



Severance Taxes and the Natural Gas Industry

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Severance Taxes

- West Virginia is one of several states where the severance tax is a significant source of revenue.
- Coal, natural gas, and oil all play a major role in the economies of the top severance tax states.
- In FY 2010, severance tax revenue from natural gas production made up about 12% of WV's total severance tax revenue, while coal made up 86%.

State	Severance Tax Share of Total State Tax Revenue
Alaska	74.3%
North Dakota	43.0%
Wyoming	34.1%
New Mexico	14.8%
Montana	11.8%
Oklahoma	10.5%
West Virginia	9.0%
Louisiana	8.7%
Texas	4.4%
Kentucky	3.3%

Source: U.S. Census Bureau, 2010 Annual Survey of State Government Tax Collections

Comparing Severance Taxes

- 38 states tax natural resource extraction, but not all the same way.
- Some tax production volume, others tax production value.
- Credits, exemptions, and incentives also create differences. For example the thin-seam coal tax preference was valued at \$74 million in FY 2010.
- For these reasons, comparing statutory rates tells us very little about tax burdens among states.
- Calculating the effective rate takes into account differences between states' tax structures and allows for comparisons of the tax paid across states.
- The effective rate can be determined by dividing tax revenue by production value.

Effective Severance Tax Rates

- These effective rates were calculated by dividing severance tax revenue by the total value of shipments and receipts for services for the extractive industry (including coal, oil, and natural gas).
- West Virginia's overall effective rate is lower than the rate in several other highly productive energy states.

State	Effective Severance Tax Rate
Alaska	11.2%
North Dakota	9.6%
Montana	7.5%
New Mexico	5.4%
Kentucky	3.6%
Wyoming	3.6%
West Virginia	3.2%
Oklahoma	2.8%
Texas	2.7%
Louisiana	2.1%

Source: U.S. Census Bureau, 2007 Economic Census, and 2007 Annual Survey of State Government Tax Collections

The impact of severance taxes

- Concerns exist that varying tax policy across states, particularly severance taxes, can have significant implications for the location, development, and production decisions of the natural gas industry.
- Studies of the severance tax in other energy producing states have shown that changing tax rates have little effect on production.
- Instead, studies have found that raising or lowering severance tax rates greatly impacts government revenue.

Academic Findings – Little effect on production

- 2 studies requested by the Wyoming Legislature came to similar conclusions regarding the severance tax –
 - 1: Reductions in the severance tax had a minimal effect on production while significantly reducing tax revenue.¹
 - 2: Increasing tax rates also had little effect on production, while substantially increasing revenue.²
- A more recent study commissioned by the Utah Tax Reform Commission found that eliminating tax exemptions and credits (raising the effective rate) for the oil and gas industry would increase revenue while only having a small impact on industry activity.³
- A 1985 study from Penn State found that creating a severance tax in PA would generate millions in new revenue with a only a small impact on employment.⁴

1 - Shelby Gerking, et al, "Mineral Tax Incentives, Mineral Production and the Wyoming Economy," report prepared for the Mineral Tax Incentives Subcommittee, Wyoming State legislature, December 2000.

2 - Mitch Kunce, et al, "State Taxation, Exploration, and Production in the U.S. Oil Industry," report prepared for the Wyoming State Legislature, November 2001.

3 - Gabriel Lozada and Michael Hogue, "The Effect of Proposed 2009 Tax Changes on Utah's Oil and Gas Industry," report prepared for the Utah Tax Review Commission, December 18, 2008.

4 - Jill Findeis and James Shortle, "Trade-offs Between Severance Tax Revenues and Coal Mining Employment," Penn State University, October, 1985.

Tax incentives hurt revenue without affecting production

Tax Incentive	Change in Production (60 year window)	Change in Present Value of Severance Tax Revenue
Reduce Rate on Oil and Gas by 2% points	0.68%	-17.35%
Reduce Rate New on Oil and Gas Production by 4% points	1.66%	-42.84%
Reduce Rate on Coal by 2% points	0.47%	-27.0%

Source: Shelby Gerking, et al, "Mineral Tax Incentives, Mineral Production and the Wyoming Economy," report prepared for the Mineral Tax Incentives Subcommittee, Wyoming State legislature, December 2000.

