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INVESTING IN THE FUTURE

MAKING THE SEVERANCE TAX STRONGER FOR WEST VIRGINIA

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About the Author

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Executive Summary

This report examines West Virginia's severance tax, including how it is structured and how it functions, how the revenue it raises is invested, how severance taxes affect natural resource production and employment, and how changes to West Virginia's economy will affect the severance tax. Key findings include:

- West Virginia ranked 7th nationally in reliance on severance tax revenue, with severance taxes making up 9.0 percent of total state taxes in 2010.
- Coal production is by far West Virginia's largest source of severance tax revenue, but future projections show natural gas quickly growing in importance.
- West Virginia's effective severance tax rate is lower than most other natural resource-rich states that rely heavily on the severance tax.
- West Virginia's General Revenue Fund has grown more reliant on severance tax revenue in recent years, with severance tax revenue making up 11.1 percent of General Revenue funds in FY 2012.
- Some severance tax revenue is distributed to local governments in West Virginia, where it is mainly used at the local government's discretion, usually for general local government services and expenditures. Starting in 2012, a portion of the coal severance tax will be dedicated to economic development and infrastructure projects in the coal-producing counties.
- Studies in other states have shown that raising or lowering severance taxes has little effect on industry production and employment, while significantly affecting tax revenue. This may be due to the exportability of the severance tax and the overall low tax burden faced by the natural resource industries.
- The decline of coal and the boom in natural gas production creates an opportunity to use the severance tax in new ways, like the creation of a permanent trust fund.

To strengthen the severance tax, West Virginia should consider scaling back the credits, limits, and deductions available to the severance tax, which are rapidly growing in size and scale. The state should also encourage local governments to use their share of severance tax revenue to invest in economic development and diversification, rather than just filling their budgets. Finally, the state should consider creating a permanent trust fund funded by severance tax revenue. The coming boom in natural gas development provides the state an opportunity to create a permanent source of wealth from a finite resource.

Introduction

West Virginia's abundant natural resources not only have played an important role in West Virginia's economy, they have also made important contributions to funding the state's priorities. As a low-income state that is rich in natural resources, the revenue collected through the severance tax on resources like coal and natural gas plays an important role in funding education, health care, infrastructure, and other services provided at the state and local level in West Virginia.

Today, the severance tax is more relevant than ever. Severance tax revenue is a growing share of the state's budget and provides more revenue to local governments each year. Meanwhile, the development of the Marcellus Shale and the booming natural gas industry will bring significant new revenue and opportunities for the severance tax.

However, while natural gas production booms, coal production in West Virginia is declining. The state's reliance on coal severance tax revenue could put it in a precarious fiscal position in the future, if it were not for new severance tax revenue from natural gas. This highlights the need for economic diversification and the opportunities available from the severance tax.

Many of the top severance tax-collecting states preserve their natural resource wealth through severance tax-funded trust funds. These trust funds not only act as a stable source of funding through the swings of the natural resource market and as a permanent source of revenue for after the resource is gone, but they also act as economic development and diversification tools. In Montana, for example, the Big Sky Economic Development Trust Fund program aids in the development of good-paying jobs and promotes long-term stable economic growth through grants financed by the fund.

The severance tax is a tax on the privilege of severing or extracting natural resources, such as coal, natural gas, oil, timber, or other minerals. Severance taxes are usually structured to tax either the gross value of the resource after it is extracted or the volume of production. Severance taxes allow communities and states to capture some of the wealth generated by the extraction of natural resources, before the resource is depleted. Without a severance tax, communities would be left to deal with the direct costs of resource extraction, while the wealth generated flows away from where the resource was originally found. Instead, revenue from severance taxes is used to address the externalities of resource extraction, like environmental reclamation and remediation, industry regulation, infrastructure repair and development. It also goes toward education, health care, and local government support.

Severance taxes provide a significant source of revenue for many resource-rich states, where extractive industries play an important role in the economy. A total of 38 states have some type of severance tax, mostly imposed on coal, natural gas, and oil. West Virginia is one of the top ten states most reliant on the severance tax for tax revenue, with nine percent of total state tax revenue coming from the severance tax (**Table 1**). The top severance tax states are all rich in coal, oil, gas, or all three. Alaska tops the list with over 74 percent of state tax revenue coming from severance taxes.

While state budgets across the country have experienced significant shortfalls in the past few years, due to the stagnant economy, rising energy prices have helped stabilize the budgets of the top severance states, helping these states avoid fiscal problems.[1] And, as mentioned above, many of these states use their severance tax revenue to create permanent trust funds which are used to diversify and strengthen their economies.

The coming boom in natural gas production presents an opportunity for West Virginia to use its severance tax to secure its financial future, and allows the severance tax to be used to turn its natural resource wealth into long-term growth and prosperity.

This report examines West Virginia's severance tax, with a focus on how it is used and its effects on the state's finances, as well as its effects on coal and natural gas production.

Section One provides a brief history of the severance tax in West Virginia, before exploring its current structure. It outlines structure and function of West Virginia's severance tax, while also comparing it to other top severance tax collecting states.

Section Two explains how severance tax revenue is used in West Virginia, including its distribution at the state and local levels and future changes to that distribution. It also contains at closer examination at how local governments in West Virginia use their share of severance tax revenue.

Section Three examines the impact of the severance tax and other state and local taxes on the affected industries, particularly coal and natural gas, with a review of severance tax studies in other states, and explores several explanations for the severance tax's small impact.

Section Four looks at the future of the severance tax in West Virginia, with particular attention to projected changes in coal and natural gas production, and how those changes will impact the state's finances. It also discusses how severance taxes are distributed to local governments.

TABLE 1

Top Severance Tax States, 2010

Rank	State	Total Tax Revenue	Severance Tax Revenue	Severance Tax as Share of Total
1	Alaska	$4,518,023,000	$3,355,049,000	74.3%
2	North Dakota	$2,645,695,000	$1,136,553,000	43.0%
3	Wyoming	$2,117,100,000	$721,002,000	34.1%
4	New Mexico	$4,413,988,000	$654,752,000	14.8%
5	Montana	$2,142,809,000	$253,649,000	11.8%
6	Oklahoma	$7,079,985,000	$743,686,000	10.5%
7	West Virginia	$4,655,034,000	$417,230,000	9.0%
8	Louisiana	$8,757,557,000	$758,469,000	8.7%
9	Texas	$39,399,251,000	$1,737,136,000	4.4%
10	Kentucky	$9,531,507,000	$317,146,000	3.3%

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

Section One

West Virginia's Severance Tax

A severance tax in West Virginia was first proposed in 1953 by Governor William Marland. Governor Marland's proposal would have levied a tax on the production of coal, oil, natural gas, sand, gravel, and limestone, and revenues from the tax would have been used to fund new schools and the construction of new roads.[2] However, it was not until 1987 that a severance tax was implemented in West Virginia, with the passage of the West Virginia Severance Tax Act.

Before 1987, West Virginia's State Business and Occupation Tax acted as a *de facto* severance tax. The tax was based on gross receipts for every entity conducting business in West Virginia, making the sale of coal, natural gas, and other resources subject to the tax. The Tax Reform Act of 1985 limited the tax to public utilities, electric power producers, and natural gas storage facility operators.[3] Since then, the severance tax has become an important source of revenue for the state.

Today, West Virginia's severance tax is imposed on the producers of any natural resource product, including rock, stone, limestone, coal, shale, gravel, sand, clay, natural gas, oil, and timber. The producer of the natural resource is the one who has ownership of the natural resource immediately after it is severed or extracted.[4]

Revenue Sources for Severance Tax

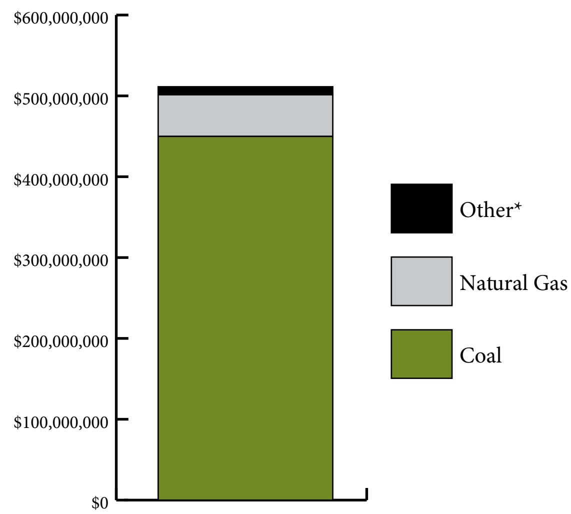
Coal is unsurprisingly the largest source of severance tax revenue of West Virginia's natural resources, with nearly 88 percent, over $449 million, of the state's severance tax revenue (**Figure 1**). Natural gas is the second largest source, with $51 million in revenue, with the rest of West Virginia's natural resources contributing roughly $10 million.

