

Lawmakers and other interested parties have requested information on New Mexico’s effective tax rates on the oil and gas industry, along with an analysis of how those rates compare to other states. The purpose of this report is to provide context on determining and comparing effective tax rates on oil and gas production and to provide a broader picture of the cost of doing business in New Mexico for the oil and gas industry.

**DATE:** June 4, 2018

**PURPOSE OF HEARING:**  
Effective Tax Rates on the Oil and Gas Industry

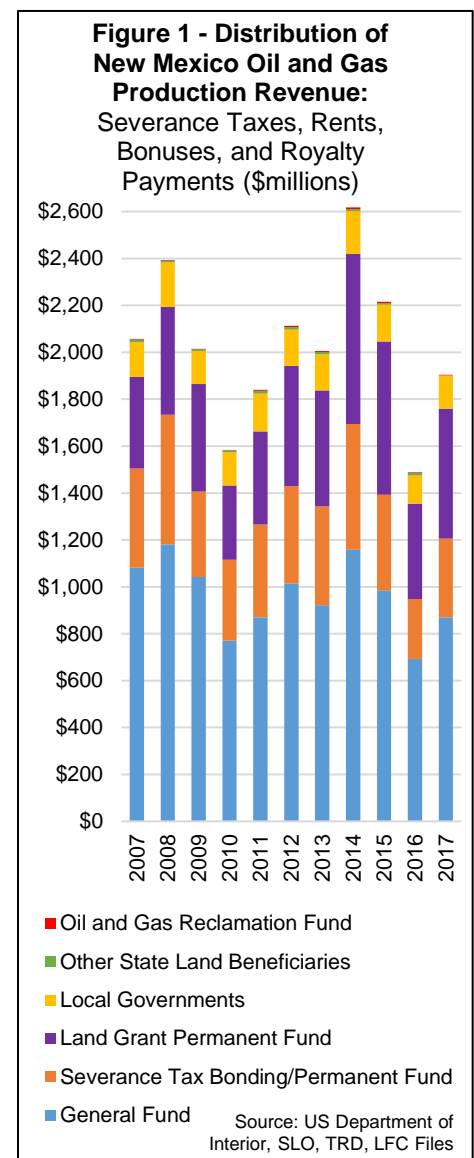
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## New Mexico Cost Burden on the Oil and Gas Extraction Industry

True comparisons of effective tax rates among states is virtually impossible due to differences in how taxes are imposed and assessed. Not all states levy the same taxes or rely on the same taxable bases. For example, some states impose taxes on mineral reserves (e.g. Utah, Texas, and California) that are generally assessed regardless of production levels. Some states base ad valorem taxes on production only while other states also assess local property taxes on equipment. Some states do not have sales or income taxes, and some states use severance or production taxes in lieu of other taxes.

Commonly, cross-state comparisons of effective tax rates only consider severance and production taxes, because data for these taxes tend to be readily available and generally capture the major taxes typically levied on oil and gas drilling and production activity. However, such calculations exclude other taxes and fees that add to the total cost of doing business in the state. Such costs include rents and royalty payments for production on state and federal lands, corporate income and franchise taxes, sales tax on drilling and other activity, motor vehicle tax, and motor fuel tax. Industry employees also make significant contributions to other state revenue streams, including personal income tax and sales tax. Cross-state comparisons viewing a narrow set of taxes can produce a misleading picture of the overall tax contribution of the oil and gas industry.

Another layer of complexity stems from the availability and reliability of state-level data. Revenue data on oil and gas industry contributions from small or indirect income sources (such as corporate income, sales, and excise taxes) may be unpublished or more difficult to find. State-level production and price data may also vary depending on the data source. For example, New Mexico oil and natural gas production and price data reported by the U.S. Energy Information Administration (EIA) tends to be higher than actual production and price data published by the Taxation and Revenue Department (TRD), due to EIA’s methodology for providing state-level estimates. Additionally, effective tax rate calculations based on the total value of production (rather than the taxable value) may understate the effective rate by not considering transportation and processing costs.



