

Economic Impact Assessment



Colorado's Recent Rule Makings &
Impacts on Garfield County

2022 Energy & Environment Symposium
April 13-14, 2022

Goals & Outline



- ❧ Many studies estimating regulatory costs & benefits *during regulatory rule makings*
- ❧ This study looks at these costs *after* implementation
- ❧ Why? County tax base is affected by new investment
- ❧ Objectives of this study are three-fold
 - ❧ Identify & measure regulatory compliance costs,
 - ❧ Estimate impacts investment & production, and
 - ❧ Estimate the associated economic and fiscal impacts

Regulatory Compliance Costs



- ❧ Senate Bill 19-181 shifted focus from fostering oil & gas development (investment) to environmental protection
- ❧ Several rules, many of which are just being implemented
- ❧ We surveyed gas producers in Garfield County
 - ❧ Opened a dialogue on how to measure compliance costs,
 - ❧ How did costs change after passage of SB19-181?
 - ❧ How can we classify costs?
- ❧ Discovered an easy way to classify marginal compliance costs into:
 - ❧ Lease operating costs, and
 - ❧ Drilling & completion costs

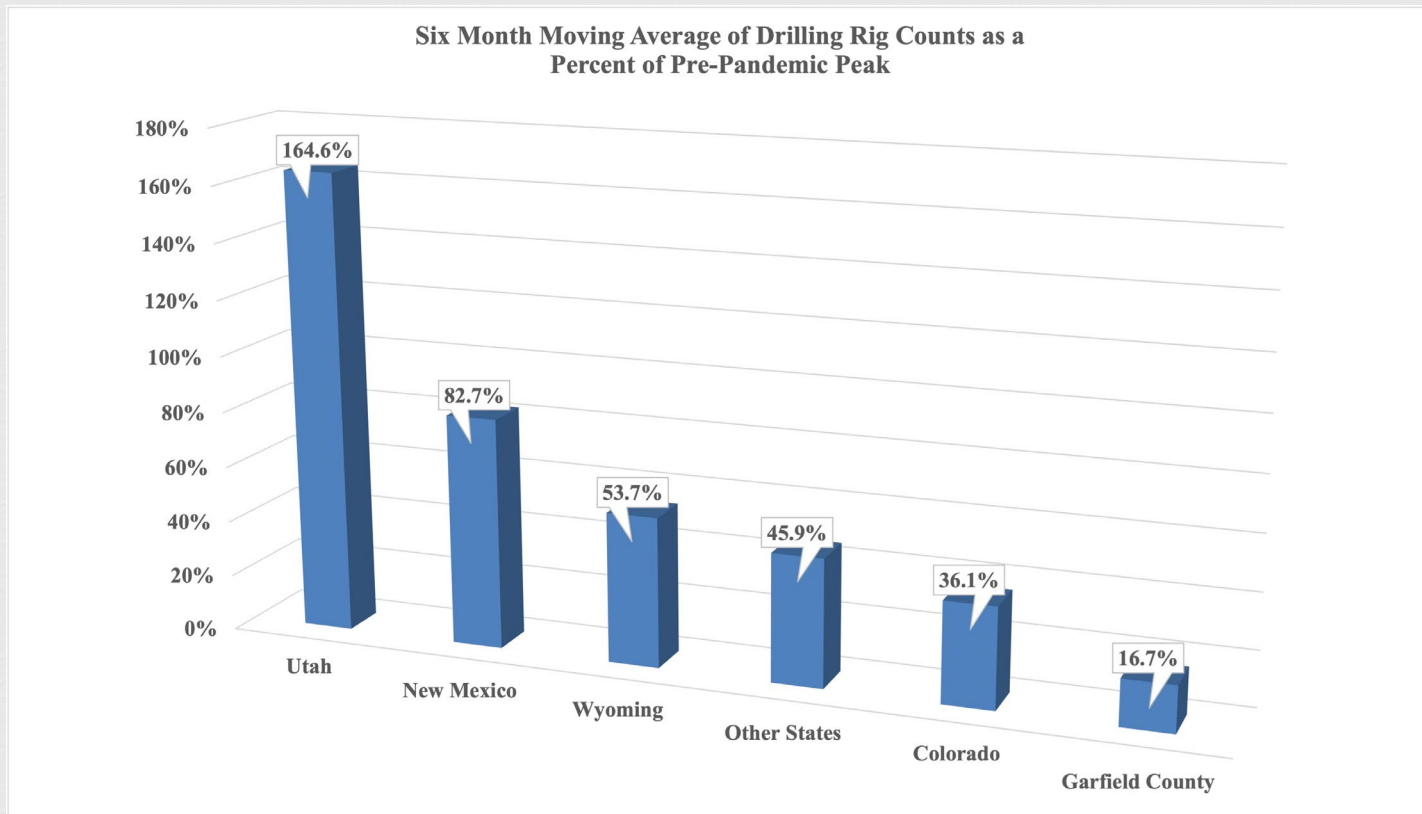
Impacts on Net Back Price & Drilling & Completion Costs



