Shale Public Finance

Revenues, costs, and net fiscal impacts for local governments associated with oil and gas development

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Note: the findings presented below are preliminary, and may change upon further revision
Shale Public Finance project

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  – The Duke University Energy Initiative

• Carried out by the Duke University Energy Initiative
  – Richard Newell, director and principal investigator
  – Daniel Raimi, key researcher and analyst
Key questions

• What are the fiscal impacts to local governments from new or increased oil and gas development, and how have these impacts varied from region to region?

• Have varying state and local policies provided sufficient funding to manage these impacts?

• What lessons can be learned?
Presentation agenda

• Overview of project

• Key oil- and gas-related revenues and costs for local governments

• Findings from eight states

• Analysis and discussion questions
Research methods

• Structured interviews with local public officials in eight states
• Interviews with experts from state government, industry, independent researchers
• Analysis of state and local financial documents
• Analysis of state oil- and gas-related tax policies
• Regions were selected based on several factors
  – Recent growth in production
  – Variety of policies, governance structures, and demographics
  – Different phases of development
The shale gas and oil boom
U.S. natural gas production has surged
trillion cubic feet (tcf) of marketed production per year

Data source: DI Desktop and the U.S. Energy Information Administration
U.S. oil production has surged

millions of barrels per month

Total United States

Niobrara (CO, WY)
Eagle Ford (TX)
Bakken/Three Forks (ND, MT)
Permian (TX, NM)

Data source: DI Desktop and the U.S. Energy Information Administration
Travel and interviews
Our travels: heat map of recent drilling permits

Key revenue sources and key costs for local governments related to oil and gas development
Key revenue sources for local governments

- **State severance taxes (or impact fee)**
  - Collected by state governments, may or may not be allocated to local governments

- **Local ad-valorem property taxes**
  - Collected by local governments, oil and gas may or may not be exempt

- **Sales and use taxes**
  - Collected by municipal governments in most states, counties in some states

- **Direct payments**
  - Leasing/royalty revenues for production on local government land
  - Fee-for-service activities

- **In-kind contributions**
  - Road repairs by oil and gas companies
Key costs (i.e., service demands) for local governments

• Roads and bridges
  – May be impacted by heavy truck traffic

• Sewer and water infrastructure
  – May require upgrades if municipalities experience population growth

• Staff costs
  – Additional staff and equipment may be needed in various departments
  – Workforce retention is often a challenge for local governments
  – This may lead local governments to raise wages or other compensation
  – Staff time and resources devoted to oil and gas issues can be substantial
State-by-state findings

Texas
Louisiana
North Dakota
Montana
Colorado
Wyoming
Pennsylvania
Arkansas
Texas

• Key revenues
  – Property taxes (counties, some munis)
  – Sales taxes (munis)
  – In-kind agreements with operators (some counties)

• Key costs
  – Roads (counties, some munis)
  – Staff (counties and munis)

• Net financial impact
  – Counties: Roughly neutral to large net positive due to property tax revenues
  – Municipalities: Roughly neutral to large net positive due to sales tax revenues
Louisiana

• Parishes only

• Key revenues
  – Direct payments (leasing and royalties)
  – Sales taxes
  – Property taxes

• Key costs
  – Roads
  – Staff (salary increases, workforce retention)

• Net financial impact
  – Large net positive due to leasing/royalty, sales tax and property tax revenues
North Dakota

• Key revenues
  – Severance taxes collected by state, distributed by formula (counties and munis)
  – Sales taxes (counties and munis)

• Key costs
  – Roads (counties and munis)
  – Sewer and water from population growth (munis)
  – Staff (counties and munis)

• Net financial impact
  – Counties: Net negative—unable to keep up with road costs
  – Municipalities: Net negative—unable to keep up with service demands
Montana

• Municipalities only

• Key revenues
  – None for municipalities

• Key costs
  – Sewer and water from population growth

• Net financial impact
  – Net negative due to population growth, no severance tax revenue, no sales tax revenue
Colorado

• Key revenues
  – Severance tax, distributed by formula and through grants (counties and munis)
  – Property taxes (counties)
  – Sales taxes (some munis and counties)
  – In-kind agreements (some counties)

• Key costs
  – Roads (counties)
  – Sewer and water from population growth (some munis)

• Net financial impact
  – Counties: Large net positive due to property taxes
  – Municipalities: Small net positive due to severance tax revenue
  – Possible exception: County with substantial production on federal lands
Wyoming

• Key revenues
  – Property taxes (counties)
  – Sales taxes (munis)

• Key costs
  – Roads (counties)
  – Sewer and water from population growth (munis)
  – Staff (counties and munis)

• Net financial impact
  – Counties: Large net positive due to property tax revenues
  – Municipalities: Roughly neutral or small net positive due to sales tax revenues
Pennsylvania

• Key revenues
  – “Impact fee” based on number of new wells (counties and townships)
  – In-kind agreements with operators (townships)

• Key costs
  – Staff (counties and townships)

• Net financial impact
  – Townships: small to large net benefit
  – Counties: medium to large net benefit
Arkansas

• Key revenues
  – Property taxes (counties)
  – Sales taxes (munis)
  – In-kind agreements with operators (counties)

• Key costs
  – Roads (counties)

• Net financial impact
  – Counties: Medium to large net positive due to property tax revenues
  – Municipalities: Small to medium net positive due to sales tax revenues
Analysis

• Most local governments reported net positive fiscal impacts, even after the peak of the boom

• Most local governments in the Bakken region has to date experienced net negative fiscal impacts
  – May be due in part to the rural nature of the region and the scale of the boom

• Collaboration with industry can help reduce costs
  – Especially for road maintenance/repair, as seen in AR and PA

• Counties that collect property taxes on oil and gas property generally report positive net impacts

• Municipalities tend to experience smaller net fiscal benefits
  – Sales tax revenues are the major revenue source for most municipalities
Discussion questions

• Are we accurately describing the experience to date in your region of expertise?

• Do you agree with the finding that the Bakken region appears to be an exception?

• Have we left out any important revenues, costs, or service demands for local governments?

• Are there key findings or lessons that you have gained from your experience that we have not discussed?
For more information

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