## Oil and Gas Industry Direct Revenue Contributions

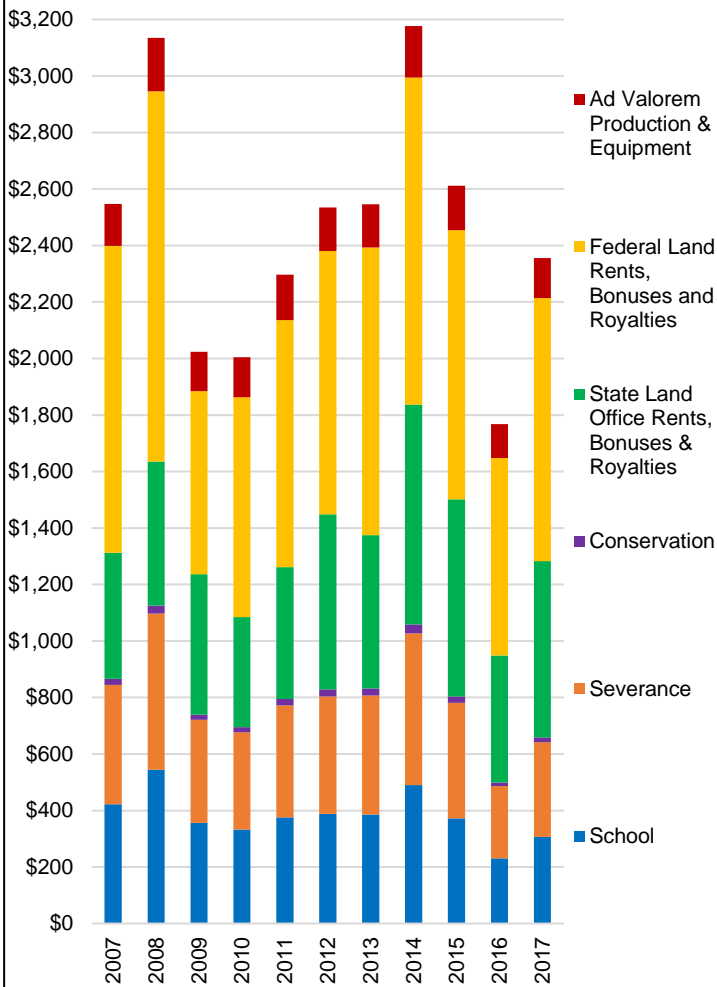
As shown in Figure 1 above, the oil and gas industry contributed about \$1.9 billion in direct revenue to New Mexico in FY17 through severance taxes and rents, bonuses, and royalty payments on state and federal lands. Of this amount, about \$870 million was distributed to the general fund, including revenue from the oil and gas emergency school tax and conservation tax, bonus income from the State Land Office (SLO), and the state share of federal mineral leasing (FML) payments. Revenue from the oil and gas severance tax, about \$336 million in FY17, is first distributed to the severance tax bonding fund to retire debt for government projects and any remaining funds are then distributed to the severance tax permanent fund (STPF). Royalty payments for production on state lands, which totaled \$554 million in FY17, are deposited into the land grant permanent fund (LGPF).

Property taxes in the form of ad valorem taxes on the value of production and production equipment provide revenue to local governments where production occurs, which totaled \$141 million in FY17.

In years of high oil and gas prices, such as FY14 when New Mexico oil averaged over \$95 per barrel and natural gas averaged over \$5 per thousand cubic feet, contributions from the oil and gas industry through these state revenue sources reached over \$2.6 billion.

Figure 2 shows the revenue contribution of the oil and gas industry in the state by revenue source and includes the federal share of rents, bonuses, and royalty payments for production on federal lands. The