West Virginia's severance tax is levied on the gross value of the resource produced in a given year, with a base rate of five percent for all natural resources, except for timber.[a] Timber is taxed at a rate of 1.22 percent, but the severance tax on timber has been temporarily eliminated.[5]

Generally, the "gross value" of resource on which the severance tax is levied is defined as the amount received or receivable by the taxpayer for the sale of the resource. In the case of natural gas, "gross value" refers to the value of natural gas at the wellhead, before it is transmitted or transported.[6]

FIGURE 1

Sources of Severance Tax Revenue, FY 2011



Source: West Virginia Dept of Revenue, Severance Tax Disaggregation FY 2011.
Note: Other includes timber, coalbed methane, sand, gravel, limestone, sandstone, waste coal.

West Virginia also levies an additional severance tax on coal (56 cents per ton), natural gas (4.7 cents per MCF), and timber (2.78 percent of gross value).[7] The revenue from this additional severance tax is deposited into the Workers' Compensation Debt Reduction Fund in order to pay off the unfunded liability of the Workers' Compensation Old Fund. Once the unfunded liability is paid, the additional severance tax will be eliminated.

Severance Tax Rates

While West Virginia's base rate of five percent is uniform for all natural resources, except for timber, there are several exemptions, limits, and deductions that lower the rate. There are reduced severance tax rates for thin seam coal produced from underground mines. Coal produced by underground mines from seams 37 inches to 47 inches thick is taxed at a rate of two percent, while coal produced by underground mines from seams less than 37 inches thick is taxed at a rate of one percent (**Table 2**).

This thin seam tax preference has been growing in value in recent years (**Figure 2**). In 2010, the value of the tax reduced rate was nearly $75 million. More and more of West Virginia's coal production qualifies for the reduced rate, as the share of the total coal severance tax base that falls under the reduced rates has been rising steadily. In 2010, it was over 15 percent.

Other reductions to the severance tax include an annual credit of $500 for all taxpayers subject to the severance tax, a credit for a qualified investment that results in the creation of new jobs, a credit for the revitalization of industrial facilities and for research for the development of the sales of natural resources, and a credit for the investment in coal loading facilities.[8]

When taken together, these different reductions lower the overall effective severance tax rate below the statutory rate of five percent. In 2007, West Virginia collected $328 million in severance taxes,[9] while the total value of shipments and services in the mining industry (NAICS 211) in West Virginia was $10.2 billion.[10] This gives an effective severance tax rate of 3.2 percent, 36 percent lower than the statutory rate of five percent.

TABLE 2

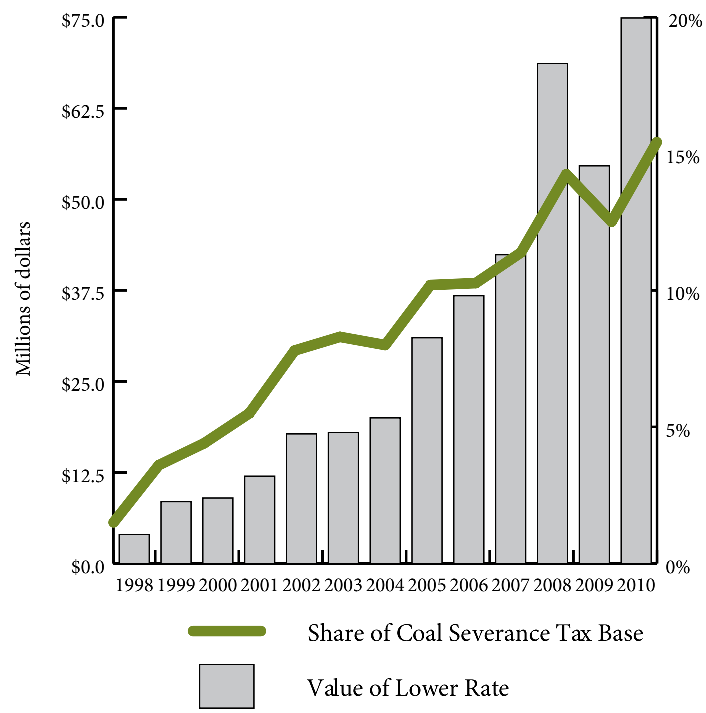
West Virginia Statutory Severance Tax Rates

Natural Resource	Tax Rate
Coal	5.0% (4.65% state, 0.35% local)
Coal produced by underground mining methods from seams 37" to 47" thick	2.0% (1.65% state, 0.35% local)
Coal produced by underground mining methods from seams less than 37" thick	1.0% (0.65% state, 0.35% local)
Waste coal	2.5%
Limestone or Sandstone	5.0%
Oil and Natural Gas	5.0%
Methane Gas	5.0%
Sand, gravel	5.0%
Timber	1.22%
Timber produced in tax years 2010-2012	0.0%
Other resources	5.0%

Source: West Virginia Code §11-13A.

FIGURE 2

Value of Reduced Severance Tax Rate for Thin Seam Coal



Source: West Virginia Department of Revenue, Presentation to FTA Revenue Estimation & Tax Research Conference, October 18, 2011.

Severance Taxes in Other States

While West Virginia uses the gross value of the resource when applying the severance tax, other states use different methods. Some states apply the tax to production volume, while others use tiered tax rates based on the price of the resource. The statutory rates, therefore, make comparisons between states difficult. Calculating an effective rate allows for comparisons to be made state to state (**Table 3**).

The top 10 severance tax states had an average effective severance tax rate of 5.2 percent, higher than West Virginia's effective rate of 3.2 percent. This means West Virginia has a lower effective severance tax rate than several other highly productive energy resource states.

TABLE 3

Effective Severance Tax Rates for Top Severance States, 2007

Rank	State	Mining, Oil, and Gas Total Value	Severance Tax Revenue	Effective Rate
1	Alaska	$21.7 billion	$2.4 billion	11.2%
2	North Dakota	$4.1 billion	$391 million	9.6%
3	Montana	$3.5 billion	$264 million	7.5%
4	New Mexico	$17.4 billion	$942 million	5.4%
5	Kentucky	$7.5 billion	$275 million	3.6%
6	Wyoming	$22.1 billion	$803 million	3.6%
7	West Virginia	$10.2 billion	$328 million	3.2%
8	Oklahoma	$34.2 billion	$942 million	2.8%
9	Texas	$101.9 billion	$2.7 billion	2.7%
10	Louisiana	$44.0 billion	$904 million	2.1%

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

Where the Severance Tax Is Invested

West Virginia's severance tax revenue is used for a variety of purposes, both at the state and local level (**Figure 3**).

Infrastructure Fund

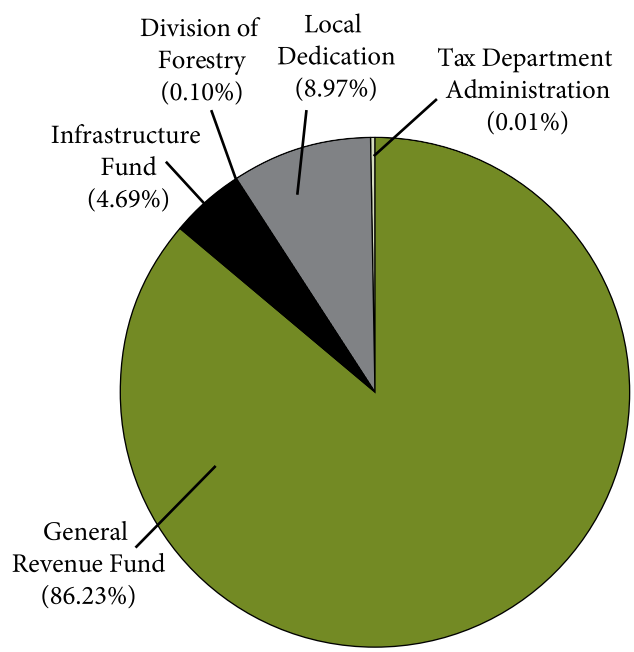
The first $24 million collected from severance taxes each year is deposited into the West Virginia Infrastructure Fund.[11] Since the deposit is made from the first severance taxes paid, the amount deposited from taxes collected from any particular source depends on when the tax payment is made. In FY 2011, $22 million was deposited from coal severance taxes, and $1.7 million from natural gas.[12]

Tax Department Administration

Each year, $70,000 of the revenue goes to the tax department for the administration of the severance tax. This amount comes equally from coal and natural gas.[13]

FIGURE 3

Severance Tax Distribution, FY 2011



Source: West Virginia Department of Revenue, Severance Tax Disaggregation FY 2011.

