$868,426,779	\$451,599,069	\$356,943,821	7,363
<b>TOTAL</b>	<b>\$8,134,457,012</b>	<b>\$4,056,267,131</b>	<b>\$2,529,464,338</b>	<b>54,065</b>

Source: US Multi-Regional Impact Assessment System, The Perryman Group

NOTE: Assumes that established patterns of decline in well output continue and that new wells are of those observed in the area. Projected royalties are converted to 2013 dollars using projections of the Texas Consumer Price Index derived from the current baseline forecast from the Texas Econometric Model. Effects are fully adjusted for external ownership and leakages from the expenditure stream.

## Projected 10-Year Impact (2014-2023) of Pipeline Development, Maintenance, and Operations Associated with Activity in the Barnett Shale on Business Activity in the Total Region

Sector	Total Expenditures	Real Gross Product	Personal Income	Employment
	<i>(2013 Dollars)</i>	<i>(2013 Dollars)</i>	<i>(2013 Dollars)</i>	<i>(Person-Years)</i>
Agriculture	\$125,881,447	\$35,548,158	\$23,843,874	395
Mining	\$93,724,894	\$22,344,392	\$11,814,888	76
Construction	\$2,554,121,957	\$1,175,079,998	\$968,339,104	13,535
Nondurable Manufacturing	\$357,496,886	\$115,001,661	\$62,089,314	1,210
Durable Manufacturing	\$510,912,084	\$203,380,394	\$129,753,613	2,078
Transportation and Utilities	\$1,790,599,743	\$491,500,262	\$301,827,730	4,593
Information	\$100,745,654	\$61,993,462	\$26,988,687	273
Wholesale Trade	\$228,263,556	\$154,501,252	\$89,086,800	1,049
Retail Trade	\$1,269,168,254	\$951,963,939	\$553,399,863	17,539
Finance, Insurance, and Real Estate	\$1,063,713,687	\$242,475,178	\$95,835,746	1,032
Business Services	\$454,391,080	\$288,382,137	\$235,245,920	2,888
Health Services	\$248,717,154	\$174,451,113	\$147,500,041	2,523
Other Services	\$555,165,629	\$281,647,861	\$226,445,731	5,598
<b>TOTAL</b>	<b>\$9,352,902,025</b>	<b>\$4,198,269,807</b>	<b>\$2,872,171,311</b>	<b>52,787</b>

Source: US Multi-Regional Impact Assessment System, The Perryman Group

Note: Assumes that current annual patterns in pipeline and gathering system maintenance and operations are sufficient to accommodate the additional wells that are projected to be added in the future.

## Projected 10-Year Impact (2014-2023) of All Major Sources of Stimulus Associated with the Barnett Shale on Business Activity in the Total Region

Sector	Total Expenditures <i>(2013 Dollars)</i>	Real Gross Product <i>(2013 Dollars)</i>	Personal Income <i>(2013 Dollars)</i>	Employment <i>(Person-Years)</i>
Agriculture	\$2,324,621,806	\$663,683,705	\$443,508,325	6,875
Mining	\$172,283,641,834	\$37,788,161,666	\$17,449,974,352	83,436
Construction	\$38,191,426,615	\$18,554,394,027	\$15,289,976,012	209,817
Nondurable Manufacturing	\$17,702,647,952	\$5,293,554,825	\$2,799,893,181	46,073
Durable Manufacturing	\$13,195,704,329	\$5,225,690,667	\$3,389,060,211	48,474
Transportation and Utilities	\$16,691,474,923	\$6,913,285,346	\$4,156,775,739	49,265
Information	\$3,822,389,633	\$2,352,521,719	\$1,018,965,079	9,404
Wholesale Trade	\$8,366,203,564	\$5,656,568,813	\$3,261,627,606	35,544
Retail Trade	\$35,994,440,135	\$26,882,862,257	\$15,603,529,765	468,855
Finance, Insurance, and Real Estate	\$43,673,897,869	\$12,830,980,866	\$3,989,293,340	38,534
Business Services	\$10,459,712,516	\$6,345,583,489	\$5,176,370,014	61,317
Health Services	\$7,714,554,582	\$5,399,231,591	\$4,565,100,113	73,434
Other Services	\$14,923,569,308	\$7,581,819,191	\$6,074,290,896	137,133
<b>TOTAL</b>	<b>\$385,344,285,066</b>	<b>\$141,488,338,163</b>	<b>\$83,218,364,634</b>	<b>1,268,161</b>

Source: US Multi-Regional Impact Assessment System, The Perryman Group

Note: Includes (1) drilling, exploration, and production; (2) royalty and lease payments; and (3) pipeline maintenance and operations. Assumes drilling activity over time responds to projected prices in the baseline forecast of the Energy Information Administration in a manner reflective of recent academic research (which understates the responsiveness that has been historically observed within the region). Assumes that established patterns of decline in individual well output (decline curves) will continue into the future and that new wells will follow similar production patterns to those presently observed in the area. Projected royalties are converted to 2013 dollars using projections of the Texas Consumer Price Index derived from the current baseline forecast from the Texas Econometric Model. Effects are fully adjusted for external ownership and leakages from the expenditure stream. Assumes that current annual patterns in pipeline and gathering system maintenance and operations are sufficient to accommodate the additional wells that are projected to be added in the future.

## **Texas**

## Projected 10-Year Impact (2014-2023) of Exploration, Drilling, and Operations in the Barnett Shale on Business Activity in Texas

Sector	Total Expenditures <i>(2013 Dollars)</i>	Real Gross Product <i>(2013 Dollars)</i>	Personal Income <i>(2013 Dollars)</i>	Employment <i>(Person-Years)</i>
Agriculture	\$4,901,035,191	\$1,433,060,568	\$944,861,850	14,531
Mining	\$194,173,126,257	\$42,598,051,675	\$19,681,844,420	94,152
Construction	\$37,126,216,170	\$18,187,940,500	\$14,987,995,456	205,416
Nondurable Manufacturing	\$22,173,323,347	\$6,065,464,077	\$3,156,015,990	48,744
Durable Manufacturing	\$13,725,382,604	\$5,426,593,442	\$3,544,595,618	49,977
Transportation and Utilities	\$17,230,588,318	\$6,854,732,705	\$4,014,254,385	44,509
Information	\$3,542,423,109	\$2,179,969,176	\$944,163,671	8,694
Wholesale Trade	\$7,975,982,719	\$5,392,433,831	\$3,109,325,018	33,808
Retail Trade	\$33,866,348,779	\$25,290,858,976	\$14,678,600,175	440,184
Finance, Insurance, and Real Estate	\$41,435,515,259	\$12,487,426,268	\$3,838,750,119	36,952
Business Services	\$9,802,802,930	\$5,944,733,272	\$4,849,378,959	57,344
Health Services	\$7,627,098,242	\$5,332,798,518	\$4,508,930,306	72,377
Other Services	\$14,664,828,910	\$7,408,171,180	\$5,956,667,372	134,598
<b>TOTAL</b>	<b>\$408,244,671,834</b>	<b>\$144,602,234,187</b>	<b>\$84,215,383,340</b>	<b>1,241,286</b>

Source: US Multi-Regional Impact Assessment System, The Perryman Group

Note: Assumes drilling activity over time responds to projected prices in the baseline forecast of the Energy Information Administration in a manner reflective of recent academic research (which understates the responsiveness that has been historically observed within the region).



## Projected 10-Year Impact (2014-2023) of Royalty and Lease Payments Associated with Activity in the Barnett Shale on Business Activity in Texas

Sector	Total Expenditures <i>(2013 Dollars)</i>	Real Gross Product <i>(2013 Dollars)</i>	Personal Income <i>(2013 Dollars)</i>	Employment <i>(Person-Years)</i>
Agriculture	\$301,287,031	\$85,882,776	\$56,830,733	874
Mining	\$72,739,856	\$16,996,786	\$9,344,395	51
Construction	\$249,333,853	\$127,773,701	\$105,293,489	1,443
Nondurable Manufacturing	\$683,111,962	\$192,424,861	\$101,377,336	1,643
Durable Manufacturing	\$185,962,022	\$72,909,894	\$46,969,593	660
Transportation and Utilities	\$973,218,208	\$334,543,531	\$184,757,063	1,822
Information	\$220,924,750	\$136,198,385	\$58,951,589	541
Wholesale Trade	\$223,424,802	\$151,191,963	\$87,178,633	947
Retail Trade	\$2,672,015,701	\$2,019,420,010	\$1,176,616,252	34,584
Finance, Insurance, and Real Estate	\$1,706,133,436	\$240,911,521	\$87,973,268	872
Business Services	\$264,084,011	\$149,739,712	\$122,149,236	1,445
Health Services	\$516,102,173	\$366,017,585	\$309,471,259	4,967
Other Services	\$940,295,311	\$486,918,220	\$385,828,821	7,960
<b>TOTAL</b>	<b>\$9,008,633,117</b>	<b>\$4,380,928,944</b>	<b>\$2,732,741,668</b>	<b>57,809</b>

Source: US Multi-Regional Impact Assessment System, The Perryman Group

Note: Assumes that established patterns of decline in well output continue and that new wells are of those observed in the area. Projected royalties are converted to 2013 dollars using projections of the Texas Consumer Price Index derived from the current baseline forecast from the Texas Econometric Model. Effects are fully adjusted for external ownership and leakages from the expenditure stream.

## Projected 10-Year Impact (2014-2023) of Pipeline Development, Maintenance, and Operations Associated with Activity in the Barnett Shale on Business Activity in Texas

Sector	Total Expenditures <i>(2013 Dollars)</i>	Real Gross Product <i>(2013 Dollars)</i>	Personal Income <i>(2013 Dollars)</i>	Employment <i>(Person-Years)</i>
Agriculture	\$297,586,365	\$85,452,241	\$56,720,045	936
Mining	\$113,179,943	\$27,657,893	\$15,514,899	103
Construction	\$2,582,233,271	\$1,189,598,845	\$980,303,538	13,731
Nondurable Manufacturing	\$460,654,134	\$135,160,052	\$71,946,960	1,351
Durable Manufacturing	\$551,336,303	\$218,817,836	\$140,224,699	2,234
Transportation and Utilities	\$1,991,242,571	\$537,931,247	\$322,848,313	4,726
Information	\$101,877,585	\$62,688,965	\$27,292,759	276
Wholesale Trade	\$229,987,677	\$155,668,232	\$89,759,691	1,057
Retail Trade	\$1,335,711,712	\$1,002,784,259	\$583,102,515	18,453
Finance, Insurance, and Real Estate	\$1,076,499,683	\$244,708,440	\$96,498,390	1,039
Business Services	\$457,187,074	\$290,156,632	\$236,693,453	2,906
Health Services	\$271,282,846	\$190,278,772	\$160,882,474	2,752
Other Services	\$603,375,406	\$304,780,707	\$245,722,519	6,068
<b>TOTAL</b>	<b>\$10,072,154,570</b>	<b>\$4,445,684,121</b>	<b>\$3,027,510,257</b>	<b>55,632</b>

Source: US Multi-Regional Impact Assessment System, The Perryman Group

Note: Assumes that current annual patterns in pipeline and gathering system maintenance and operations are sufficient to accommodate the additional wells that are projected to be added in the future.

## Projected 10-Year Impact (2014-2023) of All Major Sources of Stimulus Associated with the Barnett Shale on Business Activity in Texas

Sector	Total Expenditures <i>(2013 Dollars)</i>	Real Gross Product <i>(2013 Dollars)</i>	Personal Income <i>(2013 Dollars)</i>	Employment <i>(Person-Years)</i>
Agriculture	\$5,499,908,586	\$1,604,395,585	\$1,058,412,628	16,341
Mining	\$194,359,046,056	\$42,642,706,354	\$19,706,703,715	94,306
Construction	\$39,957,783,294	\$19,505,313,046	\$16,073,592,483	220,590
Nondurable Manufacturing	\$23,317,089,443	\$6,393,048,989	\$3,329,340,286	51,738
Durable Manufacturing	\$14,462,680,930	\$5,718,321,172	\$3,731,789,911	52,871
Transportation and Utilities	\$20,195,049,097	\$7,727,207,483	\$4,521,859,762	51,057
Information	\$3,865,225,444	\$2,378,856,526	\$1,030,408,019	9,511
Wholesale Trade	\$8,429,395,198	\$5,699,294,025	\$3,286,263,342	35,812
Retail Trade	\$37,874,076,192	\$28,313,063,245	\$16,438,318,943	493,221
Finance, Insurance, and Real Estate	\$44,218,148,378	\$12,973,046,229	\$4,023,221,778	38,863
Business Services	\$10,524,074,014	\$6,384,629,616	\$5,208,221,647	61,694
Health Services	\$8,414,483,262	\$5,889,094,874	\$4,979,284,038	80,097
Other Services	\$16,208,499,627	\$8,199,870,108	\$6,588,218,713	148,626
<b>TOTAL</b>	<b>\$427,325,459,520</b>	<b>\$153,428,847,252</b>	<b>\$89,975,635,265</b>	<b>1,354,727</b>

Source: US Multi-Regional Impact Assessment System, The Perryman Group

Note: Includes (1) drilling, exploration, and production; (2) royalty and lease payments; and (3) pipeline maintenance and operations. Assumes drilling activity over time responds to projected prices in the baseline forecast of the Energy Information Administration in a manner reflective of recent academic research (which understates the responsiveness that has been historically observed within the region). Assumes that established patterns of decline in individual well output (decline curves) will continue into the future and that new wells will follow similar production patterns to those presently observed in the area. Projected royalties are converted to 2013 dollars using projections of the Texas Consumer Price Index derived from the current baseline forecast from the Texas Econometric Model. Effects are fully adjusted for external ownership and leakages from the expenditure stream. Assumes that current annual patterns in pipeline and gathering system maintenance and operations are sufficient to accommodate the additional wells that are projected to be added in the future.

## Results by County

## **Estimated Current Annual Impact (as of 2013)**

## Estimated Current Annual Impact (as of 2013) of All Major Sources of Stimulus Associated with the Barnett Shale on Business Activity in Archer County

Sector	Total Expenditures	Real Gross Product	Personal Income	Employment
	<i>(2013 Dollars)</i>	<i>(2013 Dollars)</i>	<i>(2013 Dollars)</i>	<i>(Permanent Jobs)</i>
Agriculture	\$107,308	\$29,767	\$20,273	0
Mining	\$4,373,668	\$960,877	\$445,941	2
Construction	\$1,343,401	\$641,957	\$529,013	7
Nondurable Manufacturing	\$3,461	\$1,730	\$1,129	0
Durable Manufacturing	\$29,645	\$13,302	\$8,580	0
Transportation and Utilities	\$330,428	\$153,271	\$93,982	1
Information	\$80,591	\$49,751	\$21,391	0
Wholesale Trade	\$291,777	\$197,318	\$113,775	1
Retail Trade	\$784,989	\$578,977	\$334,763	10
Finance, Insurance, and Real Estate	\$833,627	\$220,361	\$57,681	1
Business Services	\$107,969	\$64,458	\$52,581	1
Health Services	\$121,762	\$85,561	\$72,343	1
Other Services	\$346,295	\$175,163	\$144,181	3
<b>TOTAL</b>	<b>\$8,754,922</b>	<b>\$3,172,495</b>	<b>\$1,895,634</b>	<b>28</b>

Source: US Multi-Regional Impact Assessment System, The Perryman Group

Note: Includes (1) drilling, exploration, and production; (2) royalty and lease payments; and (3) pipeline maintenance and operations.

## Estimated Current Annual Impact (as of 2013) of All Major Sources of Stimulus Associated with the Barnett Shale on Business Activity in Bosque County

Sector	Total Expenditures	Real Gross Product	Personal Income	Employment
	<i>(2013 Dollars)</i>	<i>(2013 Dollars)</i>	<i>(2013 Dollars)</i>	<i>(Permanent Jobs)</i>
Agriculture	\$107,157	\$31,844	\$20,871	0
Mining	\$6,234,567	\$1,366,405	\$630,184	3
Construction	\$691,731	\$357,002	\$294,192	4
Nondurable Manufacturing	\$320,870	\$101,292	\$52,612	1
Durable Manufacturing	\$177,784	\$72,986	\$48,277	1
Transportation and Utilities	\$556,584	\$203,800	\$116,055	1
Information	\$84,176	\$51,918	\$22,353	0
Wholesale Trade	\$166,916	\$112,810	\$65,047	1
Retail Trade	\$751,943	\$577,289	\$337,824	10
Finance, Insurance, and Real Estate	\$888,676	\$264,789	\$79,666	1
Business Services	\$86,660	\$49,250	\$40,175	0
Health Services	\$201,067	\$140,285	\$118,613	2
Other Services	\$349,259	\$177,523	\$145,294	3
<b>TOTAL</b>	<b>\$10,617,390</b>	<b>\$3,507,193</b>	<b>\$1,971,165</b>	<b>27</b>

Source: US Multi-Regional Impact Assessment System, The Perryman Group

Note: Includes (1) drilling, exploration, and production; (2) royalty and lease payments; and (3) pipeline maintenance and operations.

## Estimated Current Annual Impact (as of 2013) of All Major Sources of Stimulus Associated with the Barnett Shale on Business Activity in Clay County

Sector	Total Expenditures	Real Gross Product	Personal Income	Employment
	<i>(2013 Dollars)</i>	<i>(2013 Dollars)</i>	<i>(2013 Dollars)</i>	<i>(Permanent Jobs)</i>
Agriculture	\$279,656	\$77,796	\$52,984	1
Mining	\$17,033,593	\$3,733,133	\$1,721,716	8
Construction	\$1,715,899	\$893,453	\$736,261	10
Nondurable Manufacturing	\$631,885	\$188,407	\$97,628	2
Durable Manufacturing	\$577,327	\$228,615	\$154,439	2
Transportation and Utilities	\$1,421,951	\$538,961	\$310,724	3
Information	\$108,032	\$66,682	\$28,970	0
Wholesale Trade	\$405,920	\$274,333	\$158,183	2
Retail Trade	\$2,114,376	\$1,609,307	\$939,340	27
Finance, Insurance, and Real Estate	\$2,341,170	\$666,687	\$182,817	2
Business Services	\$835,017	\$496,079	\$404,674	5
Health Services	\$429,023	\$300,363	\$253,960	4
Other Services	\$937,300	\$476,802	\$390,038	9
<b>TOTAL</b>	<b>\$28,831,149</b>	<b>\$9,550,617</b>	<b>\$5,431,733</b>	<b>75</b>

Source: US Multi-Regional Impact Assessment System, The Perryman Group

Note: Includes (1) drilling, exploration, and production; (2) royalty and lease payments; and (3) pipeline maintenance and operations.