**Figure 2 - Government Revenue Contribution from Oil and Gas in New Mexico by Source (\$millions)**

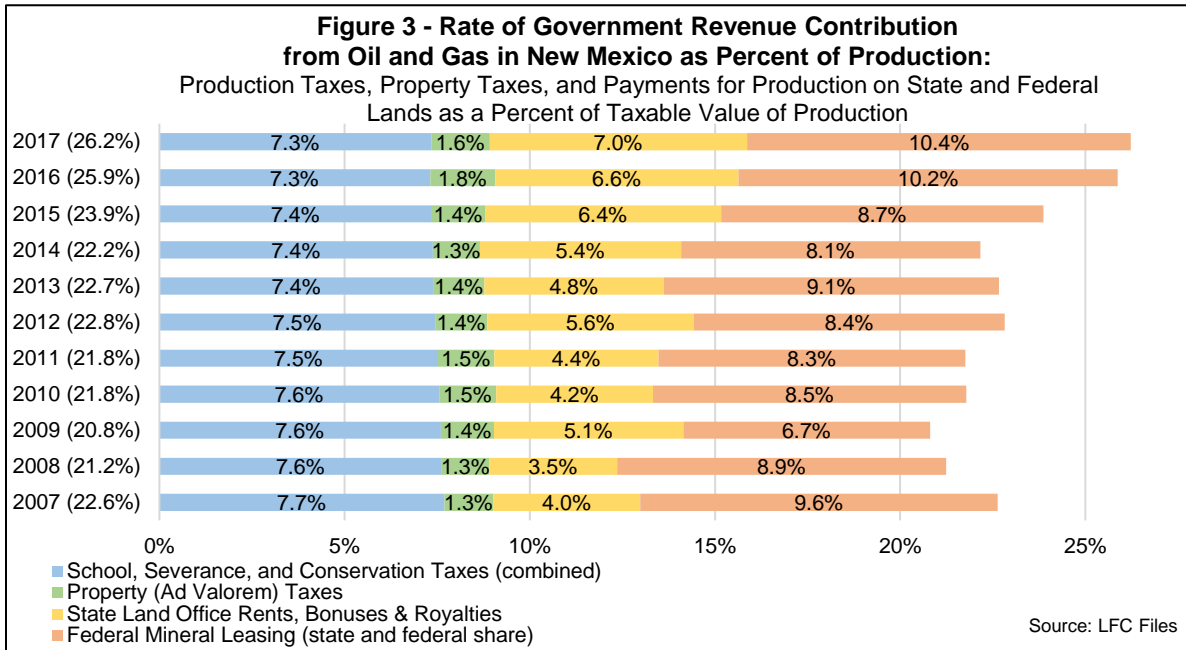


Source: US Department of Interior, SLO, TRD, LFC Files

inclusion of the federal share shows the contribution of revenue within state borders to all governments, leading to higher total revenues shown here than in Figure 1, showing the distribution of revenues received only by the state and local governments. In high price environments, such as FY08 and FY14, the amount paid by the industry in severance taxes and for production on state and federal land was over \$3 billion. In FY17, as prices recovered from the 2015-2016 crash and production levels surged, the amount contributed by the oil and gas industry from these revenue sources was near \$2.4 billion.

## New Mexico's Effective Tax Rates

Given the difficulties in determining a state's effective tax rate, a relatively straightforward calculation of an effective tax rate on oil and natural gas production divides production tax revenues by the taxable value of production. New Mexico's effective production tax rate on oil and gas has averaged about 7.3 percent over the last three years, including the school, severance, and conservation taxes. This rate is based on the taxable value of production, which accounts for transportation and processing costs. Since states do not tax royalties owned by the state or federal government, those amounts are also excluded from the taxable value.



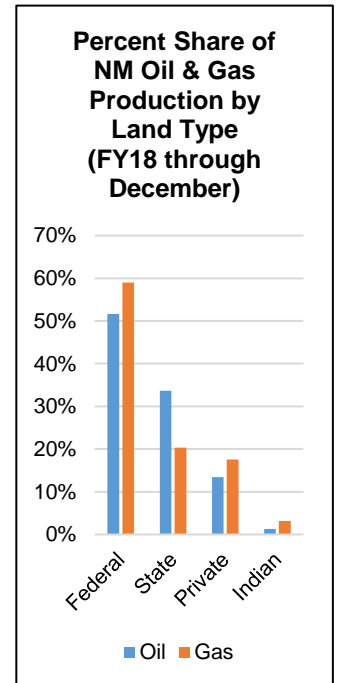
When looking at the combined effective rate of the above production taxes as well as ad valorem property taxes and payments for production on state and federal lands, the cost burden on the oil and gas industry was about 26.2 percent of the taxable value of production in FY17. As shown in Figure 3, this combined revenue contribution to federal, state, and local governments averaged about 22 percent from fiscal years 2007 to 2015, with bonuses, rents, royalties, and production and ad valorem taxes distributed across total taxable production value. The effective rate increases in FY16 and FY17 partially reflects the recent premium values of land leases on state and federal land in the Permian basin.