State to state tax parity has little effect

- Experiences in other states has also shown that differences in overall tax structures and effective rates has little impact on the amount of investment and activity between states.
- After 2000 tax reforms in both states, there is little evidence that the natural gas industry fled Wyoming's higher tax climate and moved to Montana.

	2000 Tax Reform	Overall Effective Tax Rate on Oil and Gas Production	Added Production Value 2000-2006	Revenue Change 2000-2006
Wyoming	Canceled severance tax reduction	15.9%	\$10 billion	+335%
Montana	Reduced base severance rate; reduced rate on new production	10.4%	\$2 billion	+280%

Source: Headwaters Economics, "Energy Revenue in the Intermountain West," October 2008

State to state tax parity has little effect

- In 2010, West Virginia, with a severance tax of 5% of production value, led the country in the number of new gas wells drilled, with 1,896.
- Pennsylvania drilled less than half (833) the number of new wells than West Virginia, despite having no severance tax.

State	Change in Number of Wells, 2009-2010
West Virginia	1,896
Texas	1,507
Arkansas	1,282
Kentucky	1,092
Virginia	934
Pennsylvania	833

Source: World Oil Online

Why do severance taxes have a small impact?

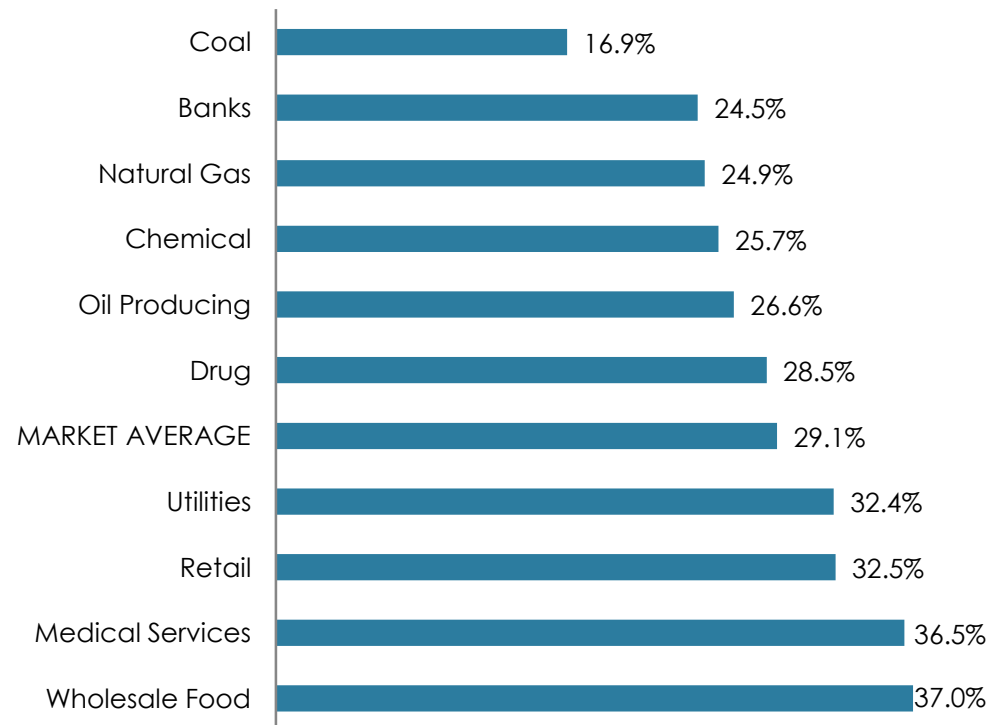
- Production of natural resources is driven mainly by the location of reserves, not by prices, tax rates, or tax incentives.
- The natural gas industry, and other natural resource extractors, are less able to relocate than industries with mobile capital resources.
- Severance taxes are deductible from a firm's federal corporate income tax liability (35% rate).
- For every dollar in severance tax that is forgone, 35 cents flows to the federal government and only 65 cents remains with the business.