## Estimated Current Annual Impact (as of 2013) of All Major Sources of Stimulus Associated with the Barnett Shale on Business Activity in Comanche County

Sector	Total Expenditures <i>(2013 Dollars)</i>	Real Gross Product <i>(2013 Dollars)</i>	Personal Income <i>(2013 Dollars)</i>	Employment <i>(Permanent Jobs)</i>
Agriculture	\$47,615	\$13,191	\$8,984	0
Mining	\$2,082,451	\$456,754	\$210,746	1
Construction	\$350,150	\$172,212	\$141,914	2
Nondurable Manufacturing	\$133,908	\$35,318	\$18,482	0
Durable Manufacturing	\$34,448	\$15,965	\$9,812	0
Transportation and Utilities	\$265,132	\$97,974	\$55,920	1
Information	\$55,915	\$34,491	\$14,816	0
Wholesale Trade	\$77,037	\$52,084	\$30,032	0
Retail Trade	\$409,013	\$309,482	\$180,342	5
Finance, Insurance, and Real Estate	\$333,534	\$88,410	\$31,624	0
Business Services	\$46,789	\$26,965	\$21,997	0
Health Services	\$97,549	\$68,271	\$57,724	1
Other Services	\$165,694	\$84,369	\$68,843	2
<b>TOTAL</b>	<b>\$4,099,236</b>	<b>\$1,455,487</b>	<b>\$851,235</b>	<b>13</b>

Source: US Multi-Regional Impact Assessment System, The Perryman Group

Note: Includes (1) drilling, exploration, and production; (2) royalty and lease payments; and (3) pipeline maintenance and operations.

## Estimated Current Annual Impact (as of 2013) of All Major Sources of Stimulus Associated with the Barnett Shale on Business Activity in Cooke County

Sector	Total Expenditures	Real Gross Product	Personal Income	Employment
	<i>(2013 Dollars)</i>	<i>(2013 Dollars)</i>	<i>(2013 Dollars)</i>	<i>(Permanent Jobs)</i>
Agriculture	\$1,807,896	\$542,079	\$351,643	5
Mining	\$73,655,566	\$16,175,161	\$7,477,801	36
Construction	\$30,238,754	\$14,124,723	\$11,639,652	160
Nondurable Manufacturing	\$9,559,443	\$2,700,152	\$1,464,547	23
Durable Manufacturing	\$9,910,075	\$3,723,692	\$2,478,759	37
Transportation and Utilities	\$10,058,661	\$4,349,437	\$2,640,694	32
Information	\$1,680,908	\$1,036,132	\$448,644	4
Wholesale Trade	\$2,749,747	\$1,859,984	\$1,072,483	12
Retail Trade	\$21,728,916	\$16,253,538	\$9,439,075	283
Finance, Insurance, and Real Estate	\$16,446,590	\$4,044,894	\$1,354,835	13
Business Services	\$11,239,367	\$7,052,759	\$5,753,244	68
Health Services	\$3,570,549	\$2,509,038	\$2,121,415	34
Other Services	\$8,855,154	\$4,500,183	\$3,656,956	86
<b>TOTAL</b>	<b>\$201,501,628</b>	<b>\$78,871,776</b>	<b>\$49,899,749</b>	<b>792</b>

Source: US Multi-Regional Impact Assessment System, The Perryman Group

Note: Includes (1) drilling, exploration, and production; (2) royalty and lease payments; and (3) pipeline maintenance and operations.

## Estimated Current Annual Impact (as of 2013) of All Major Sources of Stimulus Associated with the Barnett Shale on Business Activity in Dallas County

Sector	Total Expenditures	Real Gross Product	Personal Income	Employment
	<i>(2013 Dollars)</i>	<i>(2013 Dollars)</i>	<i>(2013 Dollars)</i>	<i>(Permanent Jobs)</i>
Agriculture	\$266,896	\$75,907	\$50,907	1
Mining	\$49,466,609	\$10,852,597	\$5,024,573	24
Construction	\$7,922,194	\$3,874,872	\$3,193,136	44
Nondurable Manufacturing	\$4,207,121	\$1,365,283	\$727,848	13
Durable Manufacturing	\$2,624,355	\$1,078,426	\$694,331	10
Transportation and Utilities	\$6,374,945	\$2,159,442	\$1,274,224	16
Information	\$1,507,266	\$927,889	\$400,324	4
Wholesale Trade	\$2,818,994	\$1,905,907	\$1,098,963	12
Retail Trade	\$8,930,604	\$6,651,816	\$3,857,796	118
Finance, Insurance, and Real Estate	\$14,646,340	\$4,474,869	\$1,385,142	14
Business Services	\$3,858,650	\$2,347,844	\$1,915,239	23
Health Services	\$1,870,856	\$1,312,341	\$1,109,596	18
Other Services	\$3,740,246	\$1,917,845	\$1,525,753	35
<b>TOTAL</b>	<b>\$108,235,075</b>	<b>\$38,945,038</b>	<b>\$22,257,832</b>	<b>330</b>

Source: US Multi-Regional Impact Assessment System, The Perryman Group

Note: Includes (1) drilling, exploration, and production; (2) royalty and lease payments; and (3) pipeline maintenance and operations.

## Estimated Current Annual Impact (as of 2013) of All Major Sources of Stimulus Associated with the Barnett Shale on Business Activity in Denton County

Sector	Total Expenditures	Real Gross Product	Personal Income	Employment
	<i>(2013 Dollars)</i>	<i>(2013 Dollars)</i>	<i>(2013 Dollars)</i>	<i>(Permanent Jobs)</i>
Agriculture	\$19,974,695	\$5,528,629	\$3,756,900	58
Mining	\$411,718,746	\$90,259,840	\$41,638,741	199
Construction	\$252,040,518	\$118,398,630	\$97,567,841	1,338
Nondurable Manufacturing	\$89,575,707	\$26,469,646	\$13,821,508	229
Durable Manufacturing	\$62,420,014	\$25,539,482	\$16,172,042	238
Transportation and Utilities	\$79,320,853	\$27,370,008	\$15,383,626	161
Information	\$27,370,453	\$16,860,965	\$7,267,226	66
Wholesale Trade	\$50,658,741	\$34,271,564	\$19,761,290	215
Retail Trade	\$188,641,266	\$141,420,408	\$82,188,283	2,451
Finance, Insurance, and Real Estate	\$192,774,006	\$47,940,375	\$15,000,190	144
Business Services	\$66,859,723	\$41,752,828	\$34,059,608	403
Health Services	\$42,551,545	\$29,823,117	\$25,215,720	405
Other Services	\$76,997,983	\$38,929,474	\$31,148,717	674
<b>TOTAL</b>	<b>\$1,560,904,251</b>	<b>\$644,564,966</b>	<b>\$402,981,693</b>	<b>6,581</b>

Source: US Multi-Regional Impact Assessment System, The Perryman Group

Note: Includes (1) drilling, exploration, and production; (2) royalty and lease payments; and (3) pipeline maintenance and operations.

## Estimated Current Annual Impact (as of 2013) of All Major Sources of Stimulus Associated with the Barnett Shale on Business Activity in Eastland County

Sector	Total Expenditures	Real Gross Product	Personal Income	Employment
	<i>(2013 Dollars)</i>	<i>(2013 Dollars)</i>	<i>(2013 Dollars)</i>	<i>(Permanent Jobs)</i>
Agriculture	\$1,598,857	\$442,690	\$301,497	5
Mining	\$43,125,204	\$9,470,813	\$4,373,398	21
Construction	\$22,367,457	\$10,534,291	\$8,680,912	120
Nondurable Manufacturing	\$6,064,561	\$2,076,065	\$1,130,828	22
Durable Manufacturing	\$3,090,211	\$1,111,503	\$786,411	11
Transportation and Utilities	\$13,567,803	\$3,752,306	\$2,167,654	28
Information	\$707,939	\$436,414	\$189,858	2
Wholesale Trade	\$2,185,909	\$1,478,672	\$852,616	10
Retail Trade	\$13,258,969	\$9,912,482	\$5,755,687	178
Finance, Insurance, and Real Estate	\$8,042,695	\$1,997,936	\$789,988	8
Business Services	\$1,852,740	\$1,120,270	\$913,853	11
Health Services	\$2,661,923	\$1,862,525	\$1,574,782	26
Other Services	\$5,261,593	\$2,642,819	\$2,162,092	54
<b>TOTAL</b>	<b>\$123,785,861</b>	<b>\$46,838,786</b>	<b>\$29,679,575</b>	<b>496</b>

Source: US Multi-Regional Impact Assessment System, The Perryman Group

Note: Includes (1) drilling, exploration, and production; (2) royalty and lease payments; and (3) pipeline maintenance and operations.

## Estimated Current Annual Impact (as of 2013) of All Major Sources of Stimulus Associated with the Barnett Shale on Business Activity in Ellis County

Sector	Total Expenditures	Real Gross Product	Personal Income	Employment
	<i>(2013 Dollars)</i>	<i>(2013 Dollars)</i>	<i>(2013 Dollars)</i>	<i>(Permanent Jobs)</i>
Agriculture	\$760,915	\$223,967	\$147,036	2
Mining	\$27,024,395	\$5,931,700	\$2,737,981	13
Construction	\$7,314,618	\$3,533,575	\$2,911,886	40
Nondurable Manufacturing	\$3,352,985	\$953,118	\$499,571	8
Durable Manufacturing	\$2,856,907	\$1,115,258	\$731,071	10
Transportation and Utilities	\$3,424,030	\$1,294,938	\$772,587	9
Information	\$657,981	\$405,519	\$175,134	2
Wholesale Trade	\$888,498	\$600,831	\$346,445	4
Retail Trade	\$6,570,578	\$4,935,201	\$2,869,562	86
Finance, Insurance, and Real Estate	\$6,024,165	\$1,510,684	\$425,539	4
Business Services	\$978,642	\$581,872	\$474,658	6
Health Services	\$1,183,693	\$831,327	\$702,895	11
Other Services	\$2,616,643	\$1,320,131	\$1,069,042	25
<b>TOTAL</b>	<b>\$63,654,051</b>	<b>\$23,238,121</b>	<b>\$13,863,407</b>	<b>220</b>

Source: US Multi-Regional Impact Assessment System, The Perryman Group

Note: Includes (1) drilling, exploration, and production; (2) royalty and lease payments; and (3) pipeline maintenance and operations.

## Estimated Current Annual Impact (as of 2013) of All Major Sources of Stimulus Associated with the Barnett Shale on Business Activity in Erath County

Sector	Total Expenditures	Real Gross Product	Personal Income	Employment
	<i>(2013 Dollars)</i>	<i>(2013 Dollars)</i>	<i>(2013 Dollars)</i>	<i>(Permanent Jobs)</i>
Agriculture	\$825,655	\$228,880	\$155,880	2
Mining	\$32,887,431	\$7,225,988	\$3,356,005	16
Construction	\$8,321,103	\$4,025,698	\$3,317,425	46
Nondurable Manufacturing	\$26,538	\$13,281	\$8,669	0
Durable Manufacturing	\$220,120	\$98,346	\$63,662	1
Transportation and Utilities	\$4,776,198	\$1,629,418	\$1,012,599	14
Information	\$654,268	\$403,866	\$173,734	2
Wholesale Trade	\$2,154,512	\$1,456,905	\$840,065	9
Retail Trade	\$6,517,819	\$4,819,488	\$2,788,894	87
Finance, Insurance, and Real Estate	\$6,618,925	\$1,680,134	\$440,494	4
Business Services	\$768,540	\$449,232	\$366,459	4
Health Services	\$1,012,543	\$712,874	\$602,742	10
Other Services	\$2,777,904	\$1,409,356	\$1,155,480	28
<b>TOTAL</b>	<b>\$67,561,555</b>	<b>\$24,153,469</b>	<b>\$14,282,107</b>	<b>224</b>

Source: US Multi-Regional Impact Assessment System, The Perryman Group

Note: Includes (1) drilling, exploration, and production; (2) royalty and lease payments; and (3) pipeline maintenance and operations.

## Estimated Current Annual Impact (as of 2013) of All Major Sources of Stimulus Associated with the Barnett Shale on Business Activity in Hamilton County

Sector	Total Expenditures <i>(2013 Dollars)</i>	Real Gross Product <i>(2013 Dollars)</i>	Personal Income <i>(2013 Dollars)</i>	Employment <i>(Permanent Jobs)</i>
Agriculture	\$34,088	\$10,146	\$6,644	0
Mining	\$2,079,086	\$455,838	\$210,400	1
Construction	\$164,374	\$88,779	\$73,159	1
Nondurable Manufacturing	\$80,626	\$20,875	\$10,945	0
Durable Manufacturing	\$54,809	\$21,400	\$14,421	0
Transportation and Utilities	\$173,508	\$55,495	\$29,911	0
Information	\$23,321	\$14,388	\$6,202	0
Wholesale Trade	\$48,790	\$32,970	\$19,011	0
Retail Trade	\$284,691	\$211,950	\$122,885	4
Finance, Insurance, and Real Estate	\$255,406	\$71,370	\$20,480	0
Business Services	\$24,687	\$13,667	\$11,149	0
Health Services	\$65,027	\$45,411	\$38,396	1
Other Services	\$111,175	\$56,000	\$45,599	1
<b>TOTAL</b>	<b>\$3,399,588</b>	<b>\$1,098,289</b>	<b>\$609,202</b>	<b>9</b>

Source: US Multi-Regional Impact Assessment System, The Perryman Group

Note: Includes (1) drilling, exploration, and production; (2) royalty and lease payments; and (3) pipeline maintenance and operations.



## Estimated Current Annual Impact (as of 2013) of All Major Sources of Stimulus Associated with the Barnett Shale on Business Activity in Hill County

Sector	Total Expenditures	Real Gross Product	Personal Income	Employment
	<i>(2013 Dollars)</i>	<i>(2013 Dollars)</i>	<i>(2013 Dollars)</i>	<i>(Permanent Jobs)</i>
Agriculture	\$1,389,871	\$405,254	\$266,721	4
Mining	\$16,710,242	\$3,678,825	\$1,700,896	8
Construction	\$18,854,935	\$8,790,908	\$7,244,256	101
Nondurable Manufacturing	\$2,687,889	\$967,535	\$517,813	11
Durable Manufacturing	\$4,703,451	\$1,799,838	\$1,169,533	19
Transportation and Utilities	\$13,790,691	\$3,673,843	\$2,151,620	30
Information	\$740,613	\$455,589	\$199,419	2
Wholesale Trade	\$1,490,139	\$1,008,284	\$581,385	7
Retail Trade	\$12,536,573	\$9,403,550	\$5,466,179	169
Finance, Insurance, and Real Estate	\$12,461,831	\$2,861,250	\$863,958	9
Business Services	\$1,413,811	\$840,693	\$685,791	8
Health Services	\$2,868,209	\$2,008,974	\$1,698,607	28
Other Services	\$5,322,843	\$2,717,591	\$2,185,049	53
<b>TOTAL</b>	<b>\$94,971,096</b>	<b>\$38,612,135</b>	<b>\$24,731,227</b>	<b>450</b>

Source: US Multi-Regional Impact Assessment System, The Perryman Group

Note: Includes (1) drilling, exploration, and production; (2) royalty and lease payments; and (3) pipeline maintenance and operations.

## Estimated Current Annual Impact (as of 2013) of All Major Sources of Stimulus Associated with the Barnett Shale on Business Activity in Hood County

Sector	Total Expenditures	Real Gross Product	Personal Income	Employment
	<i>(2013 Dollars)</i>	<i>(2013 Dollars)</i>	<i>(2013 Dollars)</i>	<i>(Permanent Jobs)</i>
Agriculture	\$8,284,468	\$2,292,104	\$1,559,946	24
Mining	\$195,899,537	\$42,933,684	\$19,800,963	94
Construction	\$113,791,883	\$53,474,873	\$44,066,627	606
Nondurable Manufacturing	\$11,066,699	\$3,334,195	\$1,967,681	29
Durable Manufacturing	\$6,122,445	\$2,852,476	\$1,669,305	24
Transportation and Utilities	\$45,505,782	\$13,560,310	\$7,487,342	81
Information	\$4,744,902	\$2,916,144	\$1,276,337	12
Wholesale Trade	\$6,364,357	\$4,305,416	\$2,482,543	27
Retail Trade	\$72,607,631	\$54,352,784	\$31,572,959	951
Finance, Insurance, and Real Estate	\$88,553,546	\$24,363,299	\$7,788,922	75
Business Services	\$26,595,308	\$16,638,131	\$13,572,452	161
Health Services	\$16,870,982	\$11,799,854	\$9,976,887	162
Other Services	\$31,435,732	\$15,909,508	\$12,739,426	289
<b>TOTAL</b>	<b>\$627,843,272</b>	<b>\$248,732,778</b>	<b>\$155,961,390</b>	<b>2,537</b>

Source: US Multi-Regional Impact Assessment System, The Perryman Group

Note: Includes (1) drilling, exploration, and production; (2) royalty and lease payments; and (3) pipeline maintenance and operations.

## Estimated Current Annual Impact (as of 2013) of All Major Sources of Stimulus Associated with the Barnett Shale on Business Activity in Jack County

Sector	Total Expenditures	Real Gross Product	Personal Income	Employment
	<i>(2013 Dollars)</i>	<i>(2013 Dollars)</i>	<i>(2013 Dollars)</i>	<i>(Permanent Jobs)</i>
Agriculture	\$3,109,499	\$860,367	\$585,957	9
Mining	\$89,541,283	\$19,660,575	\$9,077,709	44
Construction	\$38,410,259	\$17,932,235	\$14,777,279	203
Nondurable Manufacturing	\$1,299,900	\$226,602	\$107,831	1
Durable Manufacturing	\$6,565,357	\$2,580,273	\$1,673,011	27
Transportation and Utilities	\$21,109,187	\$7,279,456	\$4,303,955	53
Information	\$1,245,555	\$768,636	\$334,456	3
Wholesale Trade	\$2,784,247	\$1,883,344	\$1,085,953	12
Retail Trade	\$25,551,889	\$19,059,753	\$11,059,423	337
Finance, Insurance, and Real Estate	\$22,278,034	\$5,820,791	\$1,997,496	19
Business Services	\$13,027,372	\$8,173,527	\$6,667,503	80
Health Services	\$3,298,884	\$2,329,146	\$1,969,314	32
Other Services	\$10,663,271	\$5,405,943	\$4,416,283	106
<b>TOTAL</b>	<b>\$238,884,738</b>	<b>\$91,980,649</b>	<b>\$58,056,170</b>	<b>924</b>

Source: US Multi-Regional Impact Assessment System, The Perryman Group

Note: Includes (1) drilling, exploration, and production; (2) royalty and lease payments; and (3) pipeline maintenance and operations.

## Estimated Current Annual Impact (as of 2013) of All Major Sources of Stimulus Associated with the Barnett Shale on Business Activity in Johnson County

Sector	Total Expenditures	Real Gross Product	Personal Income	Employment
	<i>(2013 Dollars)</i>	<i>(2013 Dollars)</i>	<i>(2013 Dollars)</i>	<i>(Permanent Jobs)</i>
Agriculture	\$10,477,136	\$2,906,815	\$1,966,056	30
Mining	\$168,244,931	\$36,958,021	\$17,066,744	82
Construction	\$70,002,906	\$33,549,509	\$27,646,885	379
Nondurable Manufacturing	\$35,076,362	\$11,031,724	\$5,855,273	98
Durable Manufacturing	\$23,099,023	\$9,178,634	\$5,920,266	87
Transportation and Utilities	\$45,208,709	\$18,199,447	\$10,693,969	120
Information	\$8,274,997	\$5,110,705	\$2,211,743	20
Wholesale Trade	\$16,684,091	\$11,286,452	\$6,507,869	71
Retail Trade	\$121,397,304	\$91,328,072	\$53,135,119	1,574
Finance, Insurance, and Real Estate	\$81,654,991	\$14,841,415	\$5,062,189	48
Business Services	\$16,479,400	\$9,688,646	\$7,903,453	94
Health Services	\$24,979,656	\$17,607,191	\$14,887,043	239
Other Services	\$43,786,135	\$22,552,753	\$18,110,233	392
<b>TOTAL</b>	<b>\$665,365,641</b>	<b>\$284,239,385</b>	<b>\$176,966,842</b>	<b>3,234</b>

Source: US Multi-Regional Impact Assessment System, The Perryman Group

Note: Includes (1) drilling, exploration, and production; (2) royalty and lease payments; and (3) pipeline maintenance and operations.