Division of Forestry

Severance tax revenue raised from timber is placed into a special account and is appropriated by the Legislature for the Division of Forestry.[14]

Local Dedication

A significant amount of severance tax revenue is dedicated for local governments. The local government dedication comes from coal and natural gas/oil severance tax revenue, and how it is distributed differs for each resource.

Coal Local Dedication

The revenue raised through the severance tax rate of 0.35 percent (which is included in the base five percent rate as well as the reduced rates for thin seam coal) on coal production is distributed quarterly to West Virginia's counties and municipalities in two different ways.[15] In FY 2011, that amounted to $37.7 million.[16]

First, 75 percent of the revenue collected for local dedication is placed into the "County Coal Revenue Fund" and distributed to coal-producing counties. The amount each coal-producing county receives is determined by multiplying the percentage of total West Virginia coal mined in that county by the total amount of money available in the fund.[17]

In FY 2011, $28.3 million was distributed to 29 of West Virginia's counties through the County Coal Revenue Fund. Boone County was the largest recipient, receiving $4.8 million, nearly 17 percent of the total.[18] **Map 1** shows the distribution of the county coal fund.

The remaining 25 percent of local dedication revenue is placed into the "All Counties and Municipalities Fund" and is distributed quarterly to each county and municipality in the state.[19] The revenue from the All Counties and Municipalities Fund is distributed according to population.[a] In FY 2011 $9.4 million was distributed to local governments through the fund.[20]

Revenue from either the County Coal Fund or the All Counties and Municipalities Fund goes into a "Coal Severance Tax Revenue Fund" created by each county and municipality. From there, the revenue can be used by the governing officials with little restriction, as described later.

During the First Special Session of the 2011 Legislative Session, the West Virginia Legislature enacted a new law, dedicating more coal severance tax revenue to the coal-producing counties. Under the new law, five percent of coal severance tax revenue, up to $20 million annually, will be distributed to the coal-producing counties. The five percent reallocation will be phased in over five years beginning in 2012, and will be accounted for after revenue dedicated to other funds is distributed, including the County Coal Fund and the All Counties and Municipalities Fund.[21]

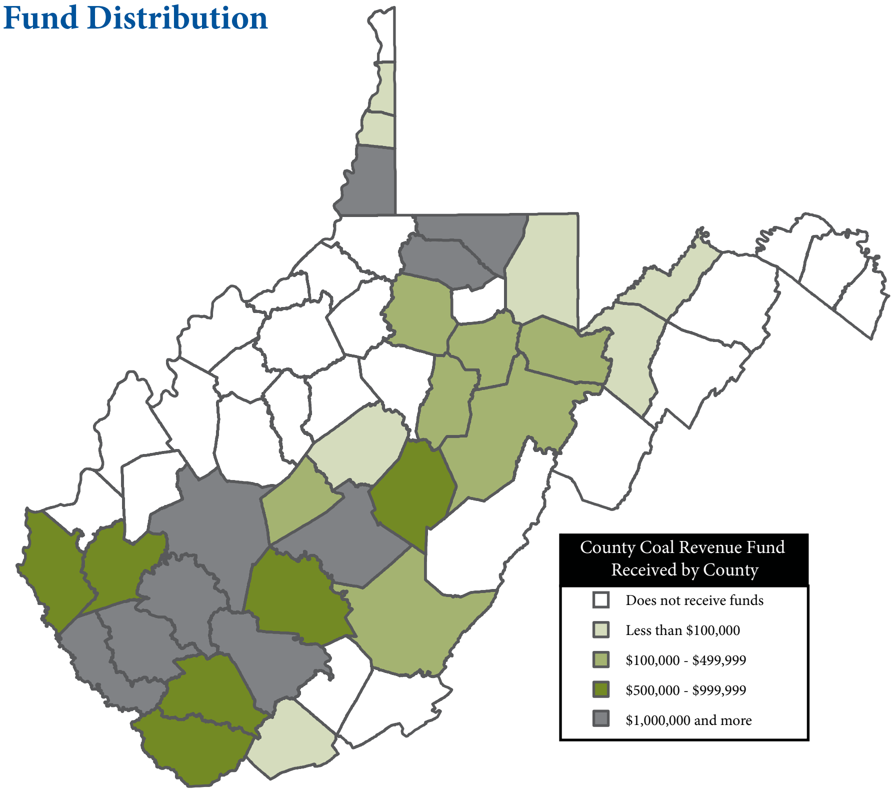
The five percent of coal severance tax revenue will be deposited into a new fund, the "Coal County Reallocated Severance Tax Fund," and then distributed to the coal-producing counties, based on their share of total West Virginia coal production. Each coal-producing county will create a "(Name of County) Coal County Reallocated Severance Tax Fund" into which the distributions will be deposited. Revenue in this new fund is to be used solely for economic development and infrastructure projects.[22]

Had this new dedication been fully in effect in FY 2011, it would have nearly doubled the amount of severance tax revenue dedicated solely to the coal-producing counties. The coal-producing counties would have received $20 million from the new Coal County Reallocated Severance Tax Fund and $28 million from the County Coal Revenue fund, in addition to their share of the All Counties and Municipalities Fund.

[a] The amount distributed to individual local governments from the All Counties and Municipalities Fund is calculated in the following steps. 1) A county's base share is calculated by multiplying the total amount in the fund by the county's share of the state's population. 2) The amount distributed to the county government is calculated by multiplying the county's base share by the percentage of the county's population living in its unincorporated areas. 3) The municipalities' share of the county base share is calculated by multiplying the county base share by the percentage of the county's population living in municipalities. 4) The amount distributed to each municipality is calculated by multiplying the municipality share by the percentage of the county's total municipal population living in each municipality.

MAP 1

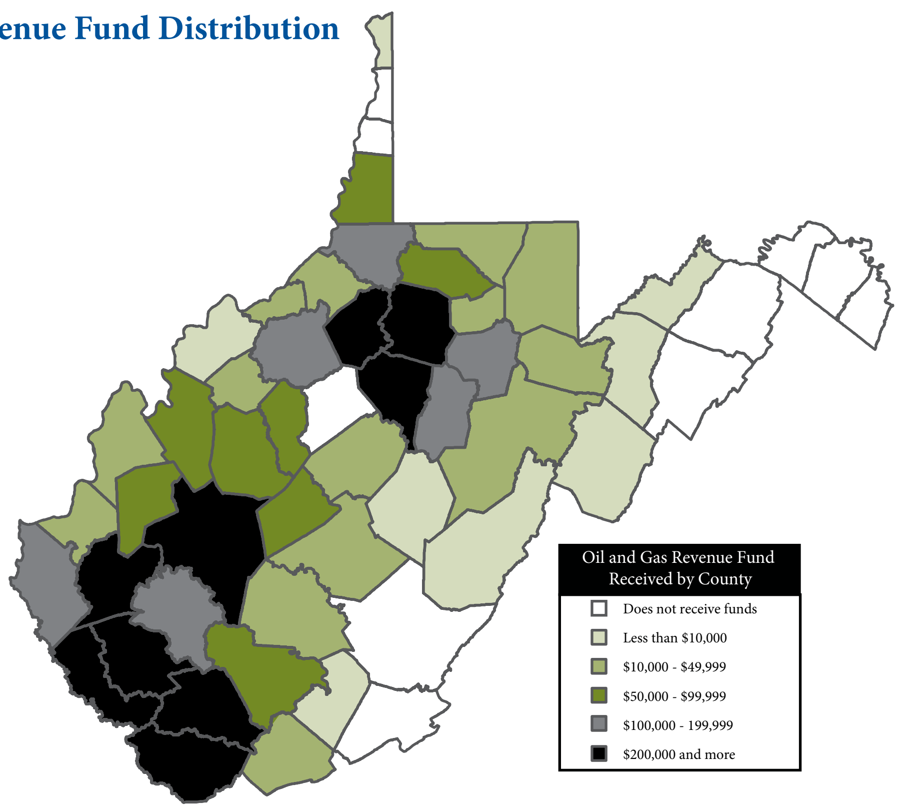
County Coal Revenue Fund Distribution FY 2011



Source: Data from State of West Virginia, Treasurer's Office. Map created by Elizabeth Paulhus.

