Projecting the Economic Impact of the Fayetteville Shale Play for 2008-2012 Executive Summary

Produced by the
Center for Business and Economic Research
Willard J. Walker Hall 538
Sam M. Walton College of Business
1 University of Arkansas
Fayetteville, Arkansas 72701-1201
(479) 575-4151
http://cber.uark.edu
Contact: Kathy Deck, Director

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EXECUTIVE SUMMARY

In 2006, the Center for Business and Economic Research released an economic impact study of the newly developing natural gas industry related to the Fayetteville Shale. The Fayetteville Shale is an unconventional gas reservoir located on the Arkansas side of the Arkoma Basin, ranging in thickness from 50 to 325 feet and ranging in depth from 1,500 to 6,500 feet. That study concluded that from 2005 to 2008, economic output of over $5.5 billion and 9,683 jobs would be generated as a result of investments in the Fayetteville Shale. Those estimates were based on the best information available when the study was conducted; however, many of the companies involved in the Fayetteville Shale subsequently significantly accelerated their investment plans as the potential of the play was proved. Therefore, this report provides updated estimates, which better reflect the current investment plans of the companies involved, of the economic impact of the Fayetteville Shale natural gas industry on the state of Arkansas.

The direct activities associated with the development of the Fayetteville Shale that generate economic activity are: exploration, extraction, production, transportation, storage, and distribution. The counties in Arkansas where successful wells have been drilled are Cleburne, Conway, Faulkner, Franklin, Pope, Van Buren and White. The presence of the natural gas industry in Arkansas produces indirect (supply chain oriented) and induced (personal expenditure related) economic impacts. These added economic effects imply that when dollars are directly invested in the Fayetteville Shale, there is an associated multiplier.

In order to quantify the economic impact of the Fayetteville Shale Play, a survey was administered to the companies who make up and support the natural gas industry in central Arkansas. This survey had questions about planned expenditures and employment, risk factors like natural gas price declines and increases in the Arkansas severance tax, and the perceived economic impact of the development of the Fayetteville Shale. The numerical responses were used as inputs to the IMPLAN input/output model, which was used to estimate the indirect and induced effects associated with direct industry spending.

To provide a baseline of economic activity, expenditures and employment in the year 2007 were investigated. These impacts were substantial: $1.8 billion of direct expenditures led to total economic output of $2.6 billion and employment of 9,533 people.

	2007 Direct Impact	2007 Indirect Impact	2007 Induced Impact	2007 Total Impact	2007 Multiplier
Output	$1,797,349,728	$416,673,682	$387,068,671	$2,601,092,069	1.45
Employment	3,776.4	1,904.6	3,852.0	9,533.0	2.52

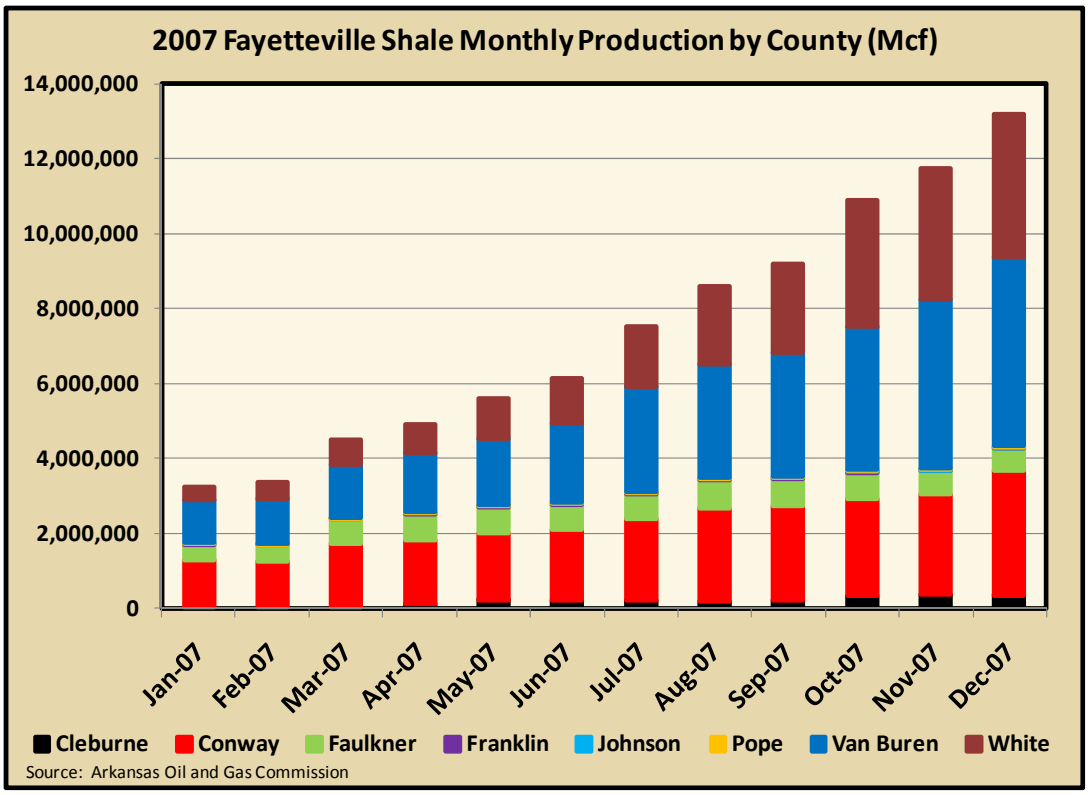
In 2007, the tax revenues from operations in the Fayetteville Shale were also significant for the state. More than $54.6 million in revenues were generated at the state level.