## Estimated Current Annual Impact (as of 2013) of All Major Sources of Stimulus Associated with the Barnett Shale on Business Activity in Montague County

Sector	Total Expenditures	Real Gross Product	Personal Income	Employment
	<i>(2013 Dollars)</i>	<i>(2013 Dollars)</i>	<i>(2013 Dollars)</i>	<i>(Permanent Jobs)</i>
Agriculture	\$7,008,022	\$2,039,503	\$1,335,392	21
Mining	\$57,225,397	\$12,638,455	\$6,002,693	29
Construction	\$10,383,469	\$5,416,046	\$4,463,159	61
Nondurable Manufacturing	\$7,558,441	\$3,814,785	\$2,222,870	46
Durable Manufacturing	\$3,530,481	\$1,464,871	\$970,562	14
Transportation and Utilities	\$34,287,599	\$12,427,500	\$7,079,210	76
Information	\$6,261,981	\$3,868,329	\$1,677,884	16
Wholesale Trade	\$3,098,863	\$2,096,521	\$1,208,872	13
Retail Trade	\$92,915,987	\$69,878,413	\$40,653,567	1,206
Finance, Insurance, and Real Estate	\$73,992,639	\$12,905,106	\$4,089,864	39
Business Services	\$6,326,912	\$3,313,891	\$2,703,285	32
Health Services	\$18,366,497	\$13,000,913	\$10,992,393	177
Other Services	\$32,947,191	\$17,150,809	\$13,653,060	290
<b>TOTAL</b>	<b>\$353,903,480</b>	<b>\$160,015,143</b>	<b>\$97,052,811</b>	<b>2,018</b>

Source: US Multi-Regional Impact Assessment System, The Perryman Group

Note: Includes (1) drilling, exploration, and production; (2) royalty and lease payments; and (3) pipeline maintenance and operations.

## Estimated Current Annual Impact (as of 2013) of All Major Sources of Stimulus Associated with the Barnett Shale on Business Activity in Palo Pinto County

Sector	Total Expenditures	Real Gross Product	Personal Income	Employment
	<i>(2013 Dollars)</i>	<i>(2013 Dollars)</i>	<i>(2013 Dollars)</i>	<i>(Permanent Jobs)</i>
Agriculture	\$1,008,242	\$303,105	\$196,385	3
Mining	\$72,197,478	\$15,853,636	\$7,319,942	35
Construction	\$29,433,131	\$13,832,235	\$11,398,624	158
Nondurable Manufacturing	\$7,927,631	\$2,591,659	\$1,368,615	25
Durable Manufacturing	\$7,511,317	\$3,080,088	\$1,963,003	31
Transportation and Utilities	\$21,184,793	\$6,102,660	\$3,531,648	45
Information	\$1,510,896	\$930,929	\$404,199	4
Wholesale Trade	\$2,684,739	\$1,815,957	\$1,047,097	12
Retail Trade	\$22,018,896	\$16,468,636	\$9,563,748	294
Finance, Insurance, and Real Estate	\$26,103,438	\$6,772,138	\$1,797,920	17
Business Services	\$8,229,861	\$5,123,579	\$4,179,527	50
Health Services	\$4,139,411	\$2,902,085	\$2,453,740	40
Other Services	\$9,206,318	\$4,687,996	\$3,802,791	92
<b>TOTAL</b>	<b>\$213,156,150</b>	<b>\$80,464,703</b>	<b>\$49,027,239</b>	<b>805</b>

Source: US Multi-Regional Impact Assessment System, The Perryman Group

Note: Includes (1) drilling, exploration, and production; (2) royalty and lease payments; and (3) pipeline maintenance and operations.

## Estimated Current Annual Impact (as of 2013) of All Major Sources of Stimulus Associated with the Barnett Shale on Business Activity in Parker County

Sector	Total Expenditures	Real Gross Product	Personal Income	Employment
	<i>(2013 Dollars)</i>	<i>(2013 Dollars)</i>	<i>(2013 Dollars)</i>	<i>(Permanent Jobs)</i>
Agriculture	\$18,947,429	\$5,242,487	\$3,569,364	56
Mining	\$552,755,184	\$121,380,313	\$56,063,329	269
Construction	\$224,212,558	\$106,478,263	\$87,744,719	1,210
Nondurable Manufacturing	\$53,609,306	\$16,268,633	\$8,728,839	155
Durable Manufacturing	\$58,998,277	\$23,601,359	\$15,241,883	229
Transportation and Utilities	\$117,354,899	\$40,885,803	\$24,333,188	303
Information	\$9,904,070	\$6,085,651	\$2,670,039	26
Wholesale Trade	\$31,083,625	\$21,024,330	\$12,122,817	134
Retail Trade	\$168,488,229	\$126,060,416	\$73,213,585	2,217
Finance, Insurance, and Real Estate	\$212,770,145	\$59,489,985	\$18,376,911	178
Business Services	\$50,236,011	\$31,048,241	\$25,327,407	303
Health Services	\$27,666,284	\$19,451,519	\$16,446,442	267
Other Services	\$72,781,259	\$37,146,281	\$29,834,506	704
<b>TOTAL</b>	<b>\$1,598,807,278</b>	<b>\$614,163,280</b>	<b>\$373,673,030</b>	<b>6,052</b>

Source: US Multi-Regional Impact Assessment System, The Perryman Group

Note: Includes (1) drilling, exploration, and production; (2) royalty and lease payments; and (3) pipeline maintenance and operations.

## Estimated Current Annual Impact (as of 2013) of All Major Sources of Stimulus Associated with the Barnett Shale on Business Activity in Shackelford County

Sector	Total Expenditures	Real Gross Product	Personal Income	Employment
	<i>(2013 Dollars)</i>	<i>(2013 Dollars)</i>	<i>(2013 Dollars)</i>	<i>(Permanent Jobs)</i>
Agriculture	\$44,210	\$50,588	\$18,763	0
Mining	\$101,928,841	\$22,367,071	\$10,323,349	49
Construction	\$20,344,839	\$9,492,221	\$7,822,181	107
Nondurable Manufacturing	\$1,099,605	\$375,588	\$228,544	3
Durable Manufacturing	\$539,489	\$227,553	\$161,107	2
Transportation and Utilities	\$7,200,369	\$2,823,910	\$1,646,417	18
Information	\$1,018,389	\$626,292	\$273,301	3
Wholesale Trade	\$648,571	\$438,542	\$252,867	3
Retail Trade	\$12,638,488	\$9,518,523	\$5,538,911	164
Finance, Insurance, and Real Estate	\$12,100,021	\$3,420,990	\$1,215,843	11
Business Services	\$2,322,377	\$1,391,182	\$1,134,848	13
Health Services	\$2,194,443	\$1,541,911	\$1,303,700	21
Other Services	\$6,782,915	\$3,379,056	\$2,759,506	68
<b>TOTAL</b>	<b>\$168,862,556</b>	<b>\$55,653,427</b>	<b>\$32,679,336</b>	<b>462</b>

Source: US Multi-Regional Impact Assessment System, The Perryman Group

Note: Includes (1) drilling, exploration, and production; (2) royalty and lease payments; and (3) pipeline maintenance and operations.



## Estimated Current Annual Impact (as of 2013) of All Major Sources of Stimulus Associated with the Barnett Shale on Business Activity in Somervell County

Sector	Total Expenditures <i>(2013 Dollars)</i>	Real Gross Product <i>(2013 Dollars)</i>	Personal Income <i>(2013 Dollars)</i>	Employment <i>(Permanent Jobs)</i>
Agriculture	\$26,812	\$19,347	\$8,386	0
Mining	\$35,440,238	\$7,774,454	\$3,587,437	17
Construction	\$1,784,781	\$930,211	\$766,552	11
Nondurable Manufacturing	\$191,047	\$84,821	\$49,452	1
Durable Manufacturing	\$279,684	\$125,872	\$71,254	1
Transportation and Utilities	\$2,815,338	\$811,905	\$416,114	3
Information	\$217,065	\$133,685	\$58,648	1
Wholesale Trade	\$80,868	\$54,651	\$31,513	0
Retail Trade	\$3,657,179	\$2,717,155	\$1,574,661	48
Finance, Insurance, and Real Estate	\$4,912,778	\$1,224,023	\$231,336	2
Business Services	\$1,498,258	\$881,323	\$718,934	9
Health Services	\$879,431	\$617,251	\$521,892	8
Other Services	\$2,045,616	\$1,019,085	\$821,174	18
<b>TOTAL</b>	<b>\$53,829,095</b>	<b>\$16,393,784</b>	<b>\$8,857,351</b>	<b>118</b>

Source: US Multi-Regional Impact Assessment System, The Perryman Group

Note: Includes (1) drilling, exploration, and production; (2) royalty and lease payments; and (3) pipeline maintenance and operations.

## Estimated Current Annual Impact (as of 2013) of All Major Sources of Stimulus Associated with the Barnett Shale on Business Activity in Stephens County

Sector	Total Expenditures	Real Gross Product	Personal Income	Employment
	<i>(2013 Dollars)</i>	<i>(2013 Dollars)</i>	<i>(2013 Dollars)</i>	<i>(Permanent Jobs)</i>
Agriculture	\$51,524	\$60,409	\$22,405	0
Mining	\$129,832,279	\$28,477,458	\$13,192,013	63
Construction	\$16,024,934	\$7,764,131	\$6,398,127	88
Nondurable Manufacturing	\$1,009,544	\$462,846	\$295,594	5
Durable Manufacturing	\$4,879,527	\$2,042,510	\$1,327,361	18
Transportation and Utilities	\$9,017,938	\$3,381,920	\$1,995,707	23
Information	\$2,522,487	\$1,554,802	\$669,563	6
Wholesale Trade	\$1,244,459	\$841,269	\$485,083	5
Retail Trade	\$20,424,260	\$15,273,791	\$8,868,227	266
Finance, Insurance, and Real Estate	\$14,611,481	\$3,899,523	\$1,337,199	12
Business Services	\$3,638,560	\$2,160,507	\$1,762,420	21
Health Services	\$3,482,445	\$2,441,895	\$2,064,645	33
Other Services	\$7,720,706	\$3,849,218	\$3,151,310	77
<b>TOTAL</b>	<b>\$214,460,144</b>	<b>\$72,210,279</b>	<b>\$41,569,655</b>	<b>619</b>

Source: US Multi-Regional Impact Assessment System, The Perryman Group

Note: Includes (1) drilling, exploration, and production; (2) royalty and lease payments; and (3) pipeline maintenance and operations.

## Estimated Current Annual Impact (as of 2013) of All Major Sources of Stimulus Associated with the Barnett Shale on Business Activity in Tarrant County

Sector	Total Expenditures	Real Gross Product	Personal Income	Employment
	<i>(2013 Dollars)</i>	<i>(2013 Dollars)</i>	<i>(2013 Dollars)</i>	<i>(Permanent Jobs)</i>
Agriculture	\$78,485,707	\$22,450,715	\$15,016,599	233
Mining	\$11,091,465,997	\$2,431,779,927	\$1,121,874,441	5,357
Construction	\$1,548,781,830	\$778,347,307	\$641,406,644	8,794
Nondurable Manufacturing	\$1,218,233,635	\$358,222,181	\$188,516,607	3,059
Durable Manufacturing	\$730,366,208	\$285,687,923	\$187,191,695	2,624
Transportation and Utilities	\$787,298,626	\$353,025,957	\$215,134,670	2,569
Information	\$223,098,925	\$137,289,971	\$59,417,824	546
Wholesale Trade	\$499,766,034	\$337,836,546	\$194,799,530	2,120
Retail Trade	\$1,930,227,273	\$1,440,086,954	\$835,554,126	25,111
Finance, Insurance, and Real Estate	\$2,597,300,411	\$795,051,035	\$243,906,746	2,366
Business Services	\$566,670,291	\$339,896,296	\$277,268,277	3,281
Health Services	\$438,916,852	\$306,895,800	\$259,483,229	4,168
Other Services	\$786,585,084	\$400,250,149	\$319,904,047	7,172
<b>TOTAL</b>	<b>\$22,497,196,872</b>	<b>\$7,986,820,763</b>	<b>\$4,559,474,436</b>	<b>67,400</b>

Source: US Multi-Regional Impact Assessment System, The Perryman Group

Note: Includes (1) drilling, exploration, and production; (2) royalty and lease payments; and (3) pipeline maintenance and operations.

## Estimated Current Annual Impact (as of 2013) of All Major Sources of Stimulus Associated with the Barnett Shale on Business Activity in Wise County

Sector	Total Expenditures	Real Gross Product	Personal Income	Employment
	<i>(2013 Dollars)</i>	<i>(2013 Dollars)</i>	<i>(2013 Dollars)</i>	<i>(Permanent Jobs)</i>
Agriculture	\$44,285,450	\$12,901,165	\$8,496,936	131
Mining	\$684,765,406	\$150,953,956	\$70,721,185	344
Construction	\$707,935,434	\$328,690,049	\$270,861,068	3,717
Nondurable Manufacturing	\$21,506,987	\$10,264,164	\$5,902,956	120
Durable Manufacturing	\$151,881,980	\$62,261,761	\$38,910,191	586
Transportation and Utilities	\$206,536,292	\$83,336,971	\$50,036,797	597
Information	\$33,002,780	\$20,302,740	\$8,830,830	83
Wholesale Trade	\$68,286,405	\$46,206,981	\$26,643,355	291
Retail Trade	\$379,973,499	\$284,779,593	\$165,493,414	4,951
Finance, Insurance, and Real Estate	\$273,768,047	\$63,725,145	\$23,389,516	224
Business Services	\$88,120,797	\$54,869,365	\$44,759,340	530
Health Services	\$63,658,368	\$44,740,785	\$37,828,742	609
Other Services	\$165,302,765	\$83,658,506	\$67,019,500	1,512
<b>TOTAL</b>	<b>\$2,889,024,209</b>	<b>\$1,246,691,183</b>	<b>\$818,893,830</b>	<b>13,696</b>

Source: US Multi-Regional Impact Assessment System, The Perryman Group

Note: Includes (1) drilling, exploration, and production; (2) royalty and lease payments; and (3) pipeline maintenance and operations.

## Estimated Current Annual Impact (as of 2013) of All Major Sources of Stimulus Associated with the Barnett Shale on Business Activity in Young County

Sector	Total Expenditures	Real Gross Product	Personal Income	Employment
	<i>(2013 Dollars)</i>	<i>(2013 Dollars)</i>	<i>(2013 Dollars)</i>	<i>(Permanent Jobs)</i>
Agriculture	\$1,116,397	\$311,322	\$211,268	3
Mining	\$68,533,433	\$15,042,308	\$6,943,697	33
Construction	\$21,202,369	\$9,996,835	\$8,238,015	113
Nondurable Manufacturing	\$1,835,590	\$711,449	\$415,268	7
Durable Manufacturing	\$6,824,360	\$2,673,750	\$1,756,061	25
Transportation and Utilities	\$9,600,238	\$3,009,930	\$1,660,097	17
Information	\$2,065,767	\$1,273,870	\$547,727	5
Wholesale Trade	\$2,004,579	\$1,355,697	\$781,707	9
Retail Trade	\$14,715,687	\$10,966,091	\$6,360,765	192
Finance, Insurance, and Real Estate	\$10,469,623	\$2,858,093	\$1,090,990	10
Business Services	\$2,428,387	\$1,469,837	\$1,199,010	14
Health Services	\$2,776,165	\$1,943,540	\$1,643,281	27
Other Services	\$6,222,208	\$3,163,301	\$2,581,191	61
<b>TOTAL</b>	<b>\$149,794,804</b>	<b>\$54,776,023</b>	<b>\$33,429,077</b>	<b>517</b>

Source: US Multi-Regional Impact Assessment System, The Perryman Group

Note: Includes (1) drilling, exploration, and production; (2) royalty and lease payments; and (3) pipeline maintenance and operations.

## **Estimated Cumulative Impact Since 2001**

## Estimated Cumulative Impact (2001-2013) of All Major Sources of Stimulus Associated with the Barnett Shale on Business Activity in Archer County

Sector	Total Expenditures <i>(2013 Dollars)</i>	Real Gross Product <i>(2013 Dollars)</i>	Personal Income <i>(2013 Dollars)</i>	Employment <i>(Person-Years)</i>
Agriculture	\$1,433,119	\$397,391	\$270,645	4
Mining	\$54,820,631	\$12,045,677	\$5,592,507	27
Construction	\$18,865,803	\$8,974,402	\$7,395,466	101
Nondurable Manufacturing	\$46,095	\$23,026	\$15,030	0
Durable Manufacturing	\$389,727	\$175,175	\$112,558	1
Transportation and Utilities	\$4,408,134	\$2,050,582	\$1,258,251	15
Information	\$1,076,196	\$664,381	\$285,668	3
Wholesale Trade	\$3,912,636	\$2,646,144	\$1,525,790	17
Retail Trade	\$10,474,748	\$7,728,469	\$4,469,131	137
Finance, Insurance, and Real Estate	\$10,911,796	\$2,849,703	\$753,401	7
Business Services	\$1,479,516	\$886,954	\$723,528	9
Health Services	\$1,628,207	\$1,144,154	\$967,393	16
Other Services	\$4,631,728	\$2,342,670	\$1,928,344	46
<b>TOTAL</b>	<b>\$114,078,336</b>	<b>\$41,928,728</b>	<b>\$25,297,712</b>	<b>382</b>

Source: US Multi-Regional Impact Assessment System, The Perryman Group

Note: Includes (1) drilling, exploration, and production; (2) royalty and lease payments; and (3) pipeline maintenance and operations.

## Estimated Cumulative Impact (2001-2013) of All Major Sources of Stimulus Associated with the Barnett Shale on Business Activity in Bosque County

Sector	Total Expenditures <i>(2013 Dollars)</i>	Real Gross Product <i>(2013 Dollars)</i>	Personal Income <i>(2013 Dollars)</i>	Employment <i>(Person-Years)</i>
Agriculture	\$1,532,425	\$455,744	\$298,601	5
Mining	\$91,438,710	\$20,040,257	\$9,242,542	44
Construction	\$8,812,843	\$4,627,250	\$3,813,142	52
Nondurable Manufacturing	\$4,574,698	\$1,443,220	\$749,697	14
Durable Manufacturing	\$2,527,121	\$1,036,910	\$687,530	9
Transportation and Utilities	\$8,002,863	\$2,916,756	\$1,658,112	17
Information	\$1,213,561	\$748,491	\$322,282	3
Wholesale Trade	\$2,363,523	\$1,597,282	\$921,007	10
Retail Trade	\$10,902,785	\$8,367,454	\$4,896,031	141
Finance, Insurance, and Real Estate	\$12,900,481	\$3,833,984	\$1,146,670	11
Business Services	\$1,197,725	\$674,213	\$549,985	7
Health Services	\$2,890,842	\$2,017,587	\$1,705,888	27
Other Services	\$5,022,191	\$2,554,343	\$2,089,271	49
<b>TOTAL</b>	<b>\$153,379,769</b>	<b>\$50,313,491</b>	<b>\$28,080,758</b>	<b>388</b>

Source: US Multi-Regional Impact Assessment System, The Perryman Group

Note: Includes (1) drilling, exploration, and production; (2) royalty and lease payments; and (3) pipeline maintenance and operations.