MAP 2

Oil & Gas County Revenue Fund Distribution FY 2011



Source: Data from State of West Virginia, Treasurer's Office. Map created by Elizabeth Paulhus.

Oil and Gas Local Dedication

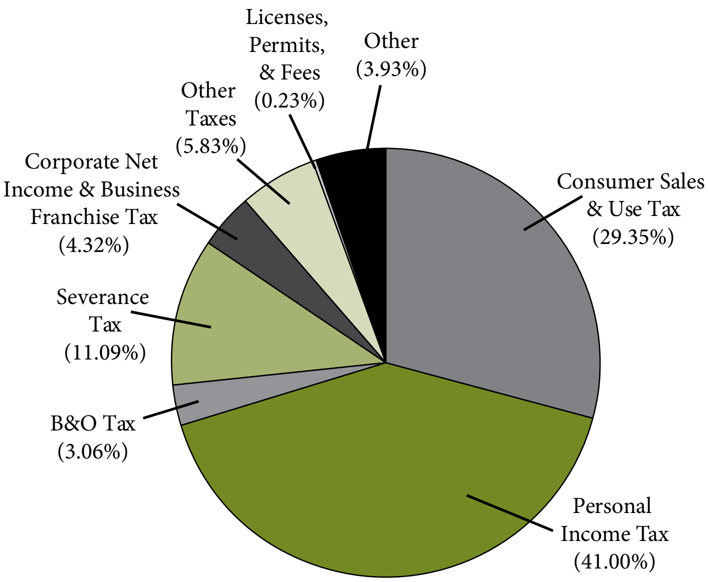
Like coal, a portion of the severance tax collected from oil and natural gas is dedicated to local governments. And like coal severance revenue, the revenue is distributed first to the oil- and gas-producing counties and then to all counties and municipalities in West Virginia.

Local governments receive 10 percent of oil and natural gas severance tax revenue, of which 75 percent is deposited into the "Oil and Gas County Revenue Fund." Revenue is then distributed to the oil- and gas-producing counties in West Virginia based on their share of total state oil and gas production.[23] In FY 2011, $4.6 million was distributed through the Oil and Gas County Revenue Fund to 46 counties. Logan County was the largest recipient, receiving $344,697, or 7.5 percent of the total.[24] **Map 2** shows the distribution of the Oil and Gas County Revenue Fund.

The remaining 25 percent of the local dedication is deposited into the "All Counties and Municipalities Oil and Gas Revenue Fund."[25] Revenue from this fund is distributed to all counties and municipalities in the state based on their population.[b] In FY 2011 $1.5 million was distributed to local governments through this fund.[26]

FIGURE 4

Estimated General Revenue by Source, FY 2012



Source: State of West Virginia Executive Budget FY 2012.

The distributions from both the Oil and Gas County Revenue Fund and the All Counties and Municipalities Oil and Gas Revenue Fund are deposited into the general revenue funds of the receiving local governments.[27]

General Revenue

The remaining revenue collected from the severance tax and not distributed to any other fund is deposited into West Virginia's General Revenue Fund. In FY 2011, $440.9 million of severance tax revenue went into the state's General Revenue Fund. This meant that 86.2 percent of all severance tax revenue ended up in the state's General Revenue Fund.[28]

For FY 2012, severance taxes provided over 11 percent of the state's General Revenue Fund, making it the third largest funding source, providing more revenue than the corporate net income and business franchise tax and the business and occupation tax combined (**Figure 4**).

The General Revenue Fund has grown more reliant on severance tax revenue over time. Severance tax revenue made up an average of 5.5 percent of General Revenue from FY 1999 to FY 2005. Since then, severance tax revenue's share of General Revenue has climbed to 11.1 percent (**Figure 5**).[29]

FIGURE 5

General Revenue Growing More Reliant on Severance Tax Revenue

Source: West Virginia Department of Revenue, Monthly Revenue Reports and FY 2012 Executive Budget Projections.

[b] The amount distributed to local governments from this fund is determined using the same formula as the All Counties and Municipalities Coal Severance Fund distribution.

Section Two

How the Severance Tax Is Invested

As the previous section described, the two largest beneficiaries of the severance tax in West Virginia are the General Revenue Fund and local governments. Through the General Revenue fund, the severance tax makes a significant contribution to funding the state's public education system. In FY 2012, nearly half of the General Revenue Fund went to education (**Figure 6**). Other funding priorities for the General Revenue fund in FY 2012 include higher education, military affairs and public safety, and health and human resources.[30]

At the local level, severance tax revenue is used for a variety of purposes. For both coal and oil and gas revenue, the only restrictions on their use by local governments is that no more than 25 percent of the revenue can be budgeted for personnel services, and for the coal- and gas-producing counties with populations over 200,000, at least 75 percent of the county coal or oil and gas county revenues must be allocated to the resource producing areas of the county. Other than that restriction, local officials are free to use the severance tax revenue in what they believe is the best interest of the county or municipality.[31]

Natural Gas and Oil Local Use

Counties and municipalities use their share of severance taxes in a variety of ways. West Virginia's county governments were budgeted to spend $3.6 million in natural gas and oil severance tax revenue for FY 2011, which includes the amount dedicated for the oil and gas producing counties as well as the share dedicated to all local governments. County governments expended their oil and gas severance tax revenue on a range of categories, although the majority of the revenue went to general government expenditures (**Table 4**).[32] This included funding the county commission, the county clerk, the prosecuting attorney, the sheriff, and the courthouse.

TABLE 4

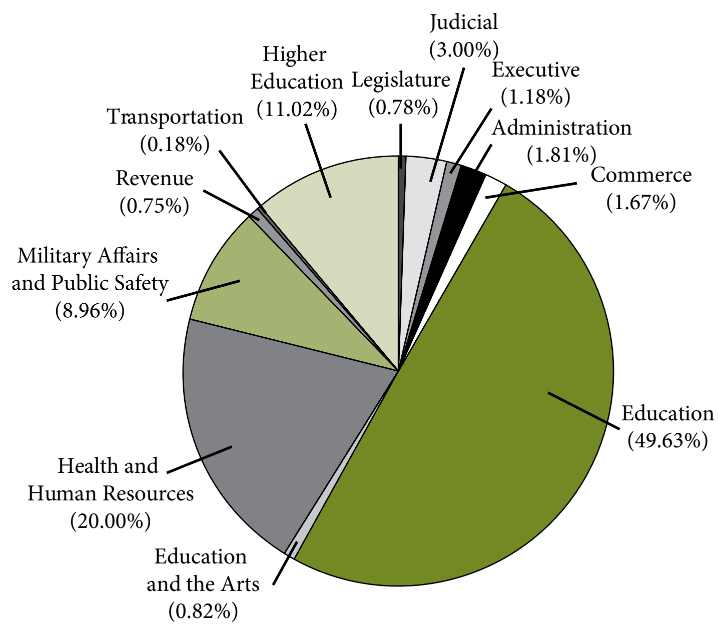
County Expenditures of Oil and Natural Gas Severance Tax Revenue, FY 2011

Expenditure Category	Number of Counties	Total Amount
General Government	52	$3,368,494
Public Safety	3	$280,000
Health and Sanitation	0	$0
Culture and Recreation	0	$0
Social Services	0	$0
Capital Projects	0	$0

Source: West Virginia State Auditor's Office, County Budgets FY 2011-2012.

FIGURE 6

Estimated General Revenue Expenditures, FY 2012



Source: State of West Virginia Executive Budget FY 2012.

West Virginia's 231 municipalities were budgeted to spend $640,678 in oil and natural gas severance tax revenue for FY 2011.[33] **Table 5** shows the categories of expenditures toward which municipal governments budgeted their oil and gas severance tax revenue. Like county governments, municipalities in West Virginia overwhelmingly used this revenue for general government expenditures, which often includes funding the mayor's office, the city clerk, the city attorney, city hall, the city manager, and public works departments.

TABLE 5

Municipal Expenditures of Oil and Natural Gas Severance Tax Revenue, FY 2011

Expenditure Category	Number of Municipalities	Total Amount
General Government	212	$575,580
Public Safety	6	$49,212
Streets and Transportation	14	$14,620
Health and Sanitation	1	$550
Culture and Recreation	0	$0
Social Services	1	$216
Capital Projects	1	$500

Source: West Virginia State Auditor's Office, Municipal Budgets FY 2011-2012.