2007 Estimated State Taxes	Amount
Income Taxes from Employment	$5,023,891
Sales Taxes from Employment	$8,054,069
Income Taxes from Production	$34,216,210
Sales Taxes from Royalties	$3,359,130
Property Taxes for Schools from Production (2007 Assessment Year)	$3,703,650
Severance Taxes	$266,550
Arkansas State Taxes	**$54,623,500**

There were additional city and county sales and property taxes generated that are not included in this total. A weighted average of local sales tax rates was used to estimate the amount of sales tax generated for cities and counties. In 2007, that amount totaled just over $7.0 million. Local millage rates were used to calculate property tax revenues. These revenues were just over $1.3 million in 2007.

2007 Estimated Local Taxes	Amount
Sales Taxes from Employment	$4,698,207
Sales Taxes from Royalties	$2,339,776
Property Taxes from Production (2007 Assessment Year)	$1,303,067
Local Taxes	**$8,341,050**

In 2007, the companies continued to invest in the long term potential for production in the Fayetteville Shale. Total production from the Fayetteville Shale in 2007 was 88.8 billion cubic feet (Bcf) of natural gas, with a market value of approximately $651 million. This amount was less than 37 percent of the direct expenditures made by operating companies in that same year.



Using results from the survey, estimates of economic activity from 2008 to 2012 were made. Over the next five year period, total economic activity of about $17.9 billion will be generated if the companies operating in the Fayetteville Shale make expenditures in the amounts and using the timing that they reported. Additionally, annual direct employment of about 4,600 people will result in total annual state employment of more than 11,000 people during the 2008 to 2012 time period.

Year	Direct Economic Output Impact	Indirect Economic Output Impact	Induced Economic Output Impact	Total Economic Output Impact	Average Multiplier
2008	$2,403,100,608	$618,168,513	$494,040,561	$3,515,309,701	1.46
2009	$2,312,800,224	$533,726,731	$480,145,885	$3,326,672,757	1.44
2010	$2,548,019,872	$556,154,598	$524,428,800	$3,628,603,211	1.42
2011	$2,634,311,552	$567,638,793	$532,898,064	$3,734,848,322	1.42
2012	$2,582,333,760	$555,837,508	$512,828,487	$3,650,999,970	1.41
Total	**$12,480,566,016**	**$2,831,526,143**	**$2,544,341,797**	**$17,856,433,961**	**1.43**

Year	Direct Employment Impact	Indirect Employment Impact	Induced Employment Impact	Total Employment Impact	Average Multiplier
2008	4,719.6	2,903.8	4,818.5	12,441.9	2.64
2009	4,497.7	2,327.1	4,588.2	11,412.9	2.54
2010	4,813.2	2,304.4	4,908.5	12,026.1	2.50
2011	4,789.3	2,284.7	4,884.0	11,958.0	2.50
2012	4,511.5	2,186.0	4,601.1	11,298.5	2.50

Additionally, significant income, sales, property, and severance tax revenues are projected to accrue to the state from 2008 to 2012. About $1.8 billion in state level taxes are projected to result from the direct, indirect, and induced effects of the activities in the Fayetteville Shale.

2008-2012 Estimated State Taxes	Amount
Income Taxes from Employment	$31,165,410
Sales Taxes from Employment	$49,962,937
Income Taxes from Production	$1,389,126,182
Sales Taxes from Royalties	$137,942,032
Property Taxes for Schools from Production (Assessment Years)	$143,797,376
Severance Taxes	$7,249,125
Arkansas State Taxes	**$1,759,243,062**

City and county tax revenues are also expected to be substantial over the 2008 to 2012 time period. Local sales and property taxes resulting from Fayetteville Shale activities are estimated to total over $150 million during the five year period.

2008-2012 Estimated Local Taxes	Amount
Sales Taxes from Employment	$29,145,047
Sales Taxes from Royalties	$80,466,185
Property Taxes from Production (Assessment Years)	$40,974,340
Local Taxes	**$150,585,572**

The output, employment, and tax estimates presented above are subject to a couple of obvious risks. The first is that the price of natural gas declines to a level where production in the Fayetteville Shale is no longer profitable for the companies operating there. According to the survey respondents, an average price of $6.21 per MMBTU is necessary for the forecasted investments to be made. A sustained decrease of $1.00 from that level could cause a 47 percent decrease in investment in the Fayetteville Shale. However, a sustained $1 increase in prices from that average level could cause average additional investment of 10 percent.

The second risk factor to the above projections is that the severance tax is raised to a level that causes the operating companies to reduce the magnitude or slow the timing of their investments in developing the Fayetteville Shale. Accordingly, a survey question was included, which asked for the investment and hiring response to a hypothetical 5 percent severance tax without any initial reductions or performance exemptions. The survey responses from Fayetteville Shale operators indicated that if the severance tax were increased to 5 percent, the average response would be a 13 percent decrease in investment in Fayetteville Shale activities. Employment and tax revenues would be proportionally affected as well. Any increases or declines in investment would also be subject to the multiplier effects estimated in this study.