



## THE RELATIONSHIP BETWEEN UNCONVENTIONAL OIL & GAS DEVELOPMENT AND BUSINESSES

Bakken • Powder River Basin • Marcellus

This report summarizes a survey that investigated the socioeconomic impacts of unconventional oil and gas booms on the business sector in four counties: Richland County, Montana; McKenzie County, North Dakota; Sheridan County, Wyoming; and Tioga County, Pennsylvania. The survey was mailed during periods of decline in oil and gas development.

### IMPACT ON BUSINESSES

More than half of the businesses indicated that their sales increased during the peak of drilling activity, and 58% said the overall impacts of the activity on their business were positive or very positive. For the majority of the remaining businesses the impacts largely were neutral; only four percent of the businesses reported sales decreases, and 11% said the overall impacts were negative or very negative.

Much of the economic activity was transitory, with 43% of businesses reporting falling sales as the oil and gas development declined. Another 41% of businesses reported no changes in their sales.

These impacts varied across the states, with businesses in North Dakota being most likely to report positive or very positive overall impacts (79%), and Pennsylvania businesses being the least likely (42% and 43%, respectively) during the peak of activity. These differences are likely due to differences in population size, mix of businesses, and distance to other economic centers.

### WHO BENEFITTED?

The type of impacts individual businesses reported were associated with the business sector in which they operated. All businesses in the oil/gas sector reported positive or very positive impacts during the peak of activity, for example. Other sectors with large proportions of businesses reporting positive effects included trade (83%), and hospitality (75%). Businesses in manufacturing (33%) and agriculture (36%) were least likely to report positive or very positive impacts. About a quarter of the agricultural firms reported negative or very negative effects, the most of any business sector.



**43%**

Of businesses reported a decrease in sales as oil & gas activity declined

### SURVEY METHODS

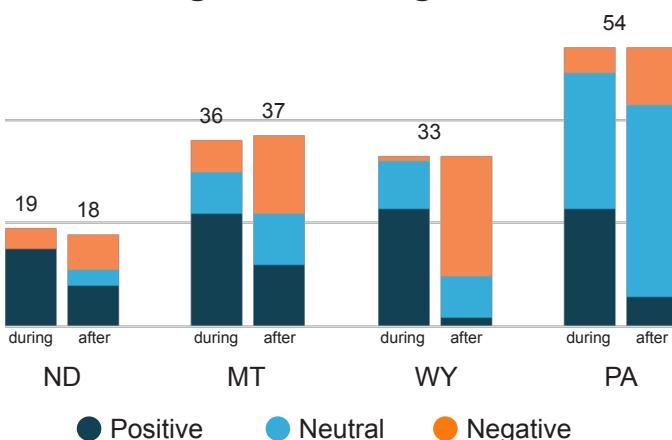
**Sample Size:** 1,600 businesses operating in four counties (400 per county)

**Response Rate:** 12.2% (154 respondents)

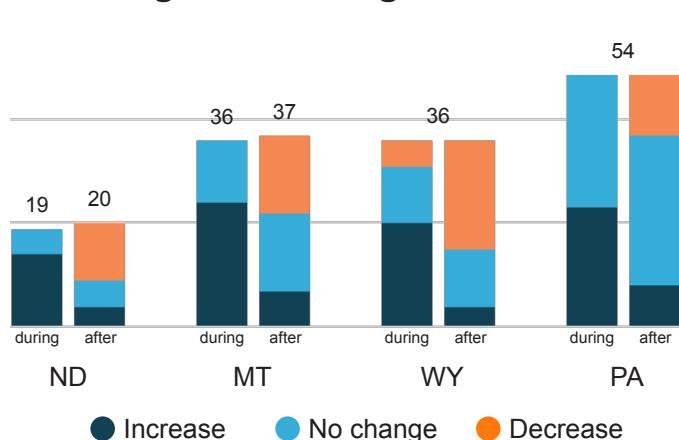
*The survey was administered in spring 2016 by Penn State's Survey Research Center. A separate survey was sent to landowners.*