Coal Local Use

West Virginia's counties were budgeted to spend $41.0 million from their coal severance tax funds for FY 2011, which includes revenue dedicated to the coal-producing counties and revenue distributed to all counties, as well as carryover balances from previous years.[34] Most of the counties used their severance revenue for general government expenditures, like county commissions and courthouses (**Table 6**). Half of the counties used part of their severance revenue on police, fire, and other public safety expenditures.

Unlike natural gas and oil severance tax revenue, which is deposited into local governments' general revenue funds, coal severance tax revenue is deposited into its own fund, which allows for more detailed breakdown of expenditures by line item. **Tables 7** and **8** list the most frequent line item expenditures, as well as the largest total line items for county governments in FY 2011.

TABLE 6

County Expenditures of Coal Severance Tax Revenue, FY 2011

Expenditure Category	Number of Counties	Total Amount
General Government	46	$15,904,845
Public Safety	27	$8,139,806
Health and Sanitation	22	$5,426,351
Culture and Recreation	20	$3,272,050
Social Services	14	$820,620
Capital Projects	15	$7,428,089

TABLE 7

Most Popular County Line Item Expenditures of Coal Severance Tax Revenue, FY 2011

Line Item	Number of Counties
County Commission	24
Courthouse	19
Economic Development	14
Library	12
Regional Jail	12
Local Health Department	11
Other Buildings	11
Dog Warden/Humane Society	10
Fire Department	10
Public Transit	10

TABLE 8

Largest Line Item Total County Expenditures of Coal Severance Tax Revenue, FY 2011

Line Item	Total Amount
Courthouse (Capital Projects)	$4,932,415
County Commission	$4,337,154
Regional Jail	$3,745,153
Courthouse	$3,177,606
Water	$2,348,869
Parks and Recreation	$2,264,700
Other Buildings	$2,244,269
Fire Department	$1,317,620
Transfer to Stabilization Fund	$1,210,500
Garbage Department	$1,004,000

Source for Tables 6-8: West Virginia State Auditor's Office, County Budgets FY 2011-2012.

West Virginia's 231 municipalities were budgeted to spend $4.4 million from their coal severance tax revenue funds in FY 2011, which included carryover balances from previous years.[35] **Table 9** shows the categories of expenditures toward which municipal governments budgeted their coal severance tax revenue.

Like for county governments, coal severance tax revenue is deposited into its own fund for municipal governments, allowing for a breakdown of expenditures by line item. **Tables 10** and **11** show the most frequent line items expenditures, as well as the largest total line items for municipal governments in FY 2011.

In 2012, when the new reallocation of severance tax revenue is in effect, the funds deposited in the Coal County Reallocated Severance Tax Fund will be restricted for use on economic development and infrastructure projects only, unlike the variety of uses for which the current local distribution of severance tax revenue is allowed. These projects can include, but are not limited to, commercial, industrial, and community improvement or preservation, post-mining land use, water or wastewater facilities, storm water systems, steam, gas, telephone and telecommunication, broadband development, electric lines and installation, roads, bridges, railroad spurs, drainage and flood control, industrial park development, or buildings that promote job creation and retention.[36]

TABLE 9

Municipal Expenditures of Coal Severance Tax Revenue, FY 2011

Expenditure Category	Number of Municipalities	Total Amount
General Government	123	$1,491,249
Public Safety	42	$579,332
Health and Sanitation	12	$58,592
Culture and Recreation	47	$718,888
Social Services	21	$113,185
Capital Projects	16	$292,581

Source: West Virginia State Auditor's Office, Municipal Budgets FY 2011-2012.

TABLE 10

Most Popular Municipal Line Item Expenditures of Coal Severance Tax Revenue, FY 2011

Line Item	Number of Municipalities
City Hall	90
Streets and Highways	62
Police Department	33
Parks and Recreation	23
Beautification	18
Library	14
Street Lights	14
Fairs/Festivals	10
Fire Department	9
Snow Removal	9

TABLE 11

Largest Line Item Total Municipal Expenditures of Coal Severance Tax Revenue, FY 2011

Line Item	Total Amount
Streets and Highways	$781,278
City Hall	$773,218
Civic Center	$521,637
Police Department	$312,439
Fire Department	$241,210
Streets and Transportation (Capital Projects)	$179,162
Finance Office	$155,770
Contributions/Transfers	$151,900
City Manager's Office	$125,000
Street Construction	$113,799

Source for Tables 10-11: West Virginia State Auditor's Office, Municipal Budgets FY 2011-2012.

Section Three

The Impact of Severance Taxes

Through the severance tax, West Virginia's natural resource industries contribute hundreds of millions of dollars in revenue every year to the state's finances. This is true for other natural resource-rich states, many of which rely on severance and other extraction taxes to a greater degree than West Virginia. However, many in the natural resource industry and in the policy community are concerned that their state tax policies may be hurting the industry, with higher taxes limiting production and costing their states jobs and economic development. Yet an examination of studies in several energy-producing states shows that tax rates, particularly severance rates, have little effect on energy production and that tax policy in general has little effect on the energy industry as a whole. Many of these concerns also overlook how severance tax revenue is put back into the economy.

Evaluation in Other States

In 1999, the Wyoming Legislature funded an econometric study of the effects of mineral tax incentives and tax increases on the oil, gas and coal industries. For the oil and gas industries, the study found that reductions in the severance tax rate resulted in a "tiny increase in drilling activity over 60 years and virtually no change in production activity," while significantly reducing government revenue, even when increases in sales tax collections are included.[37]

A two percentage point reduction in the severance tax rate on oil and gas production increased total production by only 0.68 percent over 60 years, while the present value of severance tax revenue fell by more than 17 percent (**Table 12**). A reduced rate on new oil and gas production also had a small impact on production, with a four percentage point reduction only increasing production by 1.66 percent over 60 years, while revenue fell by more than 42 percent. The results were similar for the coal industry, with coal severance tax rate reductions resulting in comparatively small increases in production and comparatively large reductions in severance tax collections.[38]

Another study requested by the Wyoming Legislature found that the inverse was true as well; higher production taxes on the oil and gas industry were found to have little effect on production while substantially increasing revenue.[39]

A more recent study performed for the Utah Tax Reform Commission in 2008 came to the same conclusions as the studies in Wyoming. This study found that increasing severance taxes, through eliminating tax exemptions and credits for the oil and gas industry, would increase tax revenue while having only a small impact on oil and gas industry activity.[40]

TABLE 12

Simulated Tax Incentive Scenarios for Wyoming Severance Tax

Tax Incentive	Change in Total Production (projected over 60 years)	Change in Present Value of Severance Tax Collections
Reduce Severance Tax on Oil and Gas by two percentage points	0.68%	-17.35%
Reduce Severance Tax on New Oil and Gas Production by four percentage points	1.66%	-42.84%
Reduce Severance Tax on Coal by two percentage points	0.47%	-27.0%

Source: Shelby Gerking, et al, "Mineral Tax Incentives, Mineral Production and the Wyoming Economy."

The issue of tax parity also has shown to have little effect on the energy industry, as the experiences of Wyoming and Montana earlier this decade showed that different tax structures with dramatically different effective tax rates had little impact on the amount of investment in each state.

In the late 1990s, both Montana and Wyoming were experiencing a lull in energy production and exploration, and were looking for ways to jump-start their economies. In 2001, Montana's legislature simplified its tax structure and reduced its severance tax rate on oil and gas, and also added new incentives that nearly exempted new production from production taxes. In contrast, Wyoming, in response to the findings of the two studies mentioned above, canceled a two percent reduction in its severance tax that had been scheduled the previous year. As a result of these changes, the overall effective tax rate faced by the oil and gas industry has about 50 percent higher in Wyoming than in Montana.[41]

Both states experienced a boom in the natural gas industry in the years after their tax changes, but Wyoming fared much better (**Table 13**). Not only did Wyoming see a greater increase in production value, but state revenue increased more as well. There is little evidence in the production and revenue figures to suggest that the natural gas industry fled Wyoming's higher tax climate and moved to Montana.

Other analyses have shown that the imposition of a severance tax has little impact on employment. A 1985 Penn State study found that a $2.00 per ton severance tax (an effective rate of roughly five percent)[c] would result, under a worst case scenario, in a loss of 8,624 man-days of labor, a loss of approximately 33 full-time jobs,[d] while bringing in $92 million in revenue.[42] Baseline estimates indicate that $35,000 of spending generates one job, making the employment impact of the severance tax a net positive.[43]

The Impact of the Severance Tax Is Small

There are several reasons why the impact on mineral production is so small when a severance tax is applied. First, the production in the extractive industry is driven mainly by the location of reserves. Other industries with more mobile capital have more flexibility to relocate their facilities or choose where to start production. The natural resource industries do not have this flexibility. Their decisions on where to produce are tied to where the resource is located, regardless of tax burdens and various tax incentives. Other factors such as price, access to markets and infrastructure, like pipelines, and technology all have more significant effects on industry activity.

