

The Economic Impact of Shale Gas Development: Can New York Learn from Texas?

Jannette M. Barth, Ph.D., May 5, 2012

While New York State is deciding whether to issue permits for shale gas exploration and development, it may be helpful to look to other states where shale gas development is already occurring. Are areas with intensive shale gas drilling doing well economically?

Texas is the state with the longest history of shale gas development using high volume slick water horizontal hydraulic fracturing. The gas industry has been exploiting gas reserves in the Barnett Shale for about ten years.

Several years ago, in one of my early papers on the economic impact of shale gas development, I wrote,

“Even if there is a large positive economic impact in Texas, comparing Texas to New York is comparing apples to oranges for the purposes of estimating economic impacts from gas drilling. Texas has a labor force with the requisite skill sets. The rural counties in upstate New York would have to import the labor, who in many cases will be temporary and transient, and most of their income will be spent in their home states (probably not in New York), greatly reducing the multiplier effect in New York State relative to Texas. In addition, Texas has a very large support industry network for oil and gas activities with all requisite machinery, equipment, etc, many of which are probably manufactured there or at least distributed and contracted for there. Note also that the major gas companies are not headquartered in New York (for example, Chesapeake Energy is in Oklahoma City and XTO is in Fort Worth). New York would have to import most gas industry services, machinery, equipment, and management, and much of this would probably come from established businesses in other states such as Texas, so it is even possible that Texas would derive greater economic benefit from drilling in New York State than would New York.” (Source: “Unanswered Questions About The Economic Impact of Gas Drilling in the Marcellus Shale: Don’t Jump to Conclusions,” Jannette M. Barth, March 27, 2010.)

Now, I wonder how has Texas been doing economically with shale gas development? Is there, in fact, a large positive economic impact to the areas with shale gas drilling in Texas?

According to the Texas Railroad Commission, there are four core gas drilling counties in the Barnett Shale. They are Denton, Johnson, Tarrant and Wise Counties.

There are many reasons for differences between county data and state data, and changes and trends in the data. A comprehensive analysis should be conducted prior to making any definitive conclusions, but it’s interesting to compare the

economic health of the people in the four core Barnett Shale counties to the economic health of the state as a whole.

When one considers unemployment rates, growth of median household income, and the number of people in poverty, it appears that the Barnett Shale core counties are not doing better than the rest of the state.

For the period from 2003 to 2010, Median Household income increased by 21.2% in the state of Texas, but in the four core counties, median household income only increased between 10% and 16%. And for the same period, the increase in the average unemployment rates for the four core counties (2 percentage points) was very similar and a little higher than the increase in the state unemployment rate (1.5 percentage points). Finally, the number of people in poverty in the four core shale counties increased, in percentage terms, just as much as statewide. When you consider the number of people in poverty, the unemployment rate and median household income growth, gas intensive counties in Texas don't appear to be doing well compared to the state as a whole.

(Sources of Data: U.S. Census Bureau, Small Area Estimates Branch; and Bureau of Labor Statistics)

A few other economic observations in Texas raise additional suspicions that the economic impacts of gas drilling are far less positive than have been claimed.

Regarding property values, a study by Integra Realty Resources commissioned by Flower Mound, Texas, concluded, "residential homes valued over \$250,000 that were immediately adjacent to well sites can lose 3 percent to 14 percent in value." It has also been reported that Kris Wise, a realtor in Flower Mound said, "the true loss is far greater, and nobody wants to buy homes near gas wells, not even for a 10 percent price cut." In reality, the valuation declines may be much more than 3 to 14 percent, as it's been reported that the Wise County Central Appraisal District Appraisal Review Board has "decreased values by 75 percent when a gas well sits on the land."

(Sources: <http://www.dentonrc.com/local-news/special-projects/gas-well-drilling-headlines/20110328-defending-the-mound.ece> and <http://www.dallasnews.com/incoming/20100918-Drilling-can-dig-into-land-value-9345.ece>)

Transportation and road costs associated with shale gas development in Texas have been very high. For example, one report states, "Texas Department of Transportation spokesman Mark Cross said the department has not calculated the potential long-term road maintenance costs associated with the shale drilling, but early accounts suggest it will be immense. In the department's Corpus Christi district alone, where three of the 10 counties lie atop the Eagle Ford Shale formation, projected maintenance needs during the next five years reach \$500 million, District Engineer John Casey said. That's triple the amount projected before the drilling boom, and it doesn't include millions more that counties will have to find

to repair roads off the state highway system.” New York must think about how such costs would be covered. Texas has a 7.5% natural gas severance tax while New York State has no severance tax.

(Source: <http://www.caller.com/news/2012/mar/11/eagle-ford-shale-amid-the-oil-boom-roads-go-bust/?print=1>)

Regarding health costs, there are numerous indications that there may be a direct connection between shale gas development and health degradation. If so, this is a significant economic cost to communities and regions with gas drilling. For example, it's been reported, “according to the Texas Commission on Environmental Quality 2010 inventory of gas production equipment in the 24 counties of the Barnett Shale, the same six counties with rising rates of invasive breast cancer also have the highest count of compressors, separators, tanks and other above-ground points of emissions.” And, according to Baylor University, in 2009, childhood asthma rates in the Tarrant County area of the Barnett Shale were more than double the national average, prompting further study. See also work by Dr. Theo Colborn that links endocrine disruption and gas drilling. And, there are a number of other studies and reports that indicate a possible connection between shale gas development and health degradation. If there is any truth to the many indications that emissions from natural gas development are linked to increased incidence of various diseases, this is a significant economic cost to communities and the region. (Sources: Denton Record-Chronicle, “Breast Cancer Rate Climbs Up,” Peggy Heinkel-Wolfe, August 31, 2011; and <http://www.baylor.edu/mediacommunications/news.php?action=story&story=98474>; and <http://www.endocrinedisruption.com/chemicals.introduction.php>)

It's likely that the economic benefits to New York State from shale gas drilling will fall short of the benefits from shale gas drilling in Texas, and it appears that in Texas, regions with gas drilling may not be benefitting economically from shale gas drilling.

Should New York State risk water and air contamination, public health degradation, costly infrastructure damage, and increasingly industrialized landscapes in rural areas, in order to benefit only the gas industry and a few large landowners? The areas with the shale are likely to be worse off economically. The experience in Texas appears to be consistent with independent, unbiased research on the economic impact of natural gas development, which concludes that in the long-run gas intensive counties are not better off than non-gas counties.