Why do severance taxes have a small impact?

- Overall, the natural resource industries have a below average overall tax burden, in part due to the deductibility of the severance tax.
- Chesapeake Energy paid no federal corporate income taxes on \$2.8 billion in profits in 2010, and had an average effective rate of only 8.1% from 2008-2010.¹
- In addition, taxes are a small part of the cost of doing business. Minor variations in wages, utilities, and transportation costs can offset even major changes in business taxes.

¹ - Robert McIntyre, et al, "Corporate Taxpayers & Corporate Tax Dodgers 2008-10," Citizens for Tax Justice and Institute on Taxation and Economic Policy, November 2011

Effective Tax Rate (federal, state, local) of Profitable Firms by Industry



Source: Aswath Damodaran, NYU

Who really pays the severance tax?

- Scholars have debated over the incidence of the severance tax.
- Some suggest that in a free market, the severance tax burden is borne by the producer, resulting in lower profits and wages.¹
- However, there is little empirical evidence showing this.
- Most agree that severance taxes are highly exportable, and tend to fall on consumers in other states, rather than producers.²
- Texas's tax incidence model shows more than half of its oil production tax is exported.³
- Minnesota's model found that 90% of its severance tax on taconite is exported.⁴
- Approximately 90% of coal and 57% of natural gas produced in West Virginia is exported.⁵

1 – W. Hildreth and James Richardson, *Handbook on Taxation* (New York: Marcel Dekker, 1999), pp. 227-236 and, James Richardson, "Severance Tax, State," in *The Encyclopedia of Taxation & Tax Policy*, (Washington, D.C., The Urban Institute Press, 2005).

2 – Robert Tannewald, "Fiscal Disparity Among the States Revisited," *New England Economic Review*, July/August 1998, pp.7. and,

Mark Robyn and Gerald Prante, "State-Local Tax Burden Falls in 2009 as Tax Revenues Shrink Faster than Income," *Tax Foundation*, February 2011, pp.68.

3 – Susan Combs, "Tax Exemptions & Tax Incidence: A report to the Governor and the 82 Texas Legislature," February 2011, pp.68

4 – 2011 Minnesota Tax Incidence Study: An Analysis of Minnesota's Household and Business Taxes," *Minnesota Department of Revenue, Tax Research Division*, March 15, 2011, p.100.

5 - See : <http://marshall.edu/cber/research/WVEF-2009.jpg>

What is the full impact of the severance tax?

- An analysis of the impact of the severance tax is incomplete without analyzing both the effects of the tax and the effects of the revenues the tax brings in.
- Any negative effects the severance tax may have on employment, output, or income, can be offset by the increased spending of severance tax revenue by state and local governments.
- A 2010 study from Penn State found that every \$100 million in severance tax imposed on oil and natural gas companies would create a “net gain” of more than 1,100 jobs, and slightly boost gross state product.¹
- Severance tax revenue in West Virginia funds infrastructure improvements through the Infrastructure Fund, education, health and other services through the General Revenue Fund, and a multitude of services at the local government level.

Growing importance of natural gas

- With coal production in West Virginia projected to decline, along with the boom in natural gas production brought on by the development of the Marcellus Shale, West Virginia will become more reliant on natural gas severance tax in the future.
- Severance tax revenue from natural gas may overtake revenue from coal in the coming decades

Projected Severance Tax Revenue
(millions of dollars)

Year	Coal	Natural Gas
2010	\$401.9	\$55.6
2015	\$290.6	\$100.5
2020	\$302.8	\$144.8
2025	\$303.7	\$205.5
2030	\$299.7	\$257.1
2035	\$303.8	\$306.4

Source: WVCP analysis of Energy Information Administration Annual Energy Outlook data

Severance Tax Opportunities

- The boom in natural gas development represents an opportunity for West Virginia to convert this depleting natural resource into a permanent source of wealth.
- Several other states have permanent trust funds supported by severance tax revenue.

States with Severance Tax Trust Funds