Another significant factor that decreases the impact of the severance tax is their deductibility. Severance taxes are deductible against federal corporate income tax liabilities. The federal corporate income tax rate is currently 35 percent, meaning that for every $1 paid in severance taxes, a firm's federal corporate income tax liability falls by $0.35. This also partially offsets any benefit of decreasing the severance tax, which would result in an increase in federal tax liabilities.

TABLE 13

Wyoming's Higher Tax Climate Did Not Discourage Natural Gas Production

State	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: Headwater Economics.

[c] According to the cited study, the price of Pennsylvania coal with no severance tax varied from $35.59 to $38.31 per short ton depending on destination. A $2.00 per ton severance tax would have an effective rate from 5.2 percent to 5.6 percent.

[d] 8,624 man-days of labor translate into 68,992 man-hours. If each job is full-time, working 2,080 hours per year, 68,992 man-hours translate into 33.16 full time jobs.

Overall, the natural resource extraction industries have below-average tax burdens. The coal, natural gas, and oil industries all had total effective tax rates (including state, local, and federal taxes) below the market average for profitable firms (**Figure 7**). This is largely due to their preferential tax treatment, like the deductibility of the severance tax, and a variety of other tax subsidies that are available to the natural resource extraction industries. The capital-intensive nature of natural resource extraction industries makes them eligible for a number of valuable tax credits and deductions not available to other industries.

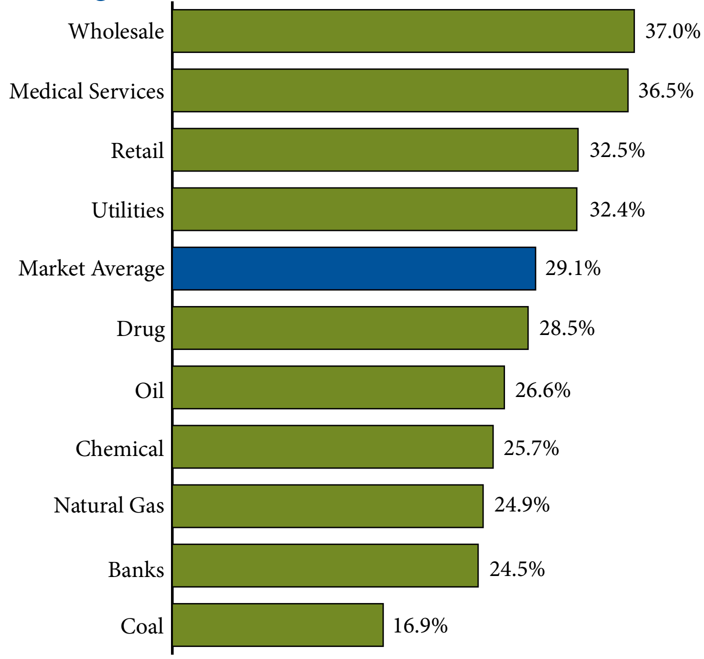
For example, Chesapeake Energy, an oil and natural gas firm with significant holdings in the Marcellus Shale, paid no federal corporate income taxes in 2010, despite profits of $2.8 billion. From 2008 to 2010, Chesapeake Energy paid an average effective federal corporate income tax rate of 8.1 percent, far below the statutory rate of 35 percent.[44] This again is due to the variety of tax subsidies available to natural resource extracting companies, like the deductibility of the severance tax.

In addition, overall, taxes are only a small part of the cost of doing business, particularly in industries with a lower than average tax burden, like coal, oil, and natural gas. According to the Council on State Taxation, West Virginia has the highest business tax burden of its neighboring states.[45] But according to the Forbes business cost index, which is based on the cost of labor, energy, and taxes, West Virginia has one of the lowest costs of doing business in the country, far lower than any of its border states (**Table 14**).[46] West Virginia also has a lower cost of doing business than the majority of energy states.

Minor variations in wages, utilities, and transportation costs can have a greater impact than major changes in taxes. Take West Virginia's severance tax on coal for example. In 2010, the coal industry paid $402 million in severance taxes in West Virginia.[47] In the same year, the industry paid out $1.6 billion in wages to 20,476 workers (NAICS 2121 coal mining), for an average hourly wage of $37.57.[48] A 10 percent reduction in the coal severance tax ($40.2 million) would be more than offset by only a $1.00 average hourly wage increase ($42.6 million).

FIGURE 7

Natural Resource Industries Have Below-Average Tax Burdens



Source: Aswath Damodaran, NYU.

TABLE 14

High Business Taxes Not Related to High Business Costs

States	Overall State and Local Business Tax Rate	Business Cost Rank
Maryland	4.0%	42
Pennsylvania	4.6%	38
Alaska	13.8%	37
Ohio	5.1%	30
Texas	4.9%	29
New Mexico	5.9%	26
Montana	6.3%	23
Virginia	3.5%	20
Kentucky	4.8%	16
North Dakota	8.2%	6
West Virginia	**6.9%**	**4**
Wyoming	9.7%	2

Source: Council on State Taxation and Forbes.com.

Who Really Pays the Severance Tax?

Another reason for the small impact of the severance tax may be due to its incidence, or who actually pays the tax, which is a subject of debate among tax scholars. Most scholars agree that severance taxes are highly exportable, meaning that the burden of the tax falls on out-of-state consuymers and stockholders of natural resource companies.[49]

States with tax incidence models have confirmed the exportability of their severance taxes. Texas' tax incidence model shows that more than half of its oil production tax is exported,[50] while Minnesota's model found that 90 percent of its severance tax on taconite is exported.[51]

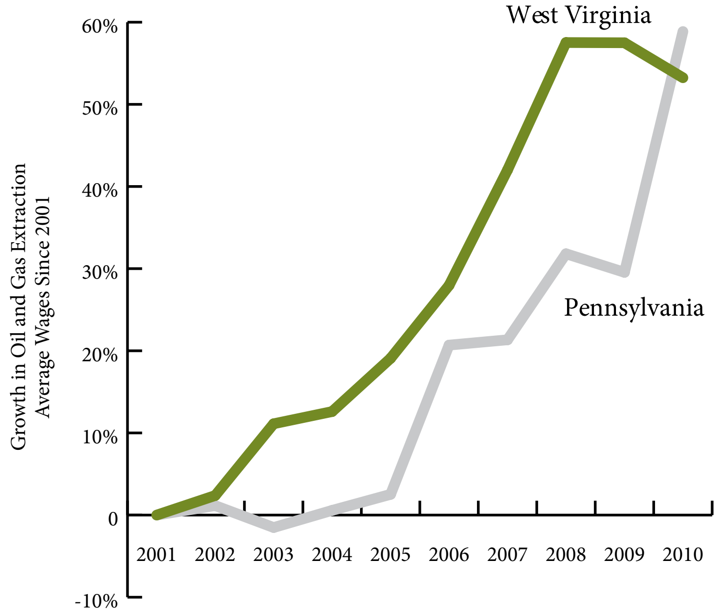
While West Virginia does not have a tax incidence model, its natural resources are heavily exported. According to the West Virginia Division of Energy, approximately 90 percent of coal and 57 percent of natural gas produced in West Virginia is exported.[52]

Not all scholars agree that the severance tax is exportable.[53] Some scholars suggest that in a free market, the burden of the severance tax is solely borne by the in-state producer, resulting in lower wages for employees. However, there is little empirical evidence showing this, and as previous sections have shown, natural resource industries do not operate in a free market and are, in fact, heavily subsidized compared to other industries.

The experiences of Pennsylvania and West Virginia during the recent boom in natural gas production cast doubt on the assertion that the severance tax suppresses wages. **Figure 8** compares average wage growth in the oil and natural gas extraction industry (NAICS 211) in West Virginia and Pennsylvania since 2001. As the figure shows, average wage growth in West Virginia outpaced that in Pennsylvania almost every year, despite the lack of a severance tax in Pennsylvania.

FIGURE 8

West Virginia's Severance Tax Has No Obvious Impact on Wage Growth



Source: Bureau of Labor Statistics, Quarterly Census of Employment and Wages.

What Is the Full Impact of the Severance Tax?

