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Gauging the Economic Impacts of Marcellus Shale Drilling in the Pittsburgh Region

The proponents of drilling for gas in the Marcellus Shale formation are quick to point out the economic benefits this new industry is bringing to the Pittsburgh region and the state as a whole. To gauge the economic impact of Marcellus Shale drilling, this Policy Brief examines employment, sales tax remittances, and reported taxable income in counties where drilling is taking place.

Marcellus Shale drilling in the Pittsburgh metropolitan statistical area (MSA) began in 2007 when 8 wells were drilled in Butler County. Data through June 6, 2011 shows that since 2007 1,517 permits were issued and 729 wells have been drilled. The counties with the most wells drilled in the Pittsburgh MSA are Washington (370) and Westmoreland (127). The two counties with the fewest wells drilled are Beaver (1) and Allegheny (3). Rounding out the MSA are Armstrong (53), Butler (82), and Fayette (93). At the same time however, some Northeastern counties have experienced much higher levels of drilling activity with Bradford having 671 wells and Tioga 489 wells over the same period.

Employment is the most obvious direct impact the new industry has had on the region and state. The region's mining and logging sector, which includes gas drilling and extraction, is definitely adding a significant numbers of jobs, principally as a result of gas drilling. From May 2007 to May 2011 the region saw employment rise by 66 percent (3,200) in this sector at a time when overall private sector employment decreased by 1.4 percent. As a matter of perspective, it is important to keep in mind that the 8,000 payroll jobs in mining and logging represent less than one percent of the more than one million people on the region's private payrolls. Nonetheless, the booming growth in mining jobs and the presumed increases in employment directly related to drilling or indirectly benefitting from the drilling activity such as retail and restaurants provide a reasonable, if not complete, explanation of why the region's current employment situation compares very favorably to what is happening nationally.

Aside from an increase in the number of people employed, what other economic indicators have been affected? Simple logic suggests that with more people working, incomes should be higher there would be more spending at restaurants, retailers and consumer service providers. If this is indeed the case, then there should be an appreciable impact on sales taxes and taxable income in each county where drilling is present.

Income earned in Pennsylvania must be reported even if earned by non-residents. Using the Commonwealth's Department of Revenue's Tax Compendiums we are able to track sales taxes and taxable incomes in each county.

Sales tax remittances for all counties in the Pittsburgh MSA fell from fiscal year 2007-08 to fiscal year 2009-10. During this time the nation was plunging into a deep recession and the effect of the downward pull of the recession is hard to separate from any upward push the industry may have had on sales tax remittances from the counties in the area. However, it is noteworthy that the counties with the highest levels of drilling activity had smaller drops in tax remittances, suggesting that the income and sales resulting from gas drilling were acting to limit the negative impact of the recession.

In examining the data of four counties in the Northeastern part of Pennsylvania where Shale drilling has been very intense, compared to the Pittsburgh MSA, it was discovered that sales tax remittances had increased for all but one of the counties and increased quite substantially in a couple, defying the recessions effects. While sales tax remittance figures do not provide iron-clad proof of increased economic activity as a result of Shale drilling, the increases in sales taxes collected in these counties with very high levels of drilling activity would be hard to explain in any other way.

As mentioned above an increase in employment in the gas drilling sector should also translate into higher taxable incomes—even those workers who came from out of state are responsible for paying taxes on incomes earned in the state. Taxable income reported from each county from 2006 through 2008 indicates more growth in counties with more elevated levels of Shale drilling activity than those with low levels or no activity at all. For example, in the counties that comprise the Pittsburgh MSA, all had some level of Shale activity during this time frame and all had positive increases to reported taxable income.

The Pittsburgh MSA increases in income by county were generally greater than for counties with no Shale activity such as Crawford, Erie, York, and Schuylkill Counties, but were smaller than for counties in the Northern tier with much heavier drilling activity. However, while highly suggestive, this relationship merely shows a strong correlation and cannot be viewed absolutely as a causal relationship. On the other hand, pending a plausible alternative explanation, it is reasonable to give gas drilling much of the credit.

Under a section of taxable income called rent and royalties, we find perhaps the strongest evidence of the positive economic influence of Marcellus Shale drilling. Rents and royalties represent the income leaseholders would receive from allowing drilling on their land and the royalty payments from any gas extracted. In the Pittsburgh MSA, Washington County had the largest increase to this taxable income category with a 112 percent jump from 2006 to 2008. In the Northeastern counties, Susquehanna posted the biggest jump with a gain of nearly 1,600 percent. The smallest increase among the Northeastern counties was in Tioga at 381 percent. Among counties surveyed that have had no Shale activity, the largest increase in rent and royalties income was Mercer County at 24 percent.

In summary, analysis of economic indicators including employment, sales tax collections and taxable income points to a strong case that Marcellus Shale is having significant, positive impacts on the economies of counties where drilling is occurring.

*For more on this topic, please see the full length report on our website:
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