# BOOM CYCLE IMPACTS ON BUSINESSES

## Overall Impact of Oil & Gas During & After Height of Boom



## Self-Reported Changes in Sales During & After Height of Boom



**72%**

Of businesses did not implement a strategy to deal with boom

**31%**

Of businesses did not expect the oil and gas activity to decline at all

## Examples of Business Adaptations & Strategies

Adaptations made during height of boom | Adaptations made after height of boom



### DIVERSIFICATION

Expanded services, products	Expanded geographic region
Increased subcontractors	New products
Expanded into new locations	Joined larger company



### CAPITAL ADJUSTMENTS

Upgraded equipment, renovated offices	Stopped buying new equipment, focused on maintenance
Purchased land, buildings	Reduced or sold property
Sold land	



### LOWER COSTS

Reduced labor	Reduced inventory
Decreased inventory and overhead	Reduced advertising
Did not overspend, avoided debt	Ended employee bonuses



### FINANCIAL DECISIONS

Created savings account, added to savings	Avoided overspending
New revenue strategy	Saved money
Paid off debt	Built cash reserves



### EMPLOYMENT

Increased employees	Reduced labor
Implemented more or better trainings	Cross-trained employees
Added staff bonuses	Did not fill empty positions



### BEHAVIORAL

Communicated with industry	Strong relationships
Lowered risk tolerance	Ended business partnership
Customer service	Prioritized safety

When the oil or gas development activity declined, 80% of the oil/gas businesses reported negative or very negative impacts, the most of any sector, as did 61% of businesses in the trade sector. In contrast, manufacturing businesses and agricultural businesses were the most likely to report positive or very positive impacts of the decline.

## ADAPTATIONS TO BOOM CYCLE

An important focus of this study was identifying which strategies, if any, businesses used to manage the challenges and opportunities of oil and gas development. The vast majority of businesses (72%) said they did not implement any special strategies for dealing with the development. This varied between the states: while 50% of the businesses in North Dakota and 44% of businesses in Wyoming reported using strategies, only 25% of businesses in Montana did so and 13% in Pennsylvania.

Business owners' expectations of how business activity would change in the future are important because such expectations affect their investments and other actions. The majority of businesses in these four counties had unrealistic and inaccurate expectations of how long the oil and gas development activity would last. Only 22% of the respondents said they expected the oil and gas activity to end when it did, while 31% did not expect it to decline at all and another 41% expected the decline to occur later than it actually did. These responses indicate that the business owners were overly optimistic about the oil and gas activity in their communities.

## IMPLICATIONS

The survey demonstrates that the majority of businesses in areas of oil and gas development experienced clear impacts from that activity. Most businesses reported the impacts as positive but transient, primarily occurring during the boom years before fading as the drilling activity declines.

Importantly, most businesses did not implement specific strategies to take advantage of the opportunities and minimize challenges from the activity. Furthermore, most business owners had inaccurate expectations of how long oil and gas activity would last, which makes strategizing and planning more haphazard.

These results suggest a clear need for groups working with businesses to improve their own expectations of the potential duration of oil and gas development, to identify successful strategies that businesses can implement to manage the opportunities and challenges, and to help businesses successfully adopt these strategies.



## How did your sales change during the height of the boom?

"We experienced increased foot traffic and business from land surveyors and the migration of new families into our area."

"The nature of my business is such that Marcellus Shale activity has no effect on it."

"As a general contractor, sales increased for residential work due to homeowners having more money to do home improvements. Most claimed they would not do the work if not for the extra income."