Consideration of production costs on public land is particularly important for New Mexico. While state and federal governments own about 40 percent of the state's total area, TRD data indicates about 80 percent of all oil and gas production occurs on state and federal lands. This compares to states like Texas where less than two percent of the state's total area is owned by state and federal governments.

While the combined effective rate captures most of the direct revenues for oil and gas production, better measures of the total tax burden on oil and gas companies may also include state and local sales taxes as well as corporate income taxes in the effective rate calculation.

### New Mexico Compared With Other Producing States

Various studies have attempted to compare states' effective tax rates. For the purposes of this report, LFC staff included (1) the most recent comparison found using severance, production, and property taxes in ratio to the taxable value of production; and (2) the most recent comparison found on total tax burdens for production, property, corporate income, and state sales taxes. Older, duplicative, or less relevant studies are not discussed; however, links to these studies are listed in the appendix.



### EFFECTIVE TAX RATES BY STATE

Based on severance, production and property taxes paid in ratio to taxable valuation of production  
Fiscal Year ended 6-30-16

State	Property Tax (Y/N)	Taxable Value (in billions)	Tax Collected (in millions)	Effective Tax Rate
Oklahoma	NO	\$11.236	\$364.9	3.2%
Idaho	YES	\$0.003	\$0.1	4.0%
Utah (1)	YES	\$1.625	\$99.0	6.1%
Texas (1)	YES	\$53.491	\$4,458.1	8.3%
New Mexico (2)	YES	\$6.831	\$619.3	9.1%
North Dakota	NO	\$14.958	\$1,404.8	9.4%
Montana	YES	\$0.919	\$91.1	9.9%
Alaska	YES	\$5.456	\$653.8	12.0%
Louisiana	YES	\$5.062	\$671.2	13.3%
Wyoming	YES	\$6.173	\$827.6	13.4%
Unweighted average rate				8.9%

(1) Utah and Texas assess an ad valorem property tax on the market value of mineral reserves, and this tax is assessed every year on the remaining value of the reserves.

(2) New Mexico was NOT included in this study; however, LFC staff used similar methodology to calculate the effective tax rate and included NM for reference only. New Mexico assesses an ad valorem tax on production and equipment in lieu of property tax.

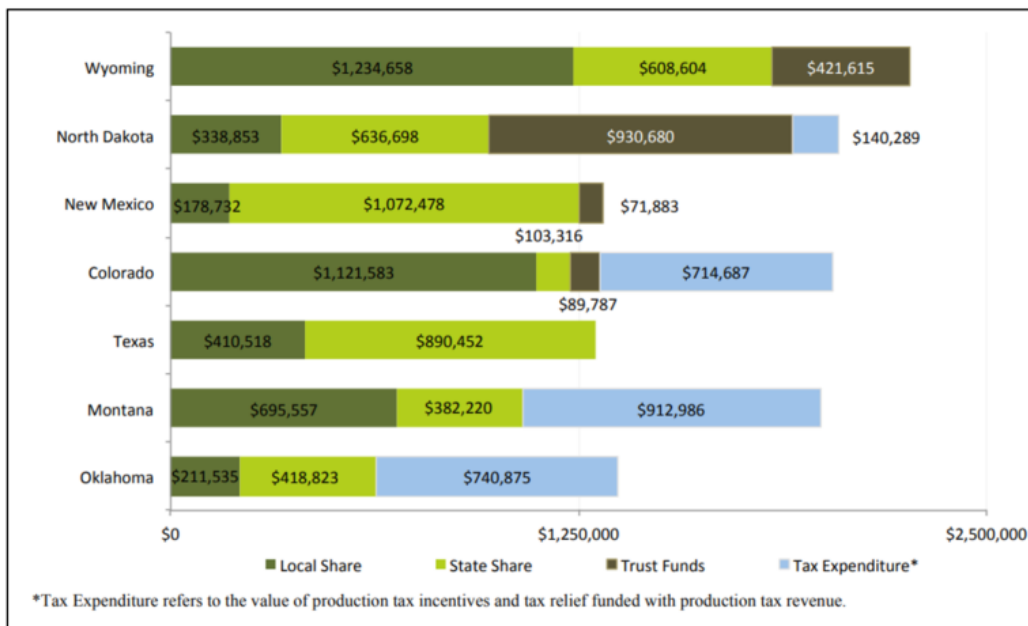
Source: Covenant Consulting Group, January 2017; New Mexico calculations by LFC staff