The studies reviewed so far have shown that the severance tax has a very small impact on the production of natural resources and a large impact on tax revenue. But that tax revenue also has its own impact. Any analysis of the impact of the severance tax that does not consider the impact of the revenue the tax creates is incomplete. In fact, any negative impact the severance tax may have on employment, output, or income can be offset by the increased spending by state and local governments that the severance tax revenue provides.

The net positive impact of the severance tax was confirmed in a 2010 study from Penn State University. The study found that for every $100 million in severances taxes imposed on oil and natural gas companies in Pennsylvania, the state would see a net gain of 1,100 jobs, as well as a slight boost in gross state product.[54]

And as Section Two showed, West Virginia's severance tax is used for a multitude of projects and services that create jobs and improve the economy, including infrastructure improvements, K-12 education, health care services, and economic development.

Section Four

The Future of West Virginia's Severance Tax

Since its inception, coal has been West Virginia's largest contributor to the severance tax. In FY 2011, severance tax revenue from coal accounted for almost 88 percent of all severance tax revenue. But projected changes to both coal and natural gas production will have a significant impact on the composition of West Virginia's severance tax revenue.

The Declining Contribution of Coal, the Rising Contribution of Natural Gas

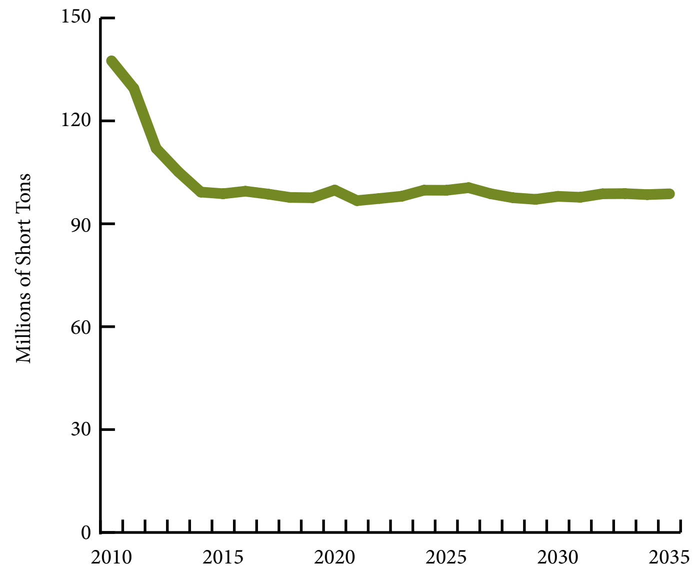
According to the U.S. Energy Information Administration, coal production in Central Appalachia is projected to decline dramatically in the coming years, falling by 48.2 percent from 2010 to 2035. This will have a significant impact on coal production in West Virginia, with historically about half of Central Appalachian production occurring in West Virginia. While production in Central Appalachia is on the decline, production in Northern Appalachia is projected to increase 16.4 percent between 2010 and 2035. However, West Virginia's share of Northern Appalachian production is much smaller, and Northern Appalachia is less productive overall, making its increase not enough to offset the loss of Central Appalachian production (**Figure 9**).[55]

The coal production projections assume no new regulations will be adopted in the time frame. The adoption of a policy such as cap and trade could alter the projections.

While coal production in West Virginia is projected to decline, natural gas production is projected to take off. In fact, natural gas production in West Virginia could more than quadruple by 2035 (**Figure 10**).

FIGURE 9

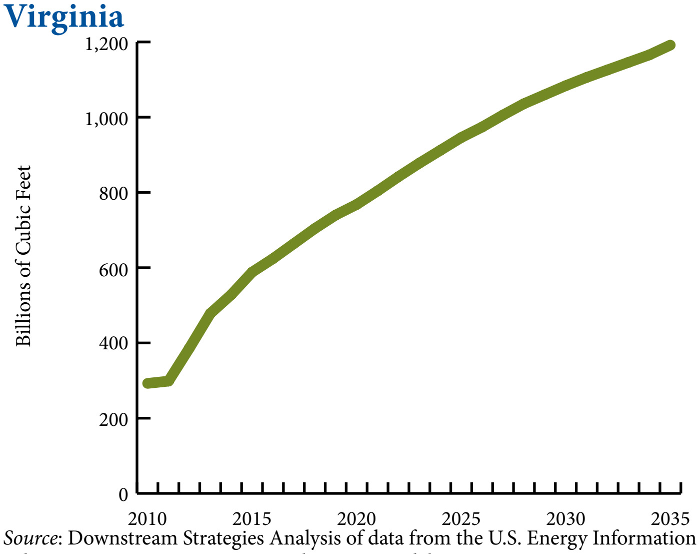
Projected Decline of West Virginia Coal Production



Source: WVCBP analysis of data from the U.S. Energy Information Administration, AEO2011 National Energy Modeling System projections for Northern and Central Appalachian production.

FIGURE 10

Booming Natural Gas Production in West Virginia



Source: Downstream Strategies Analysis of data from the U.S. Energy Information Administration, AEO2011 National Energy Modeling System.

The Future Composition of the Severance Tax

The projected changes to natural gas and coal production will have a significant impact on West Virginia's severance tax. Coal and natural gas are the two biggest sources of severance tax revenue for West Virginia, with coal as the largest by far. But with changes to coal and natural gas production on the horizon, the make-up of West Virginia's severance tax will undergo major changes (**Figure 11**).

In FY 2011, severance tax revenue from coal was nearly nine times greater than severance tax revenue from natural gas, with $451.9 million from coal and $51.5 million from natural gas. But by the early 2030s, their contributions will be nearly equal, at about $300 million apiece.

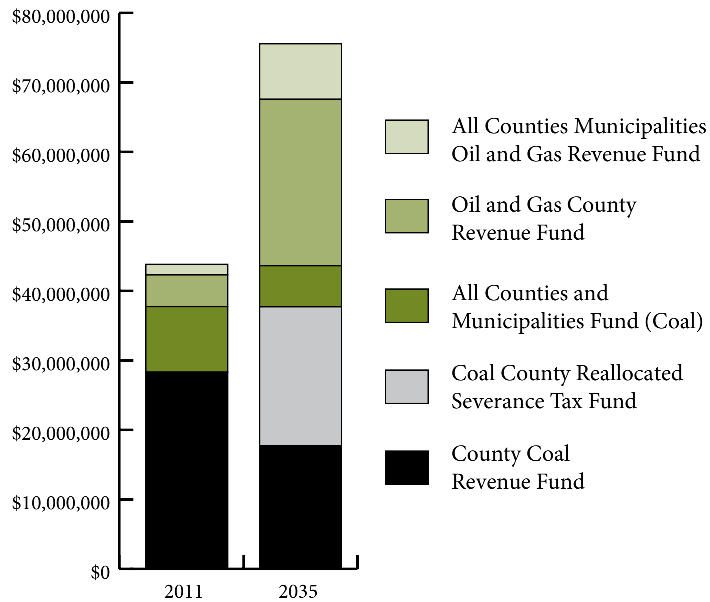
As coal production begins to decline, so will total severance tax revenue, as the increases in natural gas will not be enough to offset the losses from coal. Eventually, as coal production stabilizes and natural gas production continues to rise, total severance tax revenue will rise as well.

These changes to the severance tax will be most noticeable in the amount of severance tax revenue that is distributed to local governments. As described in Section Two, a portion of coal and natural gas severance tax revenue is distributed to local governments, first to the counties where the resources were produced and then to all the county and municipal governments in the state. The changes in coal and natural gas severance taxes will impact this distribution in the future (**Figure 12**).

While coal production declines, the amount of revenue dedicated to the coal-producing counties will actually increase, as decreases in the County Coal Revenue Fund are more than offset by the new revenue stream from the Coal County Reallocated Severance Tax Fund. In 2011, West

FIGURE 12

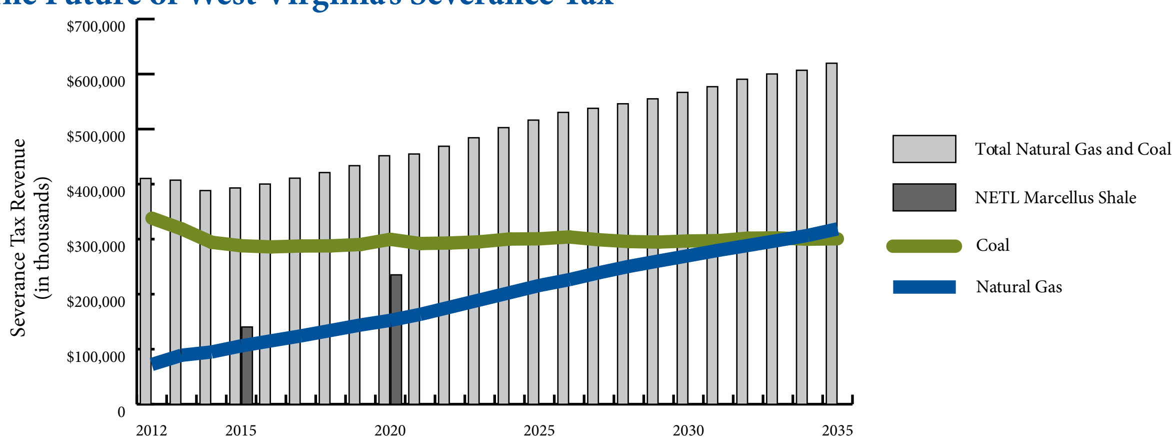
Changes to Severance Tax Local Dedication



Source: WVCBP Analysis of data from the U.S. Energy Information Administration, AEO2011 National Energy Modeling System and the West Virginia State Treasurer's Office.