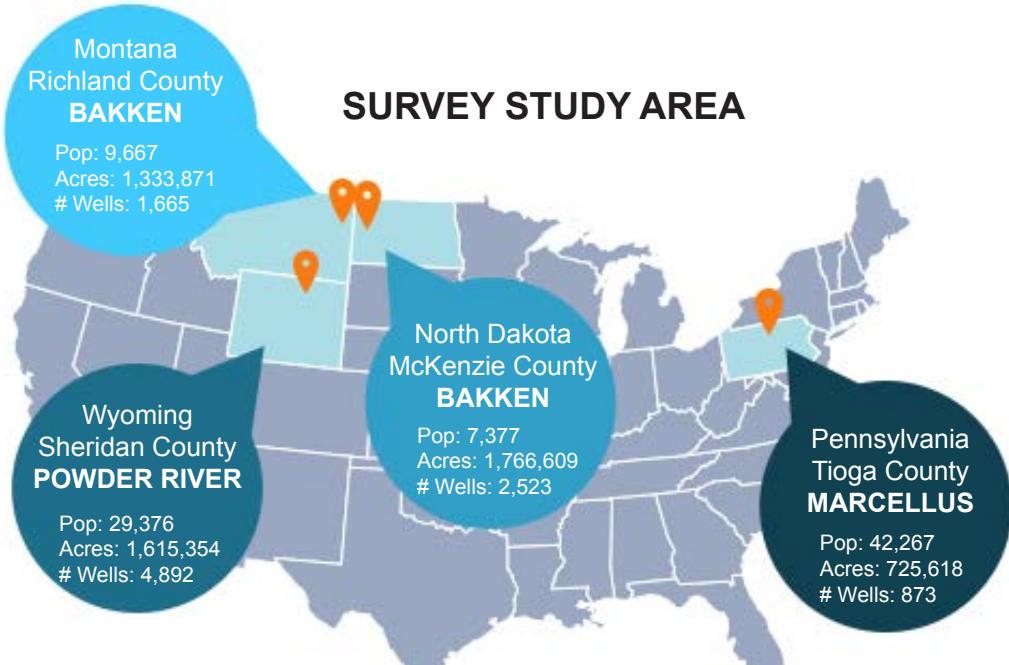
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## How did your sales change during the decline in oil and gas?

"Sales decreased [in] 2011, but sales are still higher than before the boom - say 2007."

"We had [built] to accommodate ... growth in the industry. By 2015 we were left with a large investment that was unneeded."

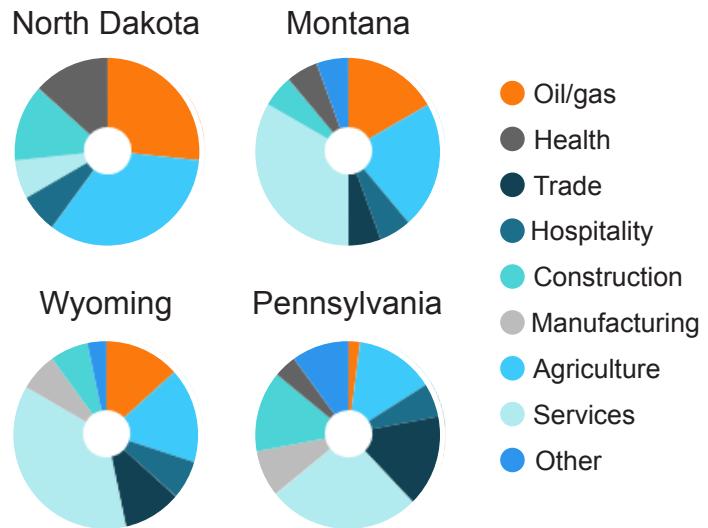
"We have had to cut wages, scale back our employee counts, and restructure our organization to ride out this low period... We will tighten our belts and wait it out."



## Business Owner Survey Methods & Demographics

The survey was sent to 1,600 businesses in four counties, and 154 were returned, yielding an effective response rate of 12.2%. Of the surveys, 290 (18%) were reported undeliverable by the Post Office, with a surprisingly large number undeliverable in ND (33% of all ND surveys). PA had the most returned surveys (38% of total respondents), followed by MT (25%), WY (23%), and ND (14%). The demographics of the survey respondents favored older white males: 73% of respondents were male, 70% were older than 50, and 97% identified as white. The average PA respondent had lived in their state for 48 years, followed by ND (44 years), MT (42), and WY (37).

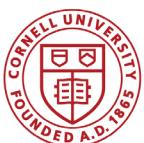
## Economic Sectors of the Businesses in Survey



**Full Survey Reports:** [www.montana.edu/energycommunities/findings.html](http://www.montana.edu/energycommunities/findings.html)

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