## Estimated Cumulative Impact (2001-2013) of All Major Sources of Stimulus Associated with the Barnett Shale on Business Activity in Clay County

Sector	Total Expenditures <i>(2013 Dollars)</i>	Real Gross Product <i>(2013 Dollars)</i>	Personal Income <i>(2013 Dollars)</i>	Employment <i>(Person-Years)</i>
Agriculture	\$4,934,134	\$1,372,540	\$934,776	15
Mining	\$302,330,379	\$66,259,711	\$30,558,899	146
Construction	\$28,975,975	\$15,183,073	\$12,511,797	171
Nondurable Manufacturing	\$11,131,747	\$3,318,441	\$1,719,598	31
Durable Manufacturing	\$10,030,249	\$3,971,998	\$2,685,612	37
Transportation and Utilities	\$25,130,223	\$9,508,449	\$5,478,378	59
Information	\$1,926,583	\$1,189,208	\$516,628	5
Wholesale Trade	\$7,129,821	\$4,818,467	\$2,778,371	30
Retail Trade	\$37,570,741	\$28,593,868	\$16,689,639	486
Finance, Insurance, and Real Estate	\$41,532,466	\$11,798,294	\$3,229,603	29
Business Services	\$14,477,265	\$8,578,246	\$6,997,651	83
Health Services	\$7,605,627	\$5,325,737	\$4,502,960	72
Other Services	\$16,591,199	\$8,442,634	\$6,903,998	162
<b>TOTAL</b>	<b>\$509,366,410</b>	<b>\$168,360,666</b>	<b>\$95,507,911</b>	<b>1,326</b>

Source: US Multi-Regional Impact Assessment System, The Perryman Group

Note: Includes (1) drilling, exploration, and production; (2) royalty and lease payments; and (3) pipeline maintenance and operations.

## Estimated Cumulative Impact (2001-2013) of All Major Sources of Stimulus Associated with the Barnett Shale on Business Activity in Comanche County

Sector	Total Expenditures <i>(2013 Dollars)</i>	Real Gross Product <i>(2013 Dollars)</i>	Personal Income <i>(2013 Dollars)</i>	Employment <i>(Person-Years)</i>
Agriculture	\$1,217,734	\$337,390	\$229,782	4
Mining	\$52,064,593	\$11,419,943	\$5,269,244	25
Construction	\$9,747,848	\$4,759,063	\$3,921,764	54
Nondurable Manufacturing	\$3,434,036	\$905,782	\$473,964	7
Durable Manufacturing	\$890,953	\$413,425	\$253,290	3
Transportation and Utilities	\$6,751,520	\$2,505,400	\$1,432,226	15
Information	\$1,421,648	\$876,958	\$376,675	3
Wholesale Trade	\$1,991,318	\$1,346,359	\$776,323	8
Retail Trade	\$10,312,613	\$7,803,701	\$4,547,507	134
Finance, Insurance, and Real Estate	\$8,411,205	\$2,245,080	\$807,421	8
Business Services	\$1,228,209	\$712,711	\$581,390	7
Health Services	\$2,477,927	\$1,733,605	\$1,465,779	24
Other Services	\$4,207,047	\$2,140,615	\$1,747,967	41
<b>TOTAL</b>	<b>\$104,156,650</b>	<b>\$37,200,033</b>	<b>\$21,883,331</b>	<b>332</b>

Source: US Multi-Regional Impact Assessment System, The Perryman Group

Note: Includes (1) drilling, exploration, and production; (2) royalty and lease payments; and (3) pipeline maintenance and operations.

## Estimated Cumulative Impact (2001-2013) of All Major Sources of Stimulus Associated with the Barnett Shale on Business Activity in Cooke County

Sector	Total Expenditures <i>(2013 Dollars)</i>	Real Gross Product <i>(2013 Dollars)</i>	Personal Income <i>(2013 Dollars)</i>	Employment <i>(Person-Years)</i>
Agriculture	\$11,847,744	\$3,556,549	\$2,307,021	36
Mining	\$527,070,158	\$115,733,179	\$53,494,817	257
Construction	\$195,162,399	\$91,364,036	\$75,289,657	1,033
Nondurable Manufacturing	\$63,403,646	\$17,881,592	\$9,692,471	154
Durable Manufacturing	\$65,429,772	\$24,600,130	\$16,384,335	244
Transportation and Utilities	\$69,899,848	\$29,348,728	\$17,868,922	218
Information	\$10,782,969	\$6,646,098	\$2,877,750	27
Wholesale Trade	\$18,196,367	\$12,307,659	\$7,096,704	77
Retail Trade	\$139,227,957	\$104,064,105	\$60,418,799	1,816
Finance, Insurance, and Real Estate	\$108,220,151	\$27,487,197	\$9,122,723	85
Business Services	\$73,225,056	\$45,881,165	\$37,427,274	444
Health Services	\$22,855,400	\$16,049,550	\$13,570,043	219
Other Services	\$57,230,007	\$29,050,046	\$23,632,338	558
<b>TOTAL</b>	<b>\$1,362,551,474</b>	<b>\$523,970,033</b>	<b>\$329,182,854</b>	<b>5,168</b>

Source: US Multi-Regional Impact Assessment System, The Perryman Group

Note: Includes (1) drilling, exploration, and production; (2) royalty and lease payments; and (3) pipeline maintenance and operations.

## Estimated Cumulative Impact (2001-2013) of All Major Sources of Stimulus Associated with the Barnett Shale on Business Activity in Dallas County

Sector	Total Expenditures <i>(2013 Dollars)</i>	Real Gross Product <i>(2013 Dollars)</i>	Personal Income <i>(2013 Dollars)</i>	Employment <i>(Person-Years)</i>
Agriculture	\$1,853,105	\$527,723	\$353,835	6
Mining	\$383,584,123	\$84,145,985	\$38,940,022	186
Construction	\$47,501,692	\$23,646,497	\$19,486,186	268
Nondurable Manufacturing	\$29,328,607	\$9,511,176	\$5,070,491	88
Durable Manufacturing	\$17,592,534	\$7,246,392	\$4,670,230	64
Transportation and Utilities	\$38,408,998	\$13,741,882	\$8,029,085	93
Information	\$10,430,830	\$6,421,176	\$2,770,107	25
Wholesale Trade	\$19,494,576	\$13,178,405	\$7,598,786	83
Retail Trade	\$61,612,594	\$45,859,046	\$26,590,041	806
Finance, Insurance, and Real Estate	\$105,377,414	\$32,706,115	\$9,910,781	97
Business Services	\$25,358,188	\$15,291,441	\$12,473,897	148
Health Services	\$12,891,230	\$9,040,767	\$7,644,052	123
Other Services	\$25,757,459	\$13,207,094	\$10,509,963	238
<b>TOTAL</b>	<b>\$779,191,350</b>	<b>\$274,523,698</b>	<b>\$154,047,477</b>	<b>2,227</b>

Source: US Multi-Regional Impact Assessment System, The Perryman Group

Note: Includes (1) drilling, exploration, and production; (2) royalty and lease payments; and (3) pipeline maintenance and operations.

## Estimated Cumulative Impact (2001-2013) of All Major Sources of Stimulus Associated with the Barnett Shale on Business Activity in Denton County

Sector	Total Expenditures <i>(2013 Dollars)</i>	Real Gross Product <i>(2013 Dollars)</i>	Personal Income <i>(2013 Dollars)</i>	Employment <i>(Person-Years)</i>
Agriculture	\$198,962,202	\$54,982,691	\$37,362,111	580
Mining	\$3,315,781,951	\$726,943,309	\$335,371,615	1,601
Construction	\$2,426,079,623	\$1,136,587,490	\$936,618,838	12,845
Nondurable Manufacturing	\$872,195,766	\$258,400,157	\$135,040,797	2,241
Durable Manufacturing	\$597,235,908	\$244,120,230	\$154,520,595	2,279
Transportation and Utilities	\$792,308,830	\$272,937,626	\$153,151,182	1,593
Information	\$277,193,685	\$170,756,247	\$73,606,735	664
Wholesale Trade	\$491,007,475	\$332,202,007	\$191,550,643	2,086
Retail Trade	\$1,967,791,962	\$1,476,937,642	\$858,667,564	25,557
Finance, Insurance, and Real Estate	\$1,890,901,204	\$444,861,389	\$141,975,771	1,369
Business Services	\$654,680,151	\$408,599,248	\$333,312,280	3,947
Health Services	\$436,398,081	\$306,253,525	\$258,940,176	4,162
Other Services	\$788,190,798	\$399,557,895	\$319,221,529	6,858
<b>TOTAL</b>	<b>\$14,708,727,638</b>	<b>\$6,233,139,455</b>	<b>\$3,929,339,836</b>	<b>65,782</b>

Source: US Multi-Regional Impact Assessment System, The Perryman Group

Note: Includes (1) drilling, exploration, and production; (2) royalty and lease payments; and (3) pipeline maintenance and operations.

## Estimated Cumulative Impact (2001-2013) of All Major Sources of Stimulus Associated with the Barnett Shale on Business Activity in Eastland County

Sector	Total Expenditures <i>(2013 Dollars)</i>	Real Gross Product <i>(2013 Dollars)</i>	Personal Income <i>(2013 Dollars)</i>	Employment <i>(Person-Years)</i>
Agriculture	\$18,954,502	\$5,245,876	\$3,572,733	57
Mining	\$504,992,228	\$110,900,246	\$51,210,461	246
Construction	\$254,586,129	\$120,044,429	\$98,924,084	1,373
Nondurable Manufacturing	\$71,536,243	\$24,484,708	\$13,338,938	261
Durable Manufacturing	\$35,567,850	\$12,800,871	\$9,057,776	125
Transportation and Utilities	\$162,747,574	\$44,859,811	\$25,911,678	340
Information	\$8,677,229	\$5,349,984	\$2,327,004	23
Wholesale Trade	\$25,581,320	\$17,304,505	\$9,977,931	113
Retail Trade	\$160,786,123	\$120,258,702	\$69,838,261	2,155
Finance, Insurance, and Real Estate	\$97,093,299	\$23,548,355	\$9,297,833	94
Business Services	\$21,650,802	\$13,033,124	\$10,631,689	129
Health Services	\$32,076,035	\$22,457,977	\$18,988,427	315
Other Services	\$63,221,640	\$31,799,236	\$25,982,830	644
<b>TOTAL</b>	<b>\$1,457,470,975</b>	<b>\$552,087,827</b>	<b>\$349,059,646</b>	<b>5,876</b>

Source: US Multi-Regional Impact Assessment System, The Perryman Group

Note: Includes (1) drilling, exploration, and production; (2) royalty and lease payments; and (3) pipeline maintenance and operations.

## Estimated Cumulative Impact (2001-2013) of All Major Sources of Stimulus Associated with the Barnett Shale on Business Activity in Ellis County

Sector	Total Expenditures <i>(2013 Dollars)</i>	Real Gross Product <i>(2013 Dollars)</i>	Personal Income <i>(2013 Dollars)</i>	Employment <i>(Person-Years)</i>
Agriculture	\$3,840,376	\$1,132,195	\$742,181	11
Mining	\$143,401,359	\$31,468,541	\$14,523,572	70
Construction	\$25,692,984	\$12,769,573	\$10,522,924	145
Nondurable Manufacturing	\$16,563,222	\$4,718,180	\$2,474,144	38
Durable Manufacturing	\$12,081,069	\$4,733,778	\$3,107,051	44
Transportation and Utilities	\$17,614,275	\$6,529,762	\$3,866,089	46
Information	\$3,509,589	\$2,163,164	\$934,322	9
Wholesale Trade	\$4,210,906	\$2,847,118	\$1,641,674	18
Retail Trade	\$36,055,997	\$27,102,463	\$15,762,427	470
Finance, Insurance, and Real Estate	\$32,273,464	\$7,752,671	\$2,140,930	20
Business Services	\$4,355,989	\$2,514,406	\$2,051,111	24
Health Services	\$6,396,982	\$4,502,562	\$3,806,958	61
Other Services	\$13,829,726	\$7,012,595	\$5,657,697	128
<b>TOTAL</b>	<b>\$319,825,937</b>	<b>\$115,247,007</b>	<b>\$67,231,080</b>	<b>1,085</b>

Source: US Multi-Regional Impact Assessment System, The Perryman Group

Note: Includes (1) drilling, exploration, and production; (2) royalty and lease payments; and (3) pipeline maintenance and operations.

## Estimated Cumulative Impact (2001-2013) of All Major Sources of Stimulus Associated with the Barnett Shale on Business Activity in Erath County

Sector	Total Expenditures <i>(2013 Dollars)</i>	Real Gross Product <i>(2013 Dollars)</i>	Personal Income <i>(2013 Dollars)</i>	Employment <i>(Person-Years)</i>
Agriculture	\$13,176,375	\$3,656,467	\$2,490,258	39
Mining	\$662,051,715	\$145,382,052	\$67,408,288	324
Construction	\$99,964,935	\$49,990,119	\$41,194,972	568
Nondurable Manufacturing	\$427,561	\$214,549	\$140,040	2
Durable Manufacturing	\$3,692,129	\$1,640,974	\$1,079,187	13
Transportation and Utilities	\$54,369,971	\$21,303,330	\$13,047,960	167
Information	\$10,520,762	\$6,493,768	\$2,793,624	25
Wholesale Trade	\$33,561,961	\$22,688,455	\$13,082,366	144
Retail Trade	\$105,851,009	\$78,209,506	\$45,244,353	1,390
Finance, Insurance, and Real Estate	\$114,663,746	\$30,246,547	\$7,604,998	69
Business Services	\$11,003,028	\$6,273,457	\$5,117,535	61
Health Services	\$16,330,455	\$11,500,934	\$9,724,145	157
Other Services	\$44,351,999	\$22,533,431	\$18,458,366	435
<b>TOTAL</b>	<b>\$1,169,965,645</b>	<b>\$400,133,590</b>	<b>\$227,386,093</b>	<b>3,393</b>

Source: US Multi-Regional Impact Assessment System, The Perryman Group

Note: Includes (1) drilling, exploration, and production; (2) royalty and lease payments; and (3) pipeline maintenance and operations.



## Estimated Cumulative Impact (2001-2013) of All Major Sources of Stimulus Associated with the Barnett Shale on Business Activity in Hamilton County

Sector	Total Expenditures <i>(2013 Dollars)</i>	Real Gross Product <i>(2013 Dollars)</i>	Personal Income <i>(2013 Dollars)</i>	Employment <i>(Person-Years)</i>
Agriculture	\$561,931	\$167,142	\$109,451	2
Mining	\$33,266,380	\$7,293,663	\$3,366,584	16
Construction	\$2,651,057	\$1,431,263	\$1,179,450	16
Nondurable Manufacturing	\$1,321,046	\$342,129	\$179,420	3
Durable Manufacturing	\$885,053	\$345,429	\$232,761	3
Transportation and Utilities	\$2,855,251	\$913,404	\$492,261	5
Information	\$391,467	\$241,534	\$104,117	1
Wholesale Trade	\$795,916	\$537,860	\$310,135	3
Retail Trade	\$4,790,104	\$3,568,683	\$2,069,551	62
Finance, Insurance, and Real Estate	\$4,216,804	\$1,155,598	\$332,477	3
Business Services	\$408,814	\$225,729	\$184,137	2
Health Services	\$1,085,845	\$758,769	\$641,546	10
Other Services	\$1,857,293	\$936,743	\$761,946	17
<b>TOTAL</b>	<b>\$55,086,962</b>	<b>\$17,917,944</b>	<b>\$9,963,835</b>	<b>144</b>

Source: US Multi-Regional Impact Assessment System, The Perryman Group

Note: Includes (1) drilling, exploration, and production; (2) royalty and lease payments; and (3) pipeline maintenance and operations.

## Estimated Cumulative Impact (2001-2013) of All Major Sources of Stimulus Associated with the Barnett Shale on Business Activity in Hill County

Sector	Total Expenditures <i>(2013 Dollars)</i>	Real Gross Product <i>(2013 Dollars)</i>	Personal Income <i>(2013 Dollars)</i>	Employment <i>(Person-Years)</i>
Agriculture	\$15,534,420	\$4,527,660	\$2,979,596	48
Mining	\$167,213,310	\$36,828,356	\$17,031,500	83
Construction	\$207,192,307	\$96,538,406	\$79,553,662	1,110
Nondurable Manufacturing	\$29,909,575	\$10,765,923	\$5,762,275	123
Durable Manufacturing	\$51,649,235	\$19,767,252	\$12,841,100	209
Transportation and Utilities	\$155,752,390	\$41,395,772	\$24,255,464	338
Information	\$8,473,873	\$5,213,659	\$2,281,359	23
Wholesale Trade	\$16,486,530	\$11,155,662	\$6,432,455	74
Retail Trade	\$142,590,671	\$106,999,869	\$62,206,128	1,926
Finance, Insurance, and Real Estate	\$138,495,287	\$31,104,286	\$9,470,251	95
Business Services	\$15,782,335	\$9,359,588	\$7,635,030	93
Health Services	\$32,400,481	\$22,705,337	\$19,197,574	322
Other Services	\$60,071,840	\$30,692,897	\$24,662,589	596
<b>TOTAL</b>	<b>\$1,041,552,253</b>	<b>\$427,054,668</b>	<b>\$274,308,984</b>	<b>5,040</b>

Source: US Multi-Regional Impact Assessment System, The Perryman Group

Note: Includes (1) drilling, exploration, and production; (2) royalty and lease payments; and (3) pipeline maintenance and operations.

## Estimated Cumulative Impact (2001-2013) of All Major Sources of Stimulus Associated with the Barnett Shale on Business Activity in Hood County

Sector	Total Expenditures <i>(2013 Dollars)</i>	Real Gross Product <i>(2013 Dollars)</i>	Personal Income <i>(2013 Dollars)</i>	Employment <i>(Person-Years)</i>
Agriculture	\$46,671,543	\$12,904,902	\$8,782,512	138
Mining	\$1,185,670,361	\$259,854,880	\$119,844,757	572
Construction	\$519,584,857	\$246,616,965	\$203,227,741	2,808
Nondurable Manufacturing	\$61,947,558	\$18,707,656	\$11,048,500	166
Durable Manufacturing	\$32,126,564	\$14,930,721	\$8,794,022	124
Transportation and Utilities	\$307,803,454	\$87,193,454	\$48,707,082	570
Information	\$28,743,453	\$17,675,732	\$7,727,744	75
Wholesale Trade	\$34,249,284	\$23,166,607	\$13,358,081	149
Retail Trade	\$435,707,750	\$326,420,870	\$189,660,494	5,742
Finance, Insurance, and Real Estate	\$519,264,121	\$140,056,236	\$44,023,112	430
Business Services	\$133,472,784	\$82,520,207	\$67,315,347	806
Health Services	\$98,285,529	\$68,856,825	\$58,219,090	950
Other Services	\$182,589,307	\$92,704,460	\$74,092,060	1,676
<b>TOTAL</b>	<b>\$3,586,116,565</b>	<b>\$1,391,609,515</b>	<b>\$854,800,542</b>	<b>14,206</b>

Source: US Multi-Regional Impact Assessment System, The Perryman Group

Note: Includes (1) drilling, exploration, and production; (2) royalty and lease payments; and (3) pipeline maintenance and operations.