Lease Operating Expenses (LOE)	
Incremental Compliance Costs (million)	\$2.8
Incremental Output (mmccf)	21.54
Incremental Compliance Costs (\$ / mcf)	\$0.13
Kern Hub Price (\$ / mcf)	\$5.05
Net Back Price (\$ / mcf)	\$3.08
Percentage Change in Net Back Price	-4.2%

Drilling and Completion Costs (D&C)	
Incremental D&C Compliance Costs (million per well)	\$0.25
D&C costs per well	\$3.55
Percentage change in D&C Costs	7.0%

Rig Comparisons

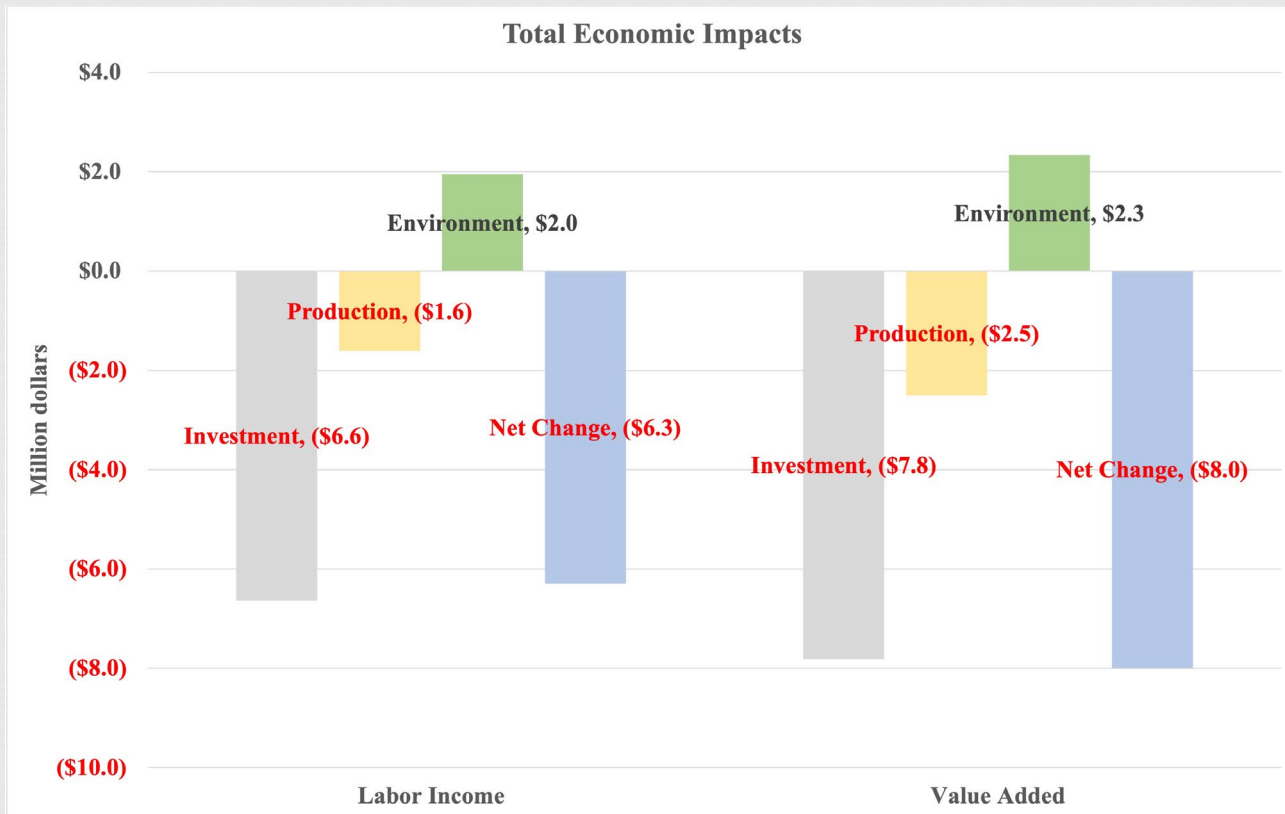


Impacts on Investment

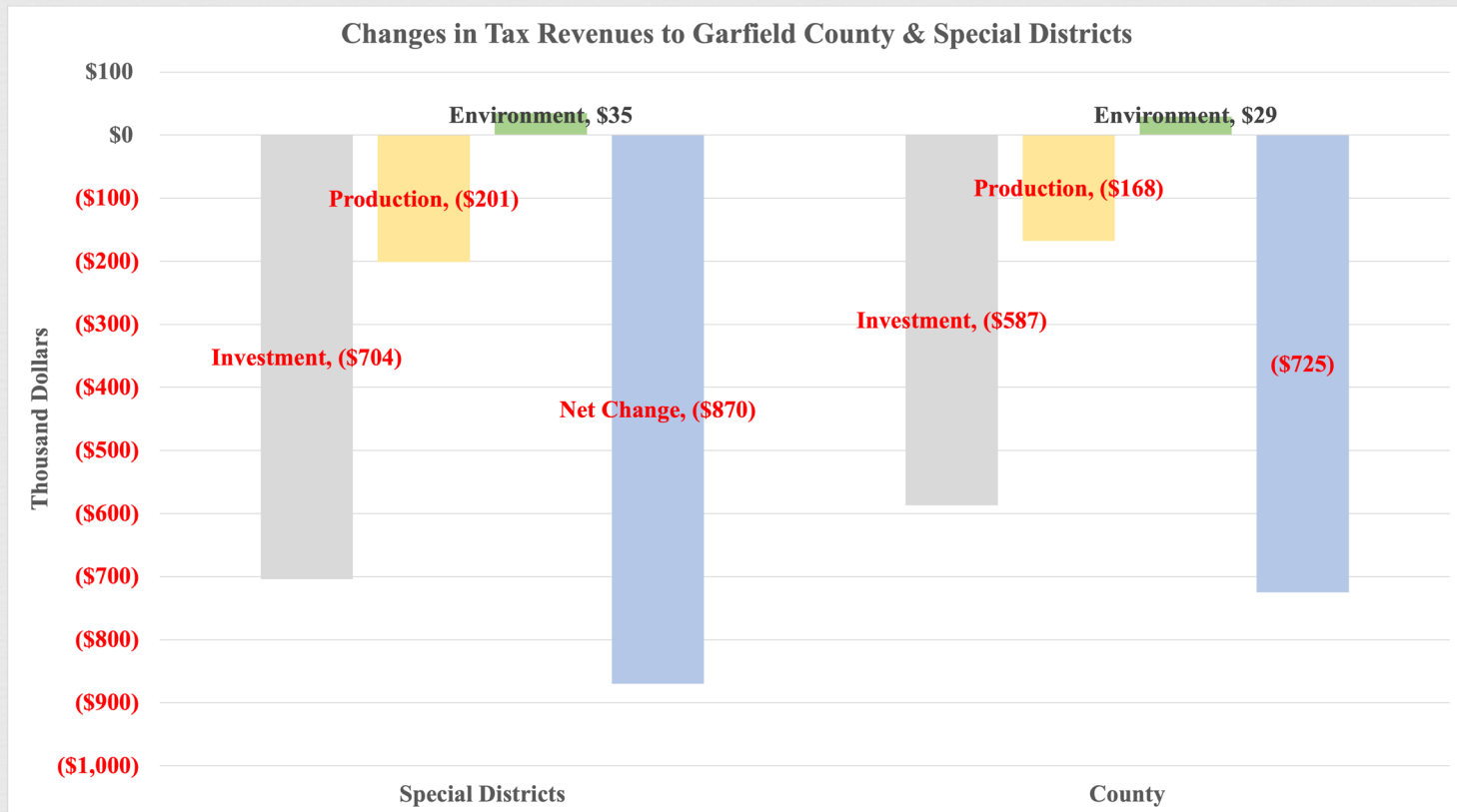


- ❧ Developed a model of drilling activity, number of wells drilled depends upon:
 - ❧ Net back price,
 - ❧ Well productivity, and
 - ❧ Drilling and completion costs
- ❧ Given the 4.2% reduction in net back price & the 7% increase in drilling & completion costs
 - ❧ Investment falls \$13.4 million (one-year), and
 - ❧ Production declines by \$4.5 (one-year)
- ❧ These losses have economic consequences

Economic Impacts



Fiscal Impacts



Summary



- ❧ Recent regulatory making in Garfield County during 2021 :
 - ❧ Reduces the netback wellhead price by 4%, and
 - ❧ Increase capital costs for new wells by 7%,
- ❧ Consequently, in just one year:
 - ❧ Investment declines by \$13.4 million,
 - ❧ Labor income falls \$6.3 & there are 180 fewer jobs, and
 - ❧ County tax revenues decline \$1.6 million
- ❧ Discounted lost future production is \$16 million
- ❧ Future severance & ad valorem taxes are \$1.5 million lower

The Road Ahead



- ❧ Future regulatory costs could increase significantly
- ❧ Need to consider impacts on *investment* & local economies
- ❧ How do setbacks affect investment?
 - ❧ Is there a smaller playing field?
 - ❧ Is there an impact on productivity?
- ❧ Will continue this work for Garfield
- ❧ Could be applied to other counties in Colorado

Thank You



Questions, Comments, and Suggestions Welcome