### Production Tax Comparisons

In January 2017, Covenant Consulting Group produced an oil and gas taxation comparison for the state of Idaho evaluating severance, production, and property taxes in ratio to the taxable value of production. Unfortunately, New Mexico was not included in Covenant’s report as a comparison state. However, LFC staff used a similar methodology to calculate New Mexico’s effective tax rate and included it in the table below for comparison. The study determines Texas’ effective tax rate was 8.3 percent in FY16, North Dakota’s was 9.4 percent, and Wyoming’s was 13.4 percent. Colorado, a high-producing neighboring state, was not included in this study. The table below presents the results of the analysis, revised to include New Mexico. Based on a similar calculation method, New Mexico’s severance and property tax burden, which was 9.1 percent for oil and gas in FY16, was on par with the unweighted average of the other states in the study, which was 8.9 percent.

Similarly, a report from Headwaters Economics in January 2014 examined New Mexico revenue collections on an unconventional oil well compared with that of other states. Unconventional oil plays, which utilize horizontal drilling and hydraulic fracturing techniques, incited the shale oil production boom in New Mexico and the United States. Currently, over 90 percent of all active rigs in New Mexico are drilling horizontal wells, compared with about 45 percent in 2011. Headwaters calculates the effective tax rate of New Mexico’s production and property taxes on a typical unconventional oil well at 6.9 percent. This effective tax rate is on par with the neighboring states of Texas and Colorado (calculated at 6.7 percent and 6.8 percent, respectively) and ranks fourth of the seven states compared in the report. Figure 7 above shows the distribution of production tax revenues collected on an unconventional oil play across these seven states.

Figure 4: Comparison of Production Taxes Collected from a Typical Unconventional Oil Well



Source: Headwater Economics, January 2014

Both the Covenant study and the Headwaters study find New Mexico’s production tax burden to be about mid-range compared to other producing states.

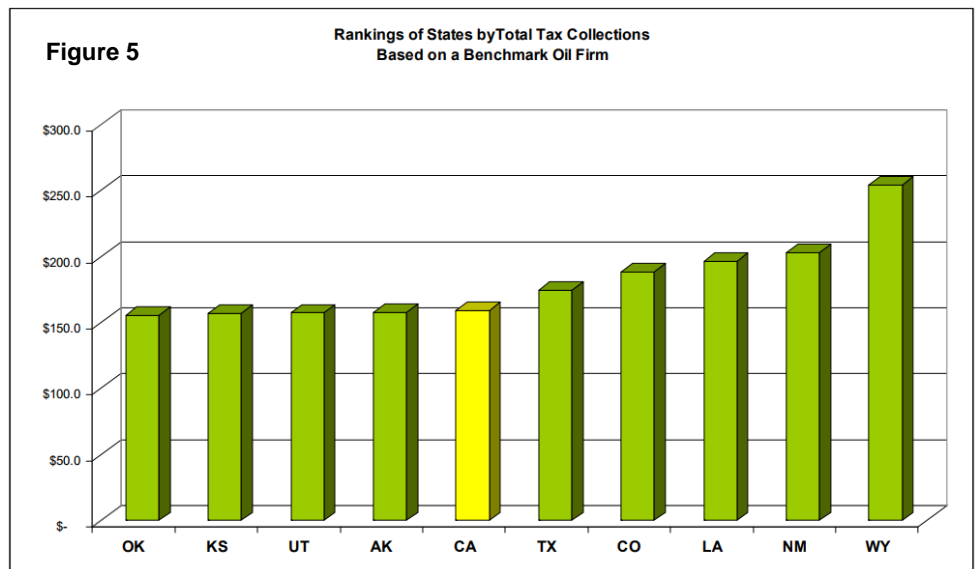
A 2015 working paper for the United States Association for Energy Economics (USAEE) found that states with substantial oil and gas production tend to have higher effective tax rates, and a state’s effective rate may vary over time due to changing market conditions. For example, regional and national price differentials will affect states’ effective tax rates for those that base