## Estimated Cumulative Impact (2001-2013) of All Major Sources of Stimulus Associated with the Barnett Shale on Business Activity in Jack County

Sector	Total Expenditures <i>(2013 Dollars)</i>	Real Gross Product <i>(2013 Dollars)</i>	Personal Income <i>(2013 Dollars)</i>	Employment <i>(Person-Years)</i>
Agriculture	\$38,418,169	\$10,630,612	\$7,240,035	114
Mining	\$1,248,905,195	\$274,151,672	\$126,560,533	607
Construction	\$402,706,837	\$189,387,947	\$156,067,465	2,149
Nondurable Manufacturing	\$16,120,011	\$2,825,479	\$1,344,230	11
Durable Manufacturing	\$72,975,846	\$28,656,500	\$18,610,422	295
Transportation and Utilities	\$262,968,206	\$89,911,873	\$52,970,119	648
Information	\$16,178,966	\$9,986,080	\$4,343,784	41
Wholesale Trade	\$33,555,466	\$22,695,019	\$13,086,147	145
Retail Trade	\$326,074,687	\$243,283,690	\$141,173,562	4,293
Finance, Insurance, and Real Estate	\$287,710,209	\$74,880,810	\$25,136,994	234
Business Services	\$148,160,530	\$92,200,279	\$75,211,802	898
Health Services	\$42,407,256	\$29,962,673	\$25,333,715	412
Other Services	\$133,694,077	\$67,893,049	\$55,375,564	1,314
<b>TOTAL</b>	<b>\$3,029,875,454</b>	<b>\$1,136,465,684</b>	<b>\$702,454,372</b>	<b>11,162</b>

Source: US Multi-Regional Impact Assessment System, The Perryman Group

Note: Includes (1) drilling, exploration, and production; (2) royalty and lease payments; and (3) pipeline maintenance and operations.

## Estimated Cumulative Impact (2001-2013) of All Major Sources of Stimulus Associated with the Barnett Shale on Business Activity in Johnson County

Sector	Total Expenditures <i>(2013 Dollars)</i>	Real Gross Product <i>(2013 Dollars)</i>	Personal Income <i>(2013 Dollars)</i>	Employment <i>(Person-Years)</i>
Agriculture	\$126,454,131	\$35,085,011	\$23,728,994	368
Mining	\$2,126,703,697	\$467,098,845	\$215,682,640	1,035
Construction	\$781,811,242	\$376,776,688	\$310,487,458	4,257
Nondurable Manufacturing	\$422,701,161	\$132,932,127	\$70,555,722	1,181
Durable Manufacturing	\$269,940,532	\$107,232,672	\$69,239,855	1,010
Transportation and Utilities	\$547,827,960	\$219,639,231	\$128,908,715	1,442
Information	\$100,745,748	\$62,222,184	\$26,927,683	247
Wholesale Trade	\$199,393,017	\$134,880,471	\$77,773,288	846
Retail Trade	\$1,476,951,238	\$1,111,148,879	\$646,475,171	19,152
Finance, Insurance, and Real Estate	\$996,282,282	\$180,961,178	\$61,307,869	582
Business Services	\$193,775,876	\$113,348,103	\$92,463,004	1,094
Health Services	\$302,858,232	\$213,514,571	\$180,528,549	2,899
Other Services	\$530,867,975	\$273,545,966	\$219,580,096	4,744
<b>TOTAL</b>	<b>\$8,076,313,091</b>	<b>\$3,428,385,926</b>	<b>\$2,123,659,044</b>	<b>38,857</b>

Source: US Multi-Regional Impact Assessment System, The Perryman Group

Note: Includes (1) drilling, exploration, and production; (2) royalty and lease payments; and (3) pipeline maintenance and operations.

## Estimated Cumulative Impact (2001-2013) of All Major Sources of Stimulus Associated with the Barnett Shale on Business Activity in Montague County

Sector	Total Expenditures <i>(2013 Dollars)</i>	Real Gross Product <i>(2013 Dollars)</i>	Personal Income <i>(2013 Dollars)</i>	Employment <i>(Person-Years)</i>
Agriculture	\$47,572,606	\$13,842,438	\$9,064,464	140
Mining	\$385,684,806	\$85,187,118	\$40,473,424	198
Construction	\$70,494,989	\$36,762,632	\$30,294,700	418
Nondurable Manufacturing	\$51,331,258	\$25,909,165	\$15,095,635	310
Durable Manufacturing	\$23,978,612	\$9,950,407	\$6,591,853	93
Transportation and Utilities	\$236,656,953	\$85,117,290	\$48,505,671	521
Information	\$42,517,629	\$26,265,195	\$11,392,492	106
Wholesale Trade	\$21,082,470	\$14,263,266	\$8,224,325	90
Retail Trade	\$629,895,319	\$473,632,981	\$275,533,174	8,176
Finance, Insurance, and Real Estate	\$501,542,339	\$87,551,711	\$27,802,710	263
Business Services	\$42,986,946	\$22,516,835	\$18,367,966	218
Health Services	\$124,588,972	\$88,191,063	\$74,566,362	1,199
Other Services	\$223,739,305	\$116,469,509	\$92,718,435	1,973
<b>TOTAL</b>	<b>\$2,402,072,205</b>	<b>\$1,085,659,612</b>	<b>\$658,631,210</b>	<b>13,703</b>

Source: US Multi-Regional Impact Assessment System, The Perryman Group

Note: Includes (1) drilling, exploration, and production; (2) royalty and lease payments; and (3) pipeline maintenance and operations.

## Estimated Cumulative Impact (2001-2013) of All Major Sources of Stimulus Associated with the Barnett Shale on Business Activity in Palo Pinto County

Sector	Total Expenditures <i>(2013 Dollars)</i>	Real Gross Product <i>(2013 Dollars)</i>	Personal Income <i>(2013 Dollars)</i>	Employment <i>(Person-Years)</i>
Agriculture	\$11,621,401	\$3,476,029	\$2,254,414	36
Mining	\$505,252,130	\$111,070,335	\$51,317,725	247
Construction	\$376,933,418	\$175,329,256	\$144,482,232	2,005
Nondurable Manufacturing	\$90,149,113	\$29,516,580	\$15,588,314	285
Durable Manufacturing	\$88,649,205	\$36,341,277	\$23,084,133	367
Transportation and Utilities	\$284,402,444	\$78,936,847	\$46,283,523	630
Information	\$18,319,885	\$11,290,299	\$4,901,904	47
Wholesale Trade	\$30,578,901	\$20,688,837	\$11,929,370	136
Retail Trade	\$264,834,033	\$198,482,550	\$115,343,389	3,564
Finance, Insurance, and Real Estate	\$274,499,221	\$64,533,132	\$18,223,389	174
Business Services	\$100,022,560	\$62,756,002	\$51,192,815	621
Health Services	\$49,691,114	\$34,884,646	\$29,495,288	491
Other Services	\$109,513,021	\$55,853,208	\$45,215,603	1,093
<b>TOTAL</b>	<b>\$2,204,466,445</b>	<b>\$883,158,997</b>	<b>\$559,312,098</b>	<b>9,698</b>

Source: US Multi-Regional Impact Assessment System, The Perryman Group

Note: Includes (1) drilling, exploration, and production; (2) royalty and lease payments; and (3) pipeline maintenance and operations.

## Estimated Cumulative Impact (2001-2013) of All Major Sources of Stimulus Associated with the Barnett Shale on Business Activity in Parker County

Sector	Total Expenditures <i>(2013 Dollars)</i>	Real Gross Product <i>(2013 Dollars)</i>	Personal Income <i>(2013 Dollars)</i>	Employment <i>(Person-Years)</i>
Agriculture	\$117,823,620	\$32,565,051	\$22,171,980	350
Mining	\$3,110,631,831	\$683,150,651	\$315,570,650	1,515
Construction	\$1,333,842,909	\$633,001,466	\$521,632,625	7,206
Nondurable Manufacturing	\$328,417,272	\$99,767,844	\$53,565,556	956
Durable Manufacturing	\$352,025,878	\$140,801,336	\$90,869,540	1,373
Transportation and Utilities	\$774,963,415	\$262,932,460	\$156,684,878	1,987
Information	\$64,764,798	\$39,812,983	\$17,453,274	172
Wholesale Trade	\$189,253,097	\$128,012,220	\$73,812,995	820
Retail Trade	\$1,087,926,485	\$814,766,131	\$473,352,410	14,346
Finance, Insurance, and Real Estate	\$1,308,707,863	\$354,853,281	\$110,823,900	1,081
Business Services	\$305,866,059	\$188,667,161	\$153,904,047	1,844
Health Services	\$178,631,350	\$125,722,851	\$106,299,853	1,733
Other Services	\$462,024,844	\$236,174,694	\$189,443,889	4,452
<b>TOTAL</b>	<b>\$9,614,879,421</b>	<b>\$3,740,228,127</b>	<b>\$2,285,585,598</b>	<b>37,834</b>

Source: US Multi-Regional Impact Assessment System, The Perryman Group

Note: Includes (1) drilling, exploration, and production; (2) royalty and lease payments; and (3) pipeline maintenance and operations.



## Estimated Cumulative Impact (2001-2013) of All Major Sources of Stimulus Associated with the Barnett Shale on Business Activity in Shackelford County

Sector	Total Expenditures <i>(2013 Dollars)</i>	Real Gross Product <i>(2013 Dollars)</i>	Personal Income <i>(2013 Dollars)</i>	Employment <i>(Person-Years)</i>
Agriculture	\$367,491	\$422,724	\$156,783	2
Mining	\$860,447,643	\$188,805,965	\$87,139,203	417
Construction	\$152,721,063	\$71,472,360	\$58,897,676	807
Nondurable Manufacturing	\$9,071,906	\$3,103,186	\$1,888,359	28
Durable Manufacturing	\$4,480,496	\$1,890,436	\$1,338,594	14
Transportation and Utilities	\$60,016,131	\$23,384,267	\$13,602,411	149
Information	\$8,638,427	\$5,313,531	\$2,317,998	22
Wholesale Trade	\$5,286,161	\$3,574,160	\$2,060,891	22
Retail Trade	\$107,637,985	\$81,075,098	\$47,179,972	1,396
Finance, Insurance, and Real Estate	\$102,090,421	\$28,451,595	\$10,049,759	91
Business Services	\$18,644,801	\$11,092,990	\$9,049,035	107
Health Services	\$18,616,771	\$13,089,579	\$11,067,357	177
Other Services	\$56,662,457	\$28,268,607	\$23,061,130	565
<b>TOTAL</b>	<b>\$1,404,681,753</b>	<b>\$459,944,497</b>	<b>\$267,809,170</b>	<b>3,797</b>

Source: US Multi-Regional Impact Assessment System, The Perryman Group

Note: Includes (1) drilling, exploration, and production; (2) royalty and lease payments; and (3) pipeline maintenance and operations.

## Estimated Cumulative Impact (2001-2013) of All Major Sources of Stimulus Associated with the Barnett Shale on Business Activity in Somervell County

Sector	Total Expenditures <i>(2013 Dollars)</i>	Real Gross Product <i>(2013 Dollars)</i>	Personal Income <i>(2013 Dollars)</i>	Employment <i>(Person-Years)</i>
Agriculture	\$222,015	\$159,864	\$69,278	1
Mining	\$283,536,025	\$62,199,287	\$28,701,326	137
Construction	\$14,377,879	\$7,492,744	\$6,174,488	85
Nondurable Manufacturing	\$1,566,608	\$695,888	\$405,734	8
Durable Manufacturing	\$2,273,761	\$1,023,875	\$579,921	10
Transportation and Utilities	\$23,231,348	\$6,704,868	\$3,437,135	28
Information	\$1,868,950	\$1,151,360	\$504,792	5
Wholesale Trade	\$660,506	\$446,392	\$257,394	3
Retail Trade	\$31,232,252	\$23,226,349	\$13,464,334	406
Finance, Insurance, and Real Estate	\$40,552,400	\$9,894,822	\$1,872,199	16
Business Services	\$12,275,411	\$7,218,810	\$5,888,699	70
Health Services	\$7,410,919	\$5,204,825	\$4,400,727	71
Other Services	\$17,119,215	\$8,541,702	\$6,876,990	147
<b>TOTAL</b>	<b>\$436,327,288</b>	<b>\$133,960,787</b>	<b>\$72,633,018</b>	<b>987</b>

Source: US Multi-Regional Impact Assessment System, The Perryman Group

Note: Includes (1) drilling, exploration, and production; (2) royalty and lease payments; and (3) pipeline maintenance and operations.

## Estimated Cumulative Impact (2001-2013) of All Major Sources of Stimulus Associated with the Barnett Shale on Business Activity in Stephens County

Sector	Total Expenditures <i>(2013 Dollars)</i>	Real Gross Product <i>(2013 Dollars)</i>	Personal Income <i>(2013 Dollars)</i>	Employment <i>(Person-Years)</i>
Agriculture	\$584,656	\$681,682	\$252,826	3
Mining	\$1,395,525,368	\$306,105,850	\$141,829,656	679
Construction	\$172,197,234	\$83,478,134	\$68,791,180	944
Nondurable Manufacturing	\$11,285,364	\$5,176,703	\$3,306,243	54
Durable Manufacturing	\$53,054,401	\$22,209,554	\$14,430,894	199
Transportation and Utilities	\$101,521,002	\$37,998,640	\$22,368,722	260
Information	\$28,831,692	\$17,771,377	\$7,654,140	69
Wholesale Trade	\$13,746,405	\$9,292,987	\$5,358,420	58
Retail Trade	\$237,484,994	\$177,745,551	\$103,230,726	3,095
Finance, Insurance, and Real Estate	\$166,447,774	\$42,804,136	\$14,713,056	135
Business Services	\$40,427,876	\$23,927,539	\$19,518,743	232
Health Services	\$40,418,602	\$28,370,559	\$23,987,571	386
Other Services	\$88,753,835	\$44,357,358	\$36,243,297	878
<b>TOTAL</b>	<b>\$2,350,279,202</b>	<b>\$799,920,071</b>	<b>\$461,685,472</b>	<b>6,993</b>

Source: US Multi-Regional Impact Assessment System, The Perryman Group

Note: Includes (1) drilling, exploration, and production; (2) royalty and lease payments; and (3) pipeline maintenance and operations.

## Estimated Cumulative Impact (2001-2013) of All Major Sources of Stimulus Associated with the Barnett Shale on Business Activity in Tarrant County

Sector	Total Expenditures <i>(2013 Dollars)</i>	Real Gross Product <i>(2013 Dollars)</i>	Personal Income <i>(2013 Dollars)</i>	Employment <i>(Person-Years)</i>
Agriculture	\$742,624,406	\$212,664,347	\$142,219,898	2,209
Mining	\$112,344,267,260	\$24,630,761,540	\$11,362,911,280	54,257
Construction	\$13,109,074,115	\$6,701,445,457	\$5,522,408,281	75,742
Nondurable Manufacturing	\$11,594,645,492	\$3,406,441,419	\$1,792,235,225	29,038
Durable Manufacturing	\$6,710,737,974	\$2,629,613,345	\$1,723,922,469	23,983
Transportation and Utilities	\$7,541,471,981	\$3,351,752,702	\$2,042,618,630	24,478
Information	\$2,103,256,101	\$1,294,245,055	\$560,116,094	5,149
Wholesale Trade	\$4,721,041,306	\$3,191,057,007	\$1,839,991,640	20,035
Retail Trade	\$18,147,486,157	\$13,531,394,234	\$7,849,487,789	236,238
Finance, Insurance, and Real Estate	\$25,130,548,657	\$7,788,064,663	\$2,360,686,703	22,865
Business Services	\$5,118,689,252	\$3,046,301,765	\$2,485,001,611	29,417
Health Services	\$4,126,804,631	\$2,884,789,122	\$2,439,115,789	39,197
Other Services	\$7,396,766,586	\$3,762,838,128	\$3,008,193,336	67,543
<b>TOTAL</b>	<b>\$218,787,413,918</b>	<b>\$76,431,368,785</b>	<b>\$43,128,908,743</b>	<b>630,152</b>

Source: US Multi-Regional Impact Assessment System, The Perryman Group

Note: Includes (1) drilling, exploration, and production; (2) royalty and lease payments; and (3) pipeline maintenance and operations.

## Estimated Cumulative Impact (2001-2013) of All Major Sources of Stimulus Associated with the Barnett Shale on Business Activity in Wise County

Sector	Total Expenditures <i>(2013 Dollars)</i>	Real Gross Product <i>(2013 Dollars)</i>	Personal Income <i>(2013 Dollars)</i>	Employment <i>(Person-Years)</i>
Agriculture	\$416,013,149	\$121,207,295	\$79,801,648	1,226
Mining	\$6,342,397,473	\$1,398,156,542	\$655,160,476	3,186
Construction	\$6,374,570,694	\$2,961,827,093	\$2,440,729,963	33,499
Nondurable Manufacturing	\$200,554,654	\$95,733,680	\$55,082,553	1,121
Durable Manufacturing	\$1,380,849,214	\$566,049,177	\$353,728,788	5,324
Transportation and Utilities	\$1,942,655,250	\$780,809,411	\$467,934,419	5,565
Information	\$316,360,134	\$194,643,746	\$84,646,493	796
Wholesale Trade	\$631,353,864	\$427,211,152	\$246,333,737	2,689
Retail Trade	\$3,660,821,934	\$2,744,861,741	\$1,595,330,266	47,680
Finance, Insurance, and Real Estate	\$2,613,081,114	\$594,346,888	\$217,627,512	2,085
Business Services	\$810,322,375	\$502,911,544	\$410,246,933	4,860
Health Services	\$612,299,849	\$430,638,891	\$364,109,117	5,864
Other Services	\$1,572,058,994	\$796,667,950	\$637,734,130	14,325
<b>TOTAL</b>	<b>\$26,873,338,699</b>	<b>\$11,615,065,110</b>	<b>\$7,608,466,033</b>	<b>128,220</b>

Source: US Multi-Regional Impact Assessment System, The Perryman Group

Note: Includes (1) drilling, exploration, and production; (2) royalty and lease payments; and (3) pipeline maintenance and operations.

## Estimated Cumulative Impact (2001-2013) of All Major Sources of Stimulus Associated with the Barnett Shale on Business Activity in Young County

Sector	Total Expenditures <i>(2013 Dollars)</i>	Real Gross Product <i>(2013 Dollars)</i>	Personal Income <i>(2013 Dollars)</i>	Employment <i>(Person-Years)</i>
Agriculture	\$14,402,034	\$4,021,214	\$2,728,573	42
Mining	\$1,055,711,395	\$231,660,813	\$106,920,432	512
Construction	\$226,408,791	\$108,186,436	\$89,152,361	1,223
Nondurable Manufacturing	\$23,825,110	\$9,226,343	\$5,384,488	89
Durable Manufacturing	\$81,307,356	\$31,987,584	\$21,016,191	300
Transportation and Utilities	\$118,430,762	\$37,553,017	\$20,470,478	202
Information	\$26,690,416	\$16,457,448	\$7,076,041	63
Wholesale Trade	\$25,497,138	\$17,240,290	\$9,940,906	108
Retail Trade	\$190,987,943	\$142,205,998	\$82,460,803	2,491
Finance, Insurance, and Real Estate	\$140,963,381	\$39,233,282	\$14,566,930	137
Business Services	\$28,883,536	\$17,255,750	\$14,076,270	167
Health Services	\$35,782,896	\$25,052,080	\$21,181,764	341
Other Services	\$80,052,598	\$40,716,803	\$33,217,265	784
<b>TOTAL</b>	<b>\$2,048,943,357</b>	<b>\$720,797,058</b>	<b>\$428,192,503</b>	<b>6,458</b>

Source: US Multi-Regional Impact Assessment System, The Perryman Group

Note: Includes (1) drilling, exploration, and production; (2) royalty and lease payments; and (3) pipeline maintenance and operations.

## **Projected 10-Year Impact (2014-2023)**

## Projected 10-Year Impact (2014-2023) of All Major Sources of Stimulus Associated with the Barnett Shale on Business Activity in Archer County

Sector	Total Expenditures <i>(2013 Dollars)</i>	Real Gross Product <i>(2013 Dollars)</i>	Personal Income <i>(2013 Dollars)</i>	Employment <i>(Person-Years)</i>
Agriculture	\$1,326,681	\$368,028	\$250,648	4
Mining	\$54,107,257	\$11,887,138	\$5,516,773	27
Construction	\$16,618,508	\$7,941,280	\$6,544,109	90
Nondurable Manufacturing	\$42,796	\$21,389	\$13,961	0
Durable Manufacturing	\$366,689	\$164,537	\$106,127	1
Transportation and Utilities	\$4,084,511	\$1,894,879	\$1,161,933	14
Information	\$995,977	\$614,842	\$264,364	2
Wholesale Trade	\$3,608,257	\$2,440,125	\$1,406,998	15
Retail Trade	\$9,699,258	\$7,153,604	\$4,136,164	126
Finance, Insurance, and Real Estate	\$10,305,600	\$2,725,354	\$713,358	6
Business Services	\$1,334,987	\$797,065	\$650,201	8
Health Services	\$1,504,422	\$1,057,132	\$893,815	14
Other Services	\$4,279,970	\$2,164,837	\$1,781,984	42
<b>TOTAL</b>	<b>\$108,274,914</b>	<b>\$39,230,211</b>	<b>\$23,440,435</b>	<b>350</b>

Source: US Multi-Regional Impact Assessment System, The Perryman Group

Note: Includes (1) drilling, exploration, and production; (2) royalty and lease payments; and (3) pipeline maintenance and operations. Assumes drilling activity over time responds to projected prices in the baseline forecast of the Energy Information Administration in a manner reflective of recent academic research (which understates the responsiveness that has been historically observed within the region). Assumes that established patterns of decline in individual well output (decline curves) will continue into the future and that new wells will follow similar production patterns to those presently observed in the area. Projected royalties are converted to 2013 dollars using projections of the Texas Consumer Price Index derived from the current baseline forecast from the Texas Econometric Model. Effects are fully adjusted for external ownership and leakages from the expenditure stream. Assumes that current annual patterns in pipeline and gathering system maintenance and operations are sufficient to accommodate the additional wells that are projected to be added in the future.



## Projected 10-Year Impact (2014-2023) of All Major Sources of Stimulus Associated with the Barnett Shale on Business Activity in Bosque County

Sector	Total Expenditures <i>(2013 Dollars)</i>	Real Gross Product <i>(2013 Dollars)</i>	Personal Income <i>(2013 Dollars)</i>	Employment <i>(Person-Years)</i>
Agriculture	\$1,325,370	\$393,859	\$258,146	4
Mining	\$77,129,762	\$16,904,216	\$7,796,204	37
Construction	\$8,557,228	\$4,416,386	\$3,639,377	50
Nondurable Manufacturing	\$3,968,823	\$1,252,877	\$650,754	12
Durable Manufacturing	\$2,199,240	\$902,861	\$597,209	8
Transportation and Utilities	\$6,884,152	\$2,520,737	\$1,435,454	15
Information	\$1,040,994	\$642,064	\$276,443	2
Wholesale Trade	\$2,064,674	\$1,395,403	\$804,602	9
Retail Trade	\$9,298,325	\$7,138,622	\$4,177,457	120
Finance, Insurance, and Real Estate	\$10,991,521	\$3,275,483	\$985,466	9
Business Services	\$1,071,840	\$609,153	\$496,913	6
Health Services	\$2,486,614	\$1,734,914	\$1,466,886	24
Other Services	\$4,319,320	\$2,195,430	\$1,796,867	42
<b>TOTAL</b>	<b>\$131,337,863</b>	<b>\$43,382,006</b>	<b>\$24,381,777</b>	<b>338</b>

Source: US Multi-Regional Impact Assessment System, The Perryman Group

Note: Includes (1) drilling, exploration, and production; (2) royalty and lease payments; and (3) pipeline maintenance and operations. Assumes drilling activity over time responds to projected prices in the baseline forecast of the Energy Information Administration in a manner reflective of recent academic research (which understates the responsiveness that has been historically observed within the region). Assumes that established patterns of decline in individual well output (decline curves) will continue into the future and that new wells will follow similar production patterns to those presently observed in the area. Projected royalties are converted to 2013 dollars using projections of the Texas Consumer Price Index derived from the current baseline forecast from the Texas Econometric Model. Effects are fully adjusted for external ownership and leakages from the expenditure stream. Assumes that current annual patterns in pipeline and gathering system maintenance and operations are sufficient to accommodate the additional wells that are projected to be added in the future.

## Projected 10-Year Impact (2014-2023) of All Major Sources of Stimulus Associated with the Barnett Shale on Business Activity in Clay County

Sector	Total Expenditures <i>(2013 Dollars)</i>	Real Gross Product <i>(2013 Dollars)</i>	Personal Income <i>(2013 Dollars)</i>	Employment <i>(Person-Years)</i>
Agriculture	\$3,450,552	\$959,952	\$653,780	10
Mining	\$210,723,731	\$46,182,840	\$21,299,470	102
Construction	\$21,215,948	\$11,047,050	\$9,103,457	125
Nondurable Manufacturing	\$7,799,967	\$2,325,733	\$1,205,140	22
Durable Manufacturing	\$7,137,143	\$2,826,315	\$1,909,303	26
Transportation and Utilities	\$17,545,841	\$6,651,069	\$3,834,708	41
Information	\$1,328,282	\$819,857	\$356,192	3
Wholesale Trade	\$5,013,281	\$3,388,127	\$1,953,624	21
Retail Trade	\$26,028,263	\$19,810,857	\$11,563,434	337
Finance, Insurance, and Real Estate	\$28,886,434	\$8,239,507	\$2,258,951	20
Business Services	\$10,311,296	\$6,126,013	\$4,997,257	59
Health Services	\$5,284,496	\$3,699,493	\$3,127,956	50
Other Services	\$11,550,720	\$5,875,252	\$4,806,643	113
<b>TOTAL</b>	<b>\$356,275,955</b>	<b>\$117,952,066</b>	<b>\$67,069,916</b>	<b>930</b>

Source: US Multi-Regional Impact Assessment System, The Perryman Group

Note: Includes (1) drilling, exploration, and production; (2) royalty and lease payments; and (3) pipeline maintenance and operations. Assumes drilling activity over time responds to projected prices in the baseline forecast of the Energy Information Administration in a manner reflective of recent academic research (which understates the responsiveness that has been historically observed within the region). Assumes that established patterns of decline in individual well output (decline curves) will continue into the future and that new wells will follow similar production patterns to those presently observed in the area. Projected royalties are converted to 2013 dollars using projections of the Texas Consumer Price Index derived from the current baseline forecast from the Texas Econometric Model. Effects are fully adjusted for external ownership and leakages from the expenditure stream. Assumes that current annual patterns in pipeline and gathering system maintenance and operations are sufficient to accommodate the additional wells that are projected to be added in the future.

## Projected 10-Year Impact (2014-2023) of All Major Sources of Stimulus Associated with the Barnett Shale on Business Activity in Comanche County

Sector	Total Expenditures <i>(2013 Dollars)</i>	Real Gross Product <i>(2013 Dollars)</i>	Personal Income <i>(2013 Dollars)</i>	Employment <i>(Person-Years)</i>
Agriculture	\$548,103	\$152,058	\$103,560	2
Mining	\$25,760,044	\$5,649,979	\$2,606,869	12
Construction	\$4,285,717	\$2,106,870	\$1,736,192	24
Nondurable Manufacturing	\$1,559,996	\$411,304	\$215,186	3
Durable Manufacturing	\$417,037	\$193,010	\$118,757	2
Transportation and Utilities	\$3,060,601	\$1,133,803	\$647,963	7
Information	\$630,648	\$389,025	\$167,060	1
Wholesale Trade	\$909,564	\$614,915	\$354,565	4
Retail Trade	\$4,475,269	\$3,384,996	\$1,972,239	58
Finance, Insurance, and Real Estate	\$3,793,078	\$1,054,313	\$375,262	4
Business Services	\$541,865	\$314,477	\$256,533	3
Health Services	\$1,091,376	\$762,786	\$644,942	10
Other Services	\$1,851,342	\$940,387	\$769,336	18
<b>TOTAL</b>	<b>\$48,924,639</b>	<b>\$17,107,922</b>	<b>\$9,968,464</b>	<b>148</b>

Source: US Multi-Regional Impact Assessment System, The Perryman Group

Note: Includes (1) drilling, exploration, and production; (2) royalty and lease payments; and (3) pipeline maintenance and operations. Assumes drilling activity over time responds to projected prices in the baseline forecast of the Energy Information Administration in a manner reflective of recent academic research (which understates the responsiveness that has been historically observed within the region). Assumes that established patterns of decline in individual well output (decline curves) will continue into the future and that new wells will follow similar production patterns to those presently observed in the area. Projected royalties are converted to 2013 dollars using projections of the Texas Consumer Price Index derived from the current baseline forecast from the Texas Econometric Model. Effects are fully adjusted for external ownership and leakages from the expenditure stream. Assumes that current annual patterns in pipeline and gathering system maintenance and operations are sufficient to accommodate the additional wells that are projected to be added in the future.

## Projected 10-Year Impact (2014-2023) of All Major Sources of Stimulus Associated with the Barnett Shale on Business Activity in Cooke County

Sector	Total Expenditures <i>(2013 Dollars)</i>	Real Gross Product <i>(2013 Dollars)</i>	Personal Income <i>(2013 Dollars)</i>	Employment <i>(Person-Years)</i>
Agriculture	\$21,680,881	\$6,501,856	\$4,218,504	65
Mining	\$910,444,924	\$199,933,032	\$92,424,300	443
Construction	\$370,544,971	\$173,078,959	\$142,627,844	1,956
Nondurable Manufacturing	\$115,380,130	\$32,573,839	\$17,662,101	281
Durable Manufacturing	\$121,074,356	\$45,502,848	\$30,292,654	452
Transportation and Utilities	\$119,165,089	\$51,954,941	\$31,569,544	378
Information	\$19,828,190	\$12,221,575	\$5,291,963	49
Wholesale Trade	\$33,296,803	\$22,522,393	\$12,986,609	141
Retail Trade	\$256,072,025	\$191,462,076	\$111,173,932	3,331
Finance, Insurance, and Real Estate	\$196,159,745	\$49,143,029	\$16,428,621	153
Business Services	\$136,489,662	\$85,699,150	\$69,908,546	828
Health Services	\$42,088,333	\$29,560,588	\$24,993,751	402
Other Services	\$105,131,644	\$53,381,103	\$43,415,010	1,022
<b>TOTAL</b>	<b>\$2,447,356,753</b>	<b>\$953,535,390</b>	<b>\$602,993,379</b>	<b>9,499</b>

Source: US Multi-Regional Impact Assessment System, The Perryman Group

Note: Includes (1) drilling, exploration, and production; (2) royalty and lease payments; and (3) pipeline maintenance and operations. Assumes drilling activity over time responds to projected prices in the baseline forecast of the Energy Information Administration in a manner reflective of recent academic research (which understates the responsiveness that has been historically observed within the region). Assumes that established patterns of decline in individual well output (decline curves) will continue into the future and that new wells will follow similar production patterns to those presently observed in the area. Projected royalties are converted to 2013 dollars using projections of the Texas Consumer Price Index derived from the current baseline forecast from the Texas Econometric Model. Effects are fully adjusted for external ownership and leakages from the expenditure stream. Assumes that current annual patterns in pipeline and gathering system maintenance and operations are sufficient to accommodate the additional wells that are projected to be added in the future.

## Projected 10-Year Impact (2014-2023) of All Major Sources of Stimulus Associated with the Barnett Shale on Business Activity in Dallas County

Sector	Total Expenditures <i>(2013 Dollars)</i>	Real Gross Product <i>(2013 Dollars)</i>	Personal Income <i>(2013 Dollars)</i>	Employment <i>(Person-Years)</i>
Agriculture	\$3,044,001	\$866,758	\$581,274	9
Mining	\$611,197,341	\$134,082,829	\$62,059,341	297
Construction	\$88,674,448	\$43,621,381	\$35,946,735	496
Nondurable Manufacturing	\$48,457,712	\$15,709,758	\$8,373,064	147
Durable Manufacturing	\$30,298,135	\$12,461,664	\$8,026,637	111
Transportation and Utilities	\$70,316,338	\$24,144,637	\$14,226,680	173
Information	\$17,026,605	\$10,481,640	\$4,521,851	41
Wholesale Trade	\$32,555,124	\$22,008,734	\$12,690,433	140
Retail Trade	\$98,609,818	\$73,361,245	\$42,530,190	1,297
Finance, Insurance, and Real Estate	\$170,349,789	\$53,146,524	\$16,257,201	160
Business Services	\$43,775,933	\$26,570,170	\$21,674,450	259
Health Services	\$20,833,360	\$14,601,592	\$12,345,781	200
Other Services	\$41,807,333	\$21,413,312	\$17,048,894	391
<b>TOTAL</b>	<b>\$1,276,945,938</b>	<b>\$452,470,245</b>	<b>\$256,282,531</b>	<b>3,721</b>

Source: US Multi-Regional Impact Assessment System, The Perryman Group

Note: Includes (1) drilling, exploration, and production; (2) royalty and lease payments; and (3) pipeline maintenance and operations. Assumes drilling activity over time responds to projected prices in the baseline forecast of the Energy Information Administration in a manner reflective of recent academic research (which understates the responsiveness that has been historically observed within the region). Assumes that established patterns of decline in individual well output (decline curves) will continue into the future and that new wells will follow similar production patterns to those presently observed in the area. Projected royalties are converted to 2013 dollars using projections of the Texas Consumer Price Index derived from the current baseline forecast from the Texas Econometric Model. Effects are fully adjusted for external ownership and leakages from the expenditure stream. Assumes that current annual patterns in pipeline and gathering system maintenance and operations are sufficient to accommodate the additional wells that are projected to be added in the future.

## Projected 10-Year Impact (2014-2023) of All Major Sources of Stimulus Associated with the Barnett Shale on Business Activity in Denton County

Sector	Total Expenditures <i>(2013 Dollars)</i>	Real Gross Product <i>(2013 Dollars)</i>	Personal Income <i>(2013 Dollars)</i>	Employment <i>(Person-Years)</i>
Agriculture	\$226,698,732	\$62,817,845	\$42,688,340	663
Mining	\$5,092,884,809	\$1,116,487,003	\$515,051,181	2,459
Construction	\$3,072,017,838	\$1,442,233,750	\$1,188,490,382	16,298
Nondurable Manufacturing	\$1,034,749,279	\$305,261,970	\$159,306,280	2,631
Durable Manufacturing	\$747,733,868	\$306,069,493	\$193,792,107	2,852
Transportation and Utilities	\$885,558,367	\$308,028,790	\$173,497,591	1,816
Information	\$305,577,794	\$188,251,748	\$81,129,429	731
Wholesale Trade	\$591,880,364	\$400,411,001	\$230,880,558	2,513
Retail Trade	\$2,042,660,897	\$1,529,808,426	\$888,782,713	26,549
Finance, Insurance, and Real Estate	\$2,180,344,296	\$563,216,366	\$175,321,924	1,682
Business Services	\$789,309,413	\$494,442,970	\$403,338,760	4,776
Health Services	\$469,735,824	\$328,798,116	\$278,001,830	4,468
Other Services	\$851,626,206	\$429,388,777	\$344,088,916	7,493
<b>TOTAL</b>	<b>\$18,290,777,685</b>	<b>\$7,475,216,256</b>	<b>\$4,674,370,010</b>	<b>74,930</b>

Source: US Multi-Regional Impact Assessment System, The Perryman Group

Note: Includes (1) drilling, exploration, and production; (2) royalty and lease payments; and (3) pipeline maintenance and operations. Assumes drilling activity over time responds to projected prices in the baseline forecast of the Energy Information Administration in a manner reflective of recent academic research (which understates the responsiveness that has been historically observed within the region). Assumes that established patterns of decline in individual well output (decline curves) will continue into the future and that new wells will follow similar production patterns to those presently observed in the area. Projected royalties are converted to 2013 dollars using projections of the Texas Consumer Price Index derived from the current baseline forecast from the Texas Econometric Model. Effects are fully adjusted for external ownership and leakages from the expenditure stream. Assumes that current annual patterns in pipeline and gathering system maintenance and operations are sufficient to accommodate the additional wells that are projected to be added in the future.

## Projected 10-Year Impact (2014-2023) of All Major Sources of Stimulus Associated with the Barnett Shale on Business Activity in Eastland County

Sector	Total Expenditures <i>(2013 Dollars)</i>	Real Gross Product <i>(2013 Dollars)</i>	Personal Income <i>(2013 Dollars)</i>	Employment <i>(Person-Years)</i>
Agriculture	\$17,945,563	\$4,971,056	\$3,385,565	54
Mining	\$531,612,894	\$116,728,924	\$53,896,841	259
Construction	\$244,841,417	\$115,647,435	\$95,300,686	1,320
Nondurable Manufacturing	\$68,146,468	\$23,317,377	\$12,703,246	247
Durable Manufacturing	\$34,708,343	\$12,517,088	\$8,859,282	122
Transportation and Utilities	\$145,038,062	\$40,553,117	\$23,317,984	300
Information	\$7,852,276	\$4,840,347	\$2,105,795	20
Wholesale Trade	\$24,547,911	\$16,604,608	\$9,574,365	108
Retail Trade	\$147,763,937	\$110,417,999	\$64,104,088	1,975
Finance, Insurance, and Real Estate	\$90,954,654	\$22,992,995	\$8,986,028	91
Business Services	\$20,472,550	\$12,357,283	\$10,080,376	122
Health Services	\$29,672,545	\$20,756,533	\$17,549,841	290
Other Services	\$58,681,375	\$29,465,215	\$24,115,720	599
<b>TOTAL</b>	<b>\$1,422,237,995</b>	<b>\$531,169,980</b>	<b>\$333,979,817</b>	<b>5,507</b>

Source: US Multi-Regional Impact Assessment System, The Perryman Group

Note: Includes (1) drilling, exploration, and production; (2) royalty and lease payments; and (3) pipeline maintenance and operations. Assumes drilling activity over time responds to projected prices in the baseline forecast of the Energy Information Administration in a manner reflective of recent academic research (which understates the responsiveness that has been historically observed within the region). Assumes that established patterns of decline in individual well output (decline curves) will continue into the future and that new wells will follow similar production patterns to those presently observed in the area. Projected royalties are converted to 2013 dollars using projections of the Texas Consumer Price Index derived from the current baseline forecast from the Texas Econometric Model. Effects are fully adjusted for external ownership and leakages from the expenditure stream. Assumes that current annual patterns in pipeline and gathering system maintenance and operations are sufficient to accommodate the additional wells that are projected to be added in the future.