taxes on production valued at national prices – lower regional prices compared to national prices will make a state’s effective tax rate seem higher. Additionally, the USAEE paper noted a variety of ways to compare effective tax rates. A method using an unweighted average state effective rate would treat minor and major producing states equally, whereas using a weighted median rate would give more weight to major producers and may be more relevant to policy governing the typical dollar of production versus policy governing the typical state.

***Comparing the Broader Tax Contribution of Oil and Gas***

Other studies have attempted a more comprehensive comparison of states’ total tax burdens by including additional taxes collected from the oil and gas industry, such as corporate income tax and state and local sales taxes. A December 2008 study by consulting firm LECG compared taxes imposed on oil companies in the 10 largest oil-producing states. This study examined the potential total tax collections on a hypothetical oil company in each of the ten states if subjected to the states’ production, property, corporate income, and state sales tax rates. Because the study was produced for a proposed severance tax increase in California, the highlighted column in the charts below represents California. The LECG study found New Mexico ranked second in total tax collections. However, not considering Wyoming, Figure 5 shows total tax collections by New Mexico, Colorado, and Louisiana were relatively similar, with the other states not far behind.

Although New Mexico was found to have an above-average tax burden on oil companies, the LECG study is now almost 10 years old, and various changes in tax rates and structures may have occurred since the report. For example, this study does not consider the effects of HB641 (Laws 2013, Ch. 160), which phased in corporate income tax rate reduction and single sales factor apportionment, allowing some companies to claim less revenue in New Mexico. The study would also not reflect any other states’ recent changes to their severance, property, corporate income, or sales tax codes.



Source: LECG, December 2008

A more recent 2018 study by RegionTrack, Inc. examined effective tax rates across 16 oil and gas producing states considering severance, property, personal income, and sales taxes. Figure 6 shows the study results but excludes personal income taxes, which reflect payments from oil and gas industry employees but do not reflect companies’ cost of doing business. The RegionTrack study found New Mexico had the second highest effective tax rate, although the rate was not substantially higher than other high producing states. However, LFC staff discovered flaws in the study’s calculation methods in which the rate for New Mexico erroneously includes federal mineral leasing payments, artificially driving up the state’s effective tax rate. Figure 7 shows that, if calculated correctly, New Mexico’s effective tax rate for this study should be about 9.9 percent, which is