## Projected 10-Year Impact (2014-2023) of All Major Sources of Stimulus Associated with the Barnett Shale on Business Activity in Ellis County

Sector	Total Expenditures <i>(2013 Dollars)</i>	Real Gross Product <i>(2013 Dollars)</i>	Personal Income <i>(2013 Dollars)</i>	Employment <i>(Person-Years)</i>
Agriculture	\$8,723,411	\$2,570,101	\$1,687,584	26
Mining	\$334,298,738	\$73,372,597	\$33,866,615	162
Construction	\$86,847,270	\$42,002,932	\$34,613,032	476
Nondurable Manufacturing	\$39,124,738	\$11,100,931	\$5,813,949	90
Durable Manufacturing	\$33,921,924	\$13,247,766	\$8,688,362	124
Transportation and Utilities	\$38,254,015	\$14,672,656	\$8,761,479	105
Information	\$7,357,442	\$4,534,145	\$1,958,024	18
Wholesale Trade	\$10,388,456	\$7,024,692	\$4,050,500	44
Retail Trade	\$72,530,665	\$54,435,222	\$31,642,899	946
Finance, Insurance, and Real Estate	\$69,135,483	\$17,995,909	\$5,030,335	48
Business Services	\$11,295,664	\$6,740,170	\$5,498,253	65
Health Services	\$13,128,263	\$9,210,239	\$7,787,343	126
Other Services	\$29,316,305	\$14,757,710	\$11,971,478	278
<b>TOTAL</b>	<b>\$754,322,375</b>	<b>\$271,665,071</b>	<b>\$161,369,853</b>	<b>2,508</b>

Source: US Multi-Regional Impact Assessment System, The Perryman Group

Note: Includes (1) drilling, exploration, and production; (2) royalty and lease payments; and (3) pipeline maintenance and operations. Assumes drilling activity over time responds to projected prices in the baseline forecast of the Energy Information Administration in a manner reflective of recent academic research (which understates the responsiveness that has been historically observed within the region). Assumes that established patterns of decline in individual well output (decline curves) will continue into the future and that new wells will follow similar production patterns to those presently observed in the area. Projected royalties are converted to 2013 dollars using projections of the Texas Consumer Price Index derived from the current baseline forecast from the Texas Econometric Model. Effects are fully adjusted for external ownership and leakages from the expenditure stream. Assumes that current annual patterns in pipeline and gathering system maintenance and operations are sufficient to accommodate the additional wells that are projected to be added in the future.



## Projected 10-Year Impact (2014-2023) of All Major Sources of Stimulus Associated with the Barnett Shale on Business Activity in Erath County

Sector	Total Expenditures <i>(2013 Dollars)</i>	Real Gross Product <i>(2013 Dollars)</i>	Personal Income <i>(2013 Dollars)</i>	Employment <i>(Person-Years)</i>
Agriculture	\$9,204,554	\$2,554,405	\$1,739,692	28
Mining	\$405,752,782	\$89,132,548	\$41,367,923	199
Construction	\$90,569,099	\$44,083,899	\$36,327,878	503
Nondurable Manufacturing	\$297,787	\$149,060	\$97,294	2
Durable Manufacturing	\$2,562,350	\$1,142,975	\$743,039	9
Transportation and Utilities	\$50,525,144	\$17,602,971	\$10,934,960	152
Information	\$7,143,028	\$4,409,107	\$1,896,302	17
Wholesale Trade	\$24,264,861	\$16,406,730	\$9,460,267	105
Retail Trade	\$70,510,098	\$52,054,518	\$30,106,647	937
Finance, Insurance, and Real Estate	\$75,077,101	\$19,763,654	\$5,113,392	47
Business Services	\$8,383,135	\$4,898,517	\$3,995,936	48
Health Services	\$10,908,771	\$7,674,031	\$6,488,463	106
Other Services	\$30,385,941	\$15,395,434	\$12,642,380	305
<b>TOTAL</b>	<b>\$785,584,651</b>	<b>\$275,267,849</b>	<b>\$160,914,173</b>	<b>2,459</b>

Source: US Multi-Regional Impact Assessment System, The Perryman Group

Note: Includes (1) drilling, exploration, and production; (2) royalty and lease payments; and (3) pipeline maintenance and operations. Assumes drilling activity over time responds to projected prices in the baseline forecast of the Energy Information Administration in a manner reflective of recent academic research (which understates the responsiveness that has been historically observed within the region). Assumes that established patterns of decline in individual well output (decline curves) will continue into the future and that new wells will follow similar production patterns to those presently observed in the area. Projected royalties are converted to 2013 dollars using projections of the Texas Consumer Price Index derived from the current baseline forecast from the Texas Econometric Model. Effects are fully adjusted for external ownership and leakages from the expenditure stream. Assumes that current annual patterns in pipeline and gathering system maintenance and operations are sufficient to accommodate the additional wells that are projected to be added in the future.

## Projected 10-Year Impact (2014-2023) of All Major Sources of Stimulus Associated with the Barnett Shale on Business Activity in Hamilton County

Sector	Total Expenditures <i>(2013 Dollars)</i>	Real Gross Product <i>(2013 Dollars)</i>	Personal Income <i>(2013 Dollars)</i>	Employment <i>(Person-Years)</i>
Agriculture	\$411,882	\$122,656	\$80,329	1
Mining	\$25,720,427	\$5,639,152	\$2,602,806	12
Construction	\$2,020,986	\$1,091,888	\$899,784	12
Nondurable Manufacturing	\$978,993	\$253,407	\$132,850	2
Durable Manufacturing	\$673,226	\$262,936	\$177,197	3
Transportation and Utilities	\$2,099,447	\$671,384	\$361,887	3
Information	\$277,599	\$171,265	\$73,811	1
Wholesale Trade	\$594,515	\$401,739	\$231,646	3
Retail Trade	\$3,382,142	\$2,516,487	\$1,458,735	44
Finance, Insurance, and Real Estate	\$3,082,162	\$874,806	\$250,508	2
Business Services	\$297,194	\$164,886	\$134,504	2
Health Services	\$777,447	\$542,645	\$458,811	7
Other Services	\$1,328,666	\$668,558	\$544,870	12
<b>TOTAL</b>	<b>\$41,644,685</b>	<b>\$13,381,810</b>	<b>\$7,407,738</b>	<b>105</b>

Source: US Multi-Regional Impact Assessment System, The Perryman Group

Note: Includes (1) drilling, exploration, and production; (2) royalty and lease payments; and (3) pipeline maintenance and operations. Assumes drilling activity over time responds to projected prices in the baseline forecast of the Energy Information Administration in a manner reflective of recent academic research (which understates the responsiveness that has been historically observed within the region). Assumes that established patterns of decline in individual well output (decline curves) will continue into the future and that new wells will follow similar production patterns to those presently observed in the area. Projected royalties are converted to 2013 dollars using projections of the Texas Consumer Price Index derived from the current baseline forecast from the Texas Econometric Model. Effects are fully adjusted for external ownership and leakages from the expenditure stream. Assumes that current annual patterns in pipeline and gathering system maintenance and operations are sufficient to accommodate the additional wells that are projected to be added in the future.

## Projected 10-Year Impact (2014-2023) of All Major Sources of Stimulus Associated with the Barnett Shale on Business Activity in Hill County

Sector	Total Expenditures <i>(2013 Dollars)</i>	Real Gross Product <i>(2013 Dollars)</i>	Personal Income <i>(2013 Dollars)</i>	Employment <i>(Person-Years)</i>
Agriculture	\$13,813,480	\$4,031,795	\$2,654,148	43
Mining	\$206,499,762	\$45,428,986	\$20,995,665	101
Construction	\$193,015,033	\$90,151,997	\$74,290,863	1,036
Nondurable Manufacturing	\$26,994,942	\$9,720,770	\$5,201,311	111
Durable Manufacturing	\$48,365,221	\$18,503,076	\$12,029,101	195
Transportation and Utilities	\$137,597,338	\$36,644,806	\$21,470,998	299
Information	\$6,969,629	\$4,285,465	\$1,877,333	19
Wholesale Trade	\$15,140,360	\$10,243,938	\$5,906,747	68
Retail Trade	\$119,657,543	\$89,663,224	\$52,103,213	1,620
Finance, Insurance, and Real Estate	\$125,609,874	\$30,271,192	\$8,981,300	90
Business Services	\$14,034,659	\$8,390,805	\$6,844,752	84
Health Services	\$27,815,503	\$19,460,393	\$16,453,944	276
Other Services	\$51,752,893	\$26,375,232	\$21,237,774	519
<b>TOTAL</b>	<b>\$987,266,237</b>	<b>\$393,171,680</b>	<b>\$250,047,148</b>	<b>4,459</b>

Source: US Multi-Regional Impact Assessment System, The Perryman Group

Note: Includes (1) drilling, exploration, and production; (2) royalty and lease payments; and (3) pipeline maintenance and operations. Assumes drilling activity over time responds to projected prices in the baseline forecast of the Energy Information Administration in a manner reflective of recent academic research (which understates the responsiveness that has been historically observed within the region). Assumes that established patterns of decline in individual well output (decline curves) will continue into the future and that new wells will follow similar production patterns to those presently observed in the area. Projected royalties are converted to 2013 dollars using projections of the Texas Consumer Price Index derived from the current baseline forecast from the Texas Econometric Model. Effects are fully adjusted for external ownership and leakages from the expenditure stream. Assumes that current annual patterns in pipeline and gathering system maintenance and operations are sufficient to accommodate the additional wells that are projected to be added in the future.

## Projected 10-Year Impact (2014-2023) of All Major Sources of Stimulus Associated with the Barnett Shale on Business Activity in Hood County

Sector	Total Expenditures <i>(2013 Dollars)</i>	Real Gross Product <i>(2013 Dollars)</i>	Personal Income <i>(2013 Dollars)</i>	Employment <i>(Person-Years)</i>
Agriculture	\$95,783,958	\$26,520,541	\$18,049,259	281
Mining	\$2,423,097,398	\$531,050,818	\$244,919,996	1,168
Construction	\$1,354,779,927	\$636,894,180	\$524,840,478	7,215
Nondurable Manufacturing	\$129,361,744	\$38,908,157	\$22,938,205	339
Durable Manufacturing	\$72,691,815	\$33,844,860	\$19,823,395	279
Transportation and Utilities	\$510,531,293	\$153,474,137	\$84,530,240	903
Information	\$53,073,832	\$32,608,928	\$14,279,309	139
Wholesale Trade	\$74,685,787	\$50,522,908	\$29,131,986	321
Retail Trade	\$816,238,450	\$610,594,325	\$354,607,187	10,681
Finance, Insurance, and Real Estate	\$1,029,458,436	\$289,287,893	\$91,882,039	886
Business Services	\$312,449,614	\$195,698,485	\$159,639,827	1,897
Health Services	\$191,859,118	\$134,083,019	\$113,368,453	1,835
Other Services	\$358,082,063	\$180,965,939	\$145,031,987	3,299
<b>TOTAL</b>	<b>\$7,422,093,435</b>	<b>\$2,914,454,191</b>	<b>\$1,823,042,360</b>	<b>29,244</b>

Source: US Multi-Regional Impact Assessment System, The Perryman Group

Note: Includes (1) drilling, exploration, and production; (2) royalty and lease payments; and (3) pipeline maintenance and operations. Assumes drilling activity over time responds to projected prices in the baseline forecast of the Energy Information Administration in a manner reflective of recent academic research (which understates the responsiveness that has been historically observed within the region). Assumes that established patterns of decline in individual well output (decline curves) will continue into the future and that new wells will follow similar production patterns to those presently observed in the area. Projected royalties are converted to 2013 dollars using projections of the Texas Consumer Price Index derived from the current baseline forecast from the Texas Econometric Model. Effects are fully adjusted for external ownership and leakages from the expenditure stream. Assumes that current annual patterns in pipeline and gathering system maintenance and operations are sufficient to accommodate the additional wells that are projected to be added in the future.

## Projected 10-Year Impact (2014-2023) of All Major Sources of Stimulus Associated with the Barnett Shale on Business Activity in Jack County

Sector	Total Expenditures <i>(2013 Dollars)</i>	Real Gross Product <i>(2013 Dollars)</i>	Personal Income <i>(2013 Dollars)</i>	Employment <i>(Person-Years)</i>
Agriculture	\$36,054,100	\$9,981,394	\$6,797,880	107
Mining	\$1,105,479,919	\$242,710,602	\$112,058,877	538
Construction	\$447,526,089	\$209,125,702	\$172,332,605	2,370
Nondurable Manufacturing	\$15,239,630	\$2,665,939	\$1,268,437	10
Durable Manufacturing	\$76,899,027	\$30,225,716	\$19,603,801	313
Transportation and Utilities	\$236,262,892	\$82,720,248	\$48,839,289	594
Information	\$13,992,788	\$8,633,920	\$3,757,480	35
Wholesale Trade	\$32,542,169	\$22,011,718	\$12,692,150	140
Retail Trade	\$290,792,754	\$216,771,226	\$125,755,281	3,825
Finance, Insurance, and Real Estate	\$259,066,358	\$69,119,394	\$23,551,050	219
Business Services	\$151,629,247	\$95,102,472	\$77,579,247	924
Health Services	\$37,270,362	\$26,302,009	\$22,238,590	362
Other Services	\$122,226,654	\$61,911,003	\$50,625,446	1,212
<b>TOTAL</b>	<b>\$2,824,981,990</b>	<b>\$1,077,281,342</b>	<b>\$677,100,134</b>	<b>10,649</b>

Source: US Multi-Regional Impact Assessment System, The Perryman Group

Note: Includes (1) drilling, exploration, and production; (2) royalty and lease payments; and (3) pipeline maintenance and operations. Assumes drilling activity over time responds to projected prices in the baseline forecast of the Energy Information Administration in a manner reflective of recent academic research (which understates the responsiveness that has been historically observed within the region). Assumes that established patterns of decline in individual well output (decline curves) will continue into the future and that new wells will follow similar production patterns to those presently observed in the area. Projected royalties are converted to 2013 dollars using projections of the Texas Consumer Price Index derived from the current baseline forecast from the Texas Econometric Model. Effects are fully adjusted for external ownership and leakages from the expenditure stream. Assumes that current annual patterns in pipeline and gathering system maintenance and operations are sufficient to accommodate the additional wells that are projected to be added in the future.

## Projected 10-Year Impact (2014-2023) of All Major Sources of Stimulus Associated with the Barnett Shale on Business Activity in Johnson County

Sector	Total Expenditures <i>(2013 Dollars)</i>	Real Gross Product <i>(2013 Dollars)</i>	Personal Income <i>(2013 Dollars)</i>	Employment <i>(Person-Years)</i>
Agriculture	\$96,194,146	\$26,762,292	\$18,104,276	280
Mining	\$2,080,351,291	\$456,863,795	\$210,942,165	1,012
Construction	\$819,752,968	\$391,492,895	\$322,614,529	4,423
Nondurable Manufacturing	\$338,933,578	\$105,864,448	\$56,074,190	935
Durable Manufacturing	\$251,393,490	\$100,211,325	\$64,625,939	948
Transportation and Utilities	\$408,982,992	\$167,843,461	\$99,349,346	1,128
Information	\$68,547,981	\$42,326,290	\$18,315,847	168
Wholesale Trade	\$165,353,769	\$111,849,336	\$64,493,329	702
Retail Trade	\$1,017,454,024	\$764,087,542	\$444,297,183	13,202
Finance, Insurance, and Real Estate	\$727,924,139	\$150,386,629	\$50,528,561	478
Business Services	\$163,507,525	\$97,690,271	\$79,690,226	943
Health Services	\$216,012,323	\$151,890,431	\$128,424,769	2,063
Other Services	\$378,788,038	\$194,224,797	\$156,635,880	3,449
<b>TOTAL</b>	<b>\$6,733,196,262</b>	<b>\$2,761,493,514</b>	<b>\$1,714,096,239</b>	<b>29,730</b>

Source: US Multi-Regional Impact Assessment System, The Perryman Group

Note: Includes (1) drilling, exploration, and production; (2) royalty and lease payments; and (3) pipeline maintenance and operations. Assumes drilling activity over time responds to projected prices in the baseline forecast of the Energy Information Administration in a manner reflective of recent academic research (which understates the responsiveness that has been historically observed within the region). Assumes that established patterns of decline in individual well output (decline curves) will continue into the future and that new wells will follow similar production patterns to those presently observed in the area. Projected royalties are converted to 2013 dollars using projections of the Texas Consumer Price Index derived from the current baseline forecast from the Texas Econometric Model. Effects are fully adjusted for external ownership and leakages from the expenditure stream. Assumes that current annual patterns in pipeline and gathering system maintenance and operations are sufficient to accommodate the additional wells that are projected to be added in the future.

## Projected 10-Year Impact (2014-2023) of All Major Sources of Stimulus Associated with the Barnett Shale on Business Activity in Montague County

Sector	Total Expenditures <i>(2013 Dollars)</i>	Real Gross Product <i>(2013 Dollars)</i>	Personal Income <i>(2013 Dollars)</i>	Employment <i>(Person-Years)</i>
Agriculture	\$81,126,027	\$23,611,957	\$15,461,158	238
Mining	\$703,135,164	\$155,227,029	\$73,604,869	360
Construction	\$122,056,022	\$63,725,696	\$52,513,945	722
Nondurable Manufacturing	\$87,641,121	\$44,229,256	\$25,770,715	528
Durable Manufacturing	\$41,295,598	\$17,136,734	\$11,356,904	159
Transportation and Utilities	\$395,134,255	\$143,501,899	\$81,701,104	870
Information	\$72,219,928	\$44,613,298	\$19,351,136	180
Wholesale Trade	\$36,038,645	\$24,381,423	\$14,058,543	153
Retail Trade	\$1,071,444,738	\$805,652,391	\$468,683,804	13,900
Finance, Insurance, and Real Estate	\$858,534,149	\$151,218,869	\$47,771,393	450
Business Services	\$73,233,547	\$38,377,396	\$31,306,119	371
Health Services	\$212,039,907	\$150,082,060	\$126,895,774	2,039
Other Services	\$380,590,409	\$198,096,792	\$157,718,456	3,355
<b>TOTAL</b>	<b>\$4,134,489,510</b>	<b>\$1,859,854,803</b>	<b>\$1,126,193,919</b>	<b>23,326</b>

Source: US Multi-Regional Impact Assessment System, The Perryman Group

Note: Includes (1) drilling, exploration, and production; (2) royalty and lease payments; and (3) pipeline maintenance and operations. Assumes drilling activity over time responds to projected prices in the baseline forecast of the Energy Information Administration in a manner reflective of recent academic research (which understates the responsiveness that has been historically observed within the region). Assumes that established patterns of decline in individual well output (decline curves) will continue into the future and that new wells will follow similar production patterns to those presently observed in the area. Projected royalties are converted to 2013 dollars using projections of the Texas Consumer Price Index derived from the current baseline forecast from the Texas Econometric Model. Effects are fully adjusted for external ownership and leakages from the expenditure stream. Assumes that current annual patterns in pipeline and gathering system maintenance and operations are sufficient to accommodate the additional wells that are projected to be added in the future.

## Projected 10-Year Impact (2014-2023) of All Major Sources of Stimulus Associated with the Barnett Shale on Business Activity in Palo Pinto County

Sector	Total Expenditures <i>(2013 Dollars)</i>	Real Gross Product <i>(2013 Dollars)</i>	Personal Income <i>(2013 Dollars)</i>	Employment <i>(Person-Years)</i>
Agriculture	\$11,176,180	\$3,364,478	\$2,179,499	34
Mining	\$891,173,576	\$195,658,084	\$90,330,325	433
Construction	\$319,721,267	\$150,703,277	\$124,188,890	1,717
Nondurable Manufacturing	\$88,353,491	\$28,869,911	\$15,245,272	272
Durable Manufacturing	\$83,358,088	\$34,183,955	\$21,805,046	338
Transportation and Utilities	\$225,943,049	\$65,762,517	\$37,925,619	479
Information	\$16,391,708	\$10,098,581	\$4,384,897	42
Wholesale Trade	\$29,969,840	\$20,270,205	\$11,687,983	131
Retail Trade	\$239,585,210	\$179,060,613	\$103,959,156	3,190
Finance, Insurance, and Real Estate	\$296,064,060	\$78,883,547	\$20,658,068	191
Business Services	\$90,358,597	\$56,153,063	\$45,806,508	551
Health Services	\$45,125,494	\$31,618,439	\$26,733,680	440
Other Services	\$100,805,567	\$51,291,987	\$41,642,912	1,003
<b>TOTAL</b>	<b>\$2,438,026,126</b>	<b>\$905,918,654</b>	<b>\$546,547,857</b>	<b>8,823</b>

Source: US Multi-Regional Impact Assessment System, The Perryman Group

Note: Includes (1) drilling, exploration, and production; (2) royalty and lease payments; and (3) pipeline maintenance and operations. Assumes drilling activity over time responds to projected prices in the baseline forecast of the Energy Information Administration in a manner reflective of recent academic research (which understates the responsiveness that has been historically observed within the region). Assumes that established patterns of decline in individual well output (decline curves) will continue into the future and that new wells will follow similar production patterns to those presently observed in the area. Projected royalties are converted to 2013 dollars using projections of the Texas Consumer Price Index derived from the current baseline forecast from the Texas Econometric Model. Effects are fully adjusted for external ownership and leakages from the expenditure stream. Assumes that current annual patterns in pipeline and gathering system maintenance and operations are sufficient to accommodate the additional wells that are projected to be added in the future.



## Projected 10-Year Impact (2014-2023) of All Major Sources of Stimulus Associated with the Barnett Shale on Business Activity in Parker County

Sector	Total Expenditures <i>(2013 Dollars)</i>	Real Gross Product <i>(2013 Dollars)</i>	Personal Income <i>(2013 Dollars)</i>	Employment <i>(Person-Years)</i>
Agriculture	\$216,100,572	\$59,841,950	\$40,743,619	640
Mining	\$6,832,306,393	\$1,500,160,330	\$692,833,652	3,323
Construction	\$2,597,904,788	\$1,235,685,156	\$1,018,281,515	14,030
Nondurable Manufacturing	\$618,300,725	\$187,442,459	\$100,519,179	1,773
Durable Manufacturing	\$687,678,860	\$275,147,863	\$177,815,897	2,666
Transportation and Utilities	\$1,293,736,945	\$457,724,864	\$272,188,293	3,358
Information	\$108,988,630	\$66,947,126	\$29,390,303	289
Wholesale Trade	\$359,200,519	\$242,945,337	\$140,084,462	1,545
Retail Trade	\$1,871,703,774	\$1,399,287,303	\$812,471,544	24,607
Finance, Insurance, and Real Estate	\$2,456,870,904	\$702,511,484	\$214,899,036	2,073
Business Services	\$576,796,354	\$356,629,760	\$290,918,481	3,473
Health Services	\$307,215,146	\$215,830,677	\$182,486,870	2,964
Other Services	\$818,035,504	\$417,057,588	\$335,268,166	7,936
<b>TOTAL</b>	<b>\$18,744,839,113</b>	<b>\$7,117,211,898</b>	<b>\$4,307,901,017</b>	<b>68,678</b>

Source: US Multi-Regional Impact Assessment System, The Perryman Group

Note: Includes (1) drilling, exploration, and production; (2) royalty and lease payments; and (3) pipeline maintenance and operations. Assumes drilling activity over time responds to projected prices in the baseline forecast of the Energy Information Administration in a manner reflective of recent academic research (which understates the responsiveness that has been historically observed within the region). Assumes that established patterns of decline in individual well output (decline curves) will continue into the future and that new wells will follow similar production patterns to those presently observed in the area. Projected royalties are converted to 2013 dollars using projections of the Texas Consumer Price Index derived from the current baseline forecast from the Texas Econometric Model. Effects are fully adjusted for external ownership and leakages from the expenditure stream. Assumes that current annual patterns in pipeline and gathering system maintenance and operations are sufficient to accommodate the additional wells that are projected to be added in the future.

## Projected 10-Year Impact (2014-2023) of All Major Sources of Stimulus Associated with the Barnett Shale on Business Activity in Shackelford County

Sector	Total Expenditures <i>(2013 Dollars)</i>	Real Gross Product <i>(2013 Dollars)</i>	Personal Income <i>(2013 Dollars)</i>	Employment <i>(Person-Years)</i>
Agriculture	\$543,865	\$622,619	\$230,922	3
Mining	\$1,260,903,348	\$276,689,880	\$127,703,963	612
Construction	\$251,637,420	\$117,403,074	\$96,747,446	1,326
Nondurable Manufacturing	\$13,557,796	\$4,629,460	\$2,816,733	41
Durable Manufacturing	\$6,666,170	\$2,811,863	\$1,990,820	20
Transportation and Utilities	\$88,589,442	\$34,764,699	\$20,273,459	223
Information	\$12,477,263	\$7,673,004	\$3,348,523	32
Wholesale Trade	\$8,001,895	\$5,410,607	\$3,119,803	34
Retail Trade	\$154,733,648	\$116,528,945	\$67,807,849	2,006
Finance, Insurance, and Real Estate	\$148,755,971	\$42,226,750	\$15,004,645	136
Business Services	\$28,623,174	\$17,155,351	\$13,994,366	165
Health Services	\$26,880,748	\$18,885,098	\$15,967,521	256
Other Services	\$83,330,845	\$41,501,843	\$33,899,410	836
<b>TOTAL</b>	<b>\$2,084,701,586</b>	<b>\$686,303,191</b>	<b>\$402,905,461</b>	<b>5,690</b>

Source: US Multi-Regional Impact Assessment System, The Perryman Group

Note: Includes (1) drilling, exploration, and production; (2) royalty and lease payments; and (3) pipeline maintenance and operations. Assumes drilling activity over time responds to projected prices in the baseline forecast of the Energy Information Administration in a manner reflective of recent academic research (which understates the responsiveness that has been historically observed within the region). Assumes that established patterns of decline in individual well output (decline curves) will continue into the future and that new wells will follow similar production patterns to those presently observed in the area. Projected royalties are converted to 2013 dollars using projections of the Texas Consumer Price Index derived from the current baseline forecast from the Texas Econometric Model. Effects are fully adjusted for external ownership and leakages from the expenditure stream. Assumes that current annual patterns in pipeline and gathering system maintenance and operations are sufficient to accommodate the additional wells that are projected to be added in the future.

## Projected 10-Year Impact (2014-2023) of All Major Sources of Stimulus Associated with the Barnett Shale on Business Activity in Somervell County

Sector	Total Expenditures <i>(2013 Dollars)</i>	Real Gross Product <i>(2013 Dollars)</i>	Personal Income <i>(2013 Dollars)</i>	Employment <i>(Person-Years)</i>
Agriculture	\$307,546	\$223,012	\$96,710	1
Mining	\$438,396,895	\$96,168,458	\$44,375,413	212
Construction	\$21,759,889	\$11,343,843	\$9,348,034	128
Nondurable Manufacturing	\$2,240,618	\$993,692	\$579,255	11
Durable Manufacturing	\$3,343,438	\$1,502,888	\$849,718	14
Transportation and Utilities	\$32,552,008	\$9,370,621	\$4,800,065	39
Information	\$2,259,767	\$1,390,702	\$611,128	6
Wholesale Trade	\$956,840	\$646,608	\$372,840	4
Retail Trade	\$38,897,494	\$28,829,095	\$16,694,147	506
Finance, Insurance, and Real Estate	\$56,759,722	\$14,812,930	\$2,792,794	24
Business Services	\$17,605,511	\$10,362,480	\$8,453,129	100
Health Services	\$9,673,024	\$6,778,721	\$5,731,470	92
Other Services	\$22,882,855	\$11,357,204	\$9,170,449	198
<b>TOTAL</b>	<b>\$647,635,609</b>	<b>\$193,780,254</b>	<b>\$103,875,153</b>	<b>1,338</b>

Source: US Multi-Regional Impact Assessment System, The Perryman Group

Note: Includes (1) drilling, exploration, and production; (2) royalty and lease payments; and (3) pipeline maintenance and operations. Assumes drilling activity over time responds to projected prices in the baseline forecast of the Energy Information Administration in a manner reflective of recent academic research (which understates the responsiveness that has been historically observed within the region). Assumes that established patterns of decline in individual well output (decline curves) will continue into the future and that new wells will follow similar production patterns to those presently observed in the area. Projected royalties are converted to 2013 dollars using projections of the Texas Consumer Price Index derived from the current baseline forecast from the Texas Econometric Model. Effects are fully adjusted for external ownership and leakages from the expenditure stream. Assumes that current annual patterns in pipeline and gathering system maintenance and operations are sufficient to accommodate the additional wells that are projected to be added in the future.

## Projected 10-Year Impact (2014-2023) of All Major Sources of Stimulus Associated with the Barnett Shale on Business Activity in Stephens County

Sector	Total Expenditures <i>(2013 Dollars)</i>	Real Gross Product <i>(2013 Dollars)</i>	Personal Income <i>(2013 Dollars)</i>	Employment <i>(Person-Years)</i>
Agriculture	\$610,304	\$719,480	\$266,845	3
Mining	\$1,605,130,083	\$352,059,725	\$163,062,326	780
Construction	\$191,972,548	\$93,147,776	\$76,759,566	1,054
Nondurable Manufacturing	\$12,073,131	\$5,534,316	\$3,534,416	58
Durable Manufacturing	\$59,163,023	\$24,764,680	\$16,103,841	221
Transportation and Utilities	\$104,855,543	\$39,766,593	\$23,465,303	273
Information	\$29,741,561	\$18,331,799	\$7,893,727	71
Wholesale Trade	\$14,967,904	\$10,118,155	\$5,834,219	64
Retail Trade	\$238,276,555	\$178,082,301	\$103,376,809	3,106
Finance, Insurance, and Real Estate	\$173,171,504	\$47,336,845	\$16,177,457	148
Business Services	\$43,366,804	\$25,770,260	\$21,021,931	249
Health Services	\$40,658,032	\$28,490,740	\$24,089,186	388
Other Services	\$90,677,435	\$45,139,810	\$37,001,460	909
<b>TOTAL</b>	<b>\$2,604,664,428</b>	<b>\$869,262,480</b>	<b>\$498,587,085</b>	<b>7,324</b>

Source: US Multi-Regional Impact Assessment System, The Perryman Group

Note: Includes (1) drilling, exploration, and production; (2) royalty and lease payments; and (3) pipeline maintenance and operations. Assumes drilling activity over time responds to projected prices in the baseline forecast of the Energy Information Administration in a manner reflective of recent academic research (which understates the responsiveness that has been historically observed within the region). Assumes that established patterns of decline in individual well output (decline curves) will continue into the future and that new wells will follow similar production patterns to those presently observed in the area. Projected royalties are converted to 2013 dollars using projections of the Texas Consumer Price Index derived from the current baseline forecast from the Texas Econometric Model. Effects are fully adjusted for external ownership and leakages from the expenditure stream. Assumes that current annual patterns in pipeline and gathering system maintenance and operations are sufficient to accommodate the additional wells that are projected to be added in the future.

## Projected 10-Year Impact (2014-2023) of All Major Sources of Stimulus Associated with the Barnett Shale on Business Activity in Tarrant County

Sector	Total Expenditures <i>(2013 Dollars)</i>	Real Gross Product <i>(2013 Dollars)</i>	Personal Income <i>(2013 Dollars)</i>	Employment <i>(Person-Years)</i>
Agriculture	\$945,699,956	\$270,646,495	\$181,033,490	2,809
Mining	\$137,185,300,392	\$30,077,487,312	\$13,875,853,322	66,256
Construction	\$18,999,591,744	\$9,550,780,086	\$7,870,437,458	107,901
Nondurable Manufacturing	\$14,762,743,717	\$4,338,887,071	\$2,282,993,079	37,017
Durable Manufacturing	\$8,938,029,372	\$3,496,566,351	\$2,291,386,577	32,110
Transportation and Utilities	\$9,421,453,281	\$4,246,011,438	\$2,590,115,238	30,962
Information	\$2,664,711,517	\$1,639,742,091	\$709,670,304	6,522
Wholesale Trade	\$6,074,238,478	\$4,106,041,953	\$2,367,579,976	25,764
Retail Trade	\$22,878,643,737	\$17,060,235,155	\$9,896,837,512	297,666
Finance, Insurance, and Real Estate	\$31,417,666,818	\$9,720,644,857	\$2,973,267,200	28,823
Business Services	\$6,876,162,828	\$4,126,272,428	\$3,365,980,920	39,823
Health Services	\$5,234,964,884	\$3,658,566,422	\$3,093,351,642	49,686
Other Services	\$9,385,912,983	\$4,772,187,762	\$3,816,111,346	85,787
<b>TOTAL</b>	<b>\$274,785,119,707</b>	<b>\$97,064,069,422</b>	<b>\$55,314,618,064</b>	<b>811,123</b>

Source: US Multi-Regional Impact Assessment System, The Perryman Group

Note: Includes (1) drilling, exploration, and production; (2) royalty and lease payments; and (3) pipeline maintenance and operations. Assumes drilling activity over time responds to projected prices in the baseline forecast of the Energy Information Administration in a manner reflective of recent academic research (which understates the responsiveness that has been historically observed within the region). Assumes that established patterns of decline in individual well output (decline curves) will continue into the future and that new wells will follow similar production patterns to those presently observed in the area. Projected royalties are converted to 2013 dollars using projections of the Texas Consumer Price Index derived from the current baseline forecast from the Texas Econometric Model. Effects are fully adjusted for external ownership and leakages from the expenditure stream. Assumes that current annual patterns in pipeline and gathering system maintenance and operations are sufficient to accommodate the additional wells that are projected to be added in the future.

## Projected 10-Year Impact (2014-2023) of All Major Sources of Stimulus Associated with the Barnett Shale on Business Activity in Wise County

Sector	Total Expenditures <i>(2013 Dollars)</i>	Real Gross Product <i>(2013 Dollars)</i>	Personal Income <i>(2013 Dollars)</i>	Employment <i>(Person-Years)</i>
Agriculture	\$519,100,479	\$151,238,512	\$99,639,352	1,530
Mining	\$8,444,727,517	\$1,861,224,073	\$871,296,844	4,233
Construction	\$8,616,367,217	\$3,999,607,340	\$3,295,925,510	45,225
Nondurable Manufacturing	\$254,109,232	\$121,225,122	\$69,687,636	1,419
Durable Manufacturing	\$1,836,057,617	\$752,747,026	\$470,484,402	7,092
Transportation and Utilities	\$2,375,077,119	\$970,543,884	\$583,419,256	6,948
Information	\$378,069,429	\$232,548,227	\$101,168,234	952
Wholesale Trade	\$813,688,260	\$550,591,198	\$317,475,768	3,464
Retail Trade	\$4,328,539,516	\$3,242,278,816	\$1,883,839,148	56,377
Finance, Insurance, and Real Estate	\$3,166,206,134	\$758,809,613	\$278,118,342	2,660
Business Services	\$1,052,387,797	\$657,191,822	\$536,100,099	6,348
Health Services	\$726,281,357	\$510,036,933	\$431,240,880	6,942
Other Services	\$1,910,238,362	\$965,327,604	\$774,005,680	17,535
<b>TOTAL</b>	<b>\$34,420,850,035</b>	<b>\$14,773,370,168</b>	<b>\$9,712,401,153</b>	<b>160,724</b>

Source: US Multi-Regional Impact Assessment System, The Perryman Group

Note: Includes (1) drilling, exploration, and production; (2) royalty and lease payments; and (3) pipeline maintenance and operations. Assumes drilling activity over time responds to projected prices in the baseline forecast of the Energy Information Administration in a manner reflective of recent academic research (which understates the responsiveness that has been historically observed within the region). Assumes that established patterns of decline in individual well output (decline curves) will continue into the future and that new wells will follow similar production patterns to those presently observed in the area. Projected royalties are converted to 2013 dollars using projections of the Texas Consumer Price Index derived from the current baseline forecast from the Texas Econometric Model. Effects are fully adjusted for external ownership and leakages from the expenditure stream. Assumes that current annual patterns in pipeline and gathering system maintenance and operations are sufficient to accommodate the additional wells that are projected to be added in the future.

## Projected 10-Year Impact (2014-2023) of All Major Sources of Stimulus Associated with the Barnett Shale on Business Activity in Young County

Sector	Total Expenditures <i>(2013 Dollars)</i>	Real Gross Product <i>(2013 Dollars)</i>	Personal Income <i>(2013 Dollars)</i>	Employment <i>(Person-Years)</i>
Agriculture	\$13,560,225	\$3,782,039	\$2,566,540	40
Mining	\$847,443,080	\$186,000,188	\$85,858,589	412
Construction	\$256,427,440	\$120,975,520	\$99,691,363	1,368
Nondurable Manufacturing	\$22,323,581	\$8,651,380	\$5,049,564	83
Durable Manufacturing	\$82,881,827	\$32,476,934	\$21,331,816	309
Transportation and Utilities	\$114,175,209	\$36,038,244	\$19,829,519	203
Information	\$25,049,432	\$15,446,905	\$6,641,586	59
Wholesale Trade	\$24,376,302	\$16,485,471	\$9,505,671	104
Retail Trade	\$178,093,236	\$132,692,468	\$76,962,537	2,326
Finance, Insurance, and Real Estate	\$127,282,348	\$34,929,361	\$13,302,406	126
Business Services	\$29,419,363	\$17,803,619	\$14,523,191	172
Health Services	\$33,608,841	\$23,526,184	\$19,891,605	321
Other Services	\$75,387,948	\$38,321,055	\$31,274,986	741
<b>TOTAL</b>	<b>\$1,830,028,833</b>	<b>\$667,129,369</b>	<b>\$406,429,373</b>	<b>6,264</b>

Source: US Multi-Regional Impact Assessment System, The Perryman Group

Note: Includes (1) drilling, exploration, and production; (2) royalty and lease payments; and (3) pipeline maintenance and operations. Assumes drilling activity over time responds to projected prices in the baseline forecast of the Energy Information Administration in a manner reflective of recent academic research (which understates the responsiveness that has been historically observed within the region). Assumes that established patterns of decline in individual well output (decline curves) will continue into the future and that new wells will follow similar production patterns to those presently observed in the area. Projected royalties are converted to 2013 dollars using projections of the Texas Consumer Price Index derived from the current baseline forecast from the Texas Econometric Model. Effects are fully adjusted for external ownership and leakages from the expenditure stream. Assumes that current annual patterns in pipeline and gathering system maintenance and operations are sufficient to accommodate the additional wells that are projected to be added in the future.