**Figure 6. Oil and Gas-Related Payments and Combined Effective Tax Rate (FY2016)**

State	Oil and Gas-Related Taxes (\$millions)				2016 Oil and Gas Production Value (\$mil.)	Combined Effective Tax Rate
	Severance	Ad Valorem	Sales	Total		
Louisiana	\$442.9	\$197.6	\$300.0	\$940.5	\$6,422.5	14.6%
New Mexico	\$717.6	\$165.0	\$208.6	\$1,091.2	\$8,329.1	13.1%
Texas	\$2,282.7	\$2,229.8	\$3,139.5	\$7,652.0	\$63,591.1	12.0%
Wyoming	\$370.4	\$307.0	\$85.0	\$762.4	\$6,717.0	11.4%
North Dakota	\$1,483.3	\$0.0	\$110.3	\$1,593.6	\$15,546.6	10.3%
Montana	\$95.4	\$4.2	\$0.0	\$99.6	\$991.3	10.0%
West Virginia	\$134.4	\$105.0	\$56.6	\$296.0	\$3,177.5	9.3%
Colorado	\$79.0	\$434.7	\$210.7	\$724.4	\$8,085.7	9.0%
Oklahoma	\$330.7	\$157.6	\$536.4	\$1,024.7	\$11,514.7	8.9%
California	\$85.2	\$400.0	\$171.9	\$657.1	\$7,804.6	8.4%
Kansas	\$43.8	\$68.6	\$30.2	\$142.6	\$2,095.4	6.8%
Ohio	\$34.3	\$30.3	\$162.9	\$227.5	\$3,742.6	6.1%
Alaska	\$244.1	\$111.7	\$32.0	\$387.8	\$6,704.0	5.8%
Arkansas	\$31.9	\$37.6	\$61.4	\$130.9	\$2,266.0	5.8%
Utah	\$23.9	\$45.4	\$19.4	\$88.7	\$1,996.9	4.4%
Pennsylvania	\$173.3	\$0.0	\$182.6	\$355.9	\$11,819.9	3.0%
16-States	\$6,572.9	\$4,294.7	\$5,307.7	\$16,175.3	\$160,804.8	10.1%

Notes: Base year is FY2016 for severance tax; approximately FY2016 for ad valorem tax subject to reporting variability; and FY2015/16 for sales tax. 2016 oil and gas production value based on total market value of production, calculated using state-level price and production estimates by the Energy Information Administration. Source: RegionTrack, January 2018

**Figure 7. LFC Recalculation of New Mexico Oil and Gas-Related Payments and Combined Effective Tax Rate (FY2016)**

	Oil and Gas-Related Taxes (\$millions)				2016 Oil and Gas Production Value (\$mil.)	Combined Effective Tax Rate
	Severance	Ad Valorem	Sales	Total		
New Mexico	\$499.4	\$119.8	\$208.6	\$827.9	\$8,329.1	9.9%

Note: Rate reflects sales tax and oil/gas production value estimate by RegionTrack; severance tax and ad valorem tax revenues as reported by the NM Taxation and Revenue Department; combined effective tax rate calculation by LFC staff.

below the study’s reported 13.1 percent and would drop the state’s rank to about sixth.

In general, New Mexico’s total cost burden appears to be on par with that of other high-producing states. All of the studies of state effective tax rates on oil and gas extraction have various limitations, such as reliance on third-party data, variation in which taxes to consider, lack of consideration of royalty-based revenues, and differences in states’ taxable bases that make “apples-to-apples” comparisons particularly difficult, if not impracticable.

When considering any cross-state comparison of effective tax rates on the oil and gas industry, it is important to understand these limitations. It is also important to understand production taxes do not occur in a vacuum. A state’s total cost burden on the oil and gas extraction industry includes both production taxes as well as other taxes, fees, and payments.

### Oil and Gas Development and Investment Decisions

The timing and location of oil and gas exploration and production depends on a variety of factors, not just a government’s take (total revenue as a percentage of the value of the oil and natural gas produced). Companies will also consider the size and availability of oil and gas resources in the ground; availability of infrastructure such as roads, water, and electricity; the costs of finding and developing these resources, including labor costs and costs of regulatory compliance; as well as other social and political factors. Governments are responsible for creating and implementing relevant regulations, and unstable or unpredictable regulatory environments can delay activity or deter investment. Additionally, community behavior can influence investment decisions and subsequent exploration and production decisions – communities that are unhappy with land agreements, infrastructure development, and other economic opportunities may lobby state and local governments to take action that can significantly affect or halt oil/gas field activity. All else equal, a company is more likely to invest in regions with a lower government take; however, other factors mentioned above also play an important role in the oil and gas industry’s overarching investment decisions.

## APPENDIX

New Mexico Taxes and Fees on Oil and Gas Production			
Revenue Source	Oil	Gas	Revenue Distribution
Oil and Gas Severance Tax	3.75% of value	3.75% of value	Severance Tax Bonding Fund (then Severance Tax Permanent Fund)
Oil and Gas Emergency School Tax	3.15% of value	4.0% of value	General Fund
Oil and Gas Conservation Tax	0.19% of value	0.19% of value	General Fund and Oil and Gas Reclamation Fund
Oil and Gas Ad Valorem Production Tax	Based on property tax in the district of production	Based on property tax in the district of production	Local Governments
Oil and Gas Ad Valorem Equipment Tax	Based on property tax in the district of production	Based on property tax in the district of production	Local Governments
State Land Office Rental and Bonus Income	Land leases and bids		Land Maintenance Fund (distributed monthly to 22 beneficiaries including the general fund)
State Land Office Royalty Payments	20% (adjusted based on the location of known production areas and the likelihood of discovering oil and gas)		Land Grant Permanent Fund
Federal Land Rental and Bonus Income	Land leases and bids		~50% to Federal Government ~50% to New Mexico (General Fund)
Federal Land Royalty Payments	12.5% (U.S. federal on shore)		~50% to Federal Government ~50% to New Mexico (General Fund)

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- Weber, Jeremy Glenn and Wang, Yongsheng and Chomas, Maxwell, *How Much Do U.S. State Governments Really Tax Oil and Gas Extraction?* (October 9, 2015). USAEE Working Paper No. 15-223. Available at SSRN: <https://ssrn.com/abstract=2672076>

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## Energy Tax Primer

Energy revenue accrues to state and local governments from a variety of sources. Production taxes and royalties are specific levies on the value of the resource produced and make up the lion's share of revenue from oil production. They also are the most flexible in addressing community needs relative to other general taxes that are broadly applied to all economic activity and whose allocations are less able to address specific needs.

**Production Taxes:** In general, a "production tax" is any tax levied against the production value or volume of oil and natural gas extracted or "severed" from the earth. Production value equals price times volume. Wyoming's severance tax, North Dakota's gross production and oil extraction taxes, and New Mexico's emergency school tax are all examples of production taxes. In Colorado and Wyoming, local governments also levy ad valorem (property) taxes on the production value of oil and natural gas at the local level.

**Royalties:** Royalties are production taxes paid to the owner of the resource, including federal, tribal, state, and private landowners. Federal royalties are paid to the U.S. Treasury, and roughly half are returned to the states where drilling takes place. Federal onshore royalties are 12.5 percent. Most states charge royalties of 16.67 to 18.5 percent. Royalties paid to private landowners fall in a similar range, but can be higher in particularly active plays. Companies also pay bonuses (a premium paid to win a leasing contract to drill in a specific area) through the competitive leasing process, and fees or rents to maintain a lease.

**Corporate Income Taxes:** Production taxes and royalties are distinct from corporate income taxes levied on net profits. Corporate income tax rates vary widely at the state level, ranging from zero (in Wyoming) up to about ten percent for the highest tax brackets in several states. Corporate income taxes are relatively unimportant to communities: compared to production taxes and royalties, corporate income taxes have generally lower rates, a smaller tax base (net profit compared to gross production value), and almost always accrue to the state general fund, not local jurisdictions.

**General Taxes and Fees on Drilling Activity:** State and local governments also levy taxes and fees on the value of labor, purchases, land, and equipment associated with drilling activities. The general tax structure can be important to local governments, but the role they play varies from state to state. Sales taxes generate revenue in jurisdictions where activity takes place, and concurrent with activity. In some states, however, sales taxes accrue to the state government and distributions are made on a formula unrelated to local impacts. Property taxes on land and equipment value are levied at the local level, but respond slowly to rapid changes in activity.

**Impact Fees and Special Assessments:** Communities and states can impose impact fees that are directly related to identifiable energy development costs. Local governments have enacted impact fees sparingly. For example, Rio Blanco County, CO imposes fees for road costs associated with drilling traffic. Communities can also levy local option taxes to address specific needs and capture revenue from increased activity. Rock Springs, WY used a variety of local option taxes to fund infrastructure and services related to energy impacts over the last decade. States can also impose fees, but do so sparingly. Wyoming's Industrial Siting Act is a good example of how states could help address impacts, though oil and natural gas are exempt. Pennsylvania levies a state impact fee per well, but the fee is more properly characterized as a form of production tax. The fee is collected annually only after production begins, and is not calibrated to specific service or infrastructure costs.