FIGURE 11

The Future of West Virginia's Severance Tax



Source: WVCBP and Downstream Strategies analysis of data from the U.S. Energy Information Administration, AEO2011 National Energy Modeling System, historical severance tax data from the WV Department of Revenue, and the National Energy Technology Laboratory. *Note:* Figure 11 also shows natural gas severance tax revenue projections in selected years from the Marcellus Shale. These projections are from: National Energy Technology Laboratory (NETL), "Projecting the Economic Impact of Marcellus Shale Gas Development in West Virginia: A Preliminary Analysis Using Publicly Available Data," U.S. Department of Energy, March 31, 2010. The NETL projections for Marcellus Shale gas are higher than the more conservative projections for all natural gas.

Virginia's coal-producing counties split $28.3 million from the County Coal Revenue Fund. In 2035, projections show that the coal-producing counties will split $37.7 million, with $17.7 million coming out of the County Coal Revenue Fund and $20 million out of the Coal County Reallocated Severance Tax Fund.

The coal severance tax revenue distributed to all of West Virginia's counties and municipalities will be directly affected by declining coal production. While declines in the distribution to the coal-producing counties from the County Coal Revenue Fund will be offset by new distributions from the Coal County Reallocated Severance Tax Fund, there is no new distribution to offset the decline in the All Counties and Municipalities Fund. In 2011, $9.4 million in coal severance tax revenue was distributed from the All Counties and Municipalities Fund. By 2035, that amount is projected to fall to $5.9 million.

In contrast to the declines in coal revenue, the amount of natural gas severance tax revenue distributed to local governments is projected to grow substantially. In 2011, $4.6 million was distributed to the natural gas-producing counties through the Oil and Gas County Revenue Fund. By 2035 that amount is projected to more than quintuple, to $23.9 million. The same is true for the All Counties and Municipalities Oil and Gas Revenue Fund, which is projected to grow from $1.5 million in 2011 to $7.9 million in 2035.

In the final analysis, the real winners of the projected changes to the severance tax are the natural gas-producing counties, which will see their share of revenue substantially grow in the coming years. On the other hand, there are no real losers with the coming changes. The revenue losses from declining coal production will be offset, first by the new Coal County Reallocated Severance Tax Fund, which will go into effect in 2012, and the increases in natural gas revenue that is distributed to all local governments coming from increased natural gas production. These changes will increase the amount of coal and natural gas severance tax revenue received by local governments in the future, from a total of $43.8 million in 2011 to $75.6 million in 2035.

Section Five

Conclusion

West Virginia's natural resources are one of its greatest assets and an important source of wealth. But the extraction of those resources can come at a heavy price, creating stress on the environment, infrastructure, and local communities. Like many other natural resource-rich states, West Virginia levies a severance tax on the extraction of its natural resources. The revenue from the severance tax allows the state to capture natural resource wealth and use it for important purposes like education, infrastructure, health care, and countless other priorities for the state, as well as providing a way for the state to bear the costs imposed by natural resource extraction.

While the severance tax is levied on natural resource production in the state, evidence from other states suggest that the tax is exported and paid by out-of-state consumers. This allows West Virginians to enjoy the benefits provided by the revenue without bearing the actual burden of the tax. In addition, research shows that the severance tax is not a large burden on industry, having little effect on production and industry location.

Historically, coal has been the dominant source of severance tax revenue in West Virginia. However, West Virginia's coal production is projected to sharply decline in the coming years, decreasing the amount of revenue brought in by the coal severance tax. Fortunately, the decline of coal in West Virginia corresponds with a boom in natural gas production. In the coming years, natural gas will grow from a relatively minor source of severance tax revenue to the state's largest source.

In order for West Virginia to benefit more fully from its natural resources, the state should consider policy changes surrounding its severance tax.

Policy Recommendations

- **Consider scaling back severance tax credits, limits, and deductions.** West Virginia's effective severance tax rate is far below the statutory rate of five percent due to a number of credits, limits, and deductions available against the severance tax. In particular, the reduced rate for thin-seam coal production is rapidly growing in size and value. The effectiveness of these policies should be examined to determine if the goals of the policies are being meant and if the cost is acceptable. This is more important as tax policies like the reduced rate for thin-seam coal grow more expensive even as coal severance tax revenue declines and coal prices escalate.

- **Encourage local governments to make a better effort to diversify their economies.** Currently, most severance tax revenue distributed to local governments is used to fill budgets and provide basic services. The new allocation for coal-producing counties is a step in the right direction, with its funds directed towards economic development. Local governments should do more than use their share to pay for basic local government purposes. Local governments should use their revenue share to make investments that lead to greater economic diversification and growth, and should break their dependence on a volatile revenue source for the provision of basic services.

- **Create a permanent trust fund.** The coming boom in natural gas production provides West Virginia with an opportunity to convert its depleting natural resources into a permanent source of wealth. West Virginia should join states like Alaska, Montana, New Mexico, North Dakota, Utah, and Wyoming and establish a permanent trust fund based on a portion of severance tax revenue. In fact, the state could actually raise the effective rate of the severance tax in order to finance the trust fund with little risk of affecting the state's natural resource industries.

Endnotes

1 Mark Snead, "Are Energy States Still Energy States?" Federal Reserve Bank of Kansas City, 2009.

2 West Virginia Division of Culture and History, 1978.

3 Robin Capehart, et al, "Recommendations to the Governor," The Governor's Commission on Fair Taxation, The State of West Virginia, December 1999.

4 West Virginia Code §11-13A.

5 West Virginia Code §11-13A-3A, 11-13A-3a, 11-13A-3c, 11-13A-3d, and 11-13A-3e.

6 West Virginia Code §11-13A-2.

7 West Virginia Code §11-13V-1.

8 West Virginia Code §11-13A-10; 11-13C-1; 11-13D-1; 11-13E-1.

9 U.S. Census Bureau, 2007 Annual Survey of State Government Tax Collections.

10 U.S. Census Bureau, 2007 Economic Census.

11 West Virginia Code §31-15A-16.

12 West Virginia Department of Revenue, Severance Tax Disaggregation FY 2011.

13 West Virginia Code §11-13A-5 and §11-13A-6.

14 West Virginia Code §11-13A-20a.

15 West Virginia Code §11-13A-6.

16 West Virginia Department of Revenue, Severance Tax Disaggregation FY 2011.

17 West Virginia Code §11-13A-6.

18 West Virginia State Treasurer's Office, Coal Severance Tax Distributions.

19 West Virginia Code §11-13A-6.

20 West Virginia State Treasurer's Office, Coal Severance Tax Distributions.

21 West Virginia Legislature, 2011 1st Special Session, Senate Bill No. 1002 – Final Version.

22 *Ibid.*

23 West Virginia Code §11-13A-5a.

24 West Virginia State Treasurer's Office, Oil and Gas Severance Tax Distributions.

25 West Virginia Code §11-13A-5a.

26 West Virginia State Treasurer's Office, Oil and Gas Severance Tax Distributions.

27 West Virginia Code §11-13A-5a.

28 West Virginia Department of Revenue, Severance Tax Disaggregation FY 2011.

29 West Virginia Department of Revenue, Monthly Revenue Reports.

30 State of West Virginia Executive Budget FY 2012.

31 West Virginia Code §11-13A-5a and §11-13A-6.

32 West Virginia State Auditor's Office, County Budgets 2011-2012 Fiscal Year.

33 West Virginia State Auditor's Office, Municipal Budgets 2011-2012 Fiscal Year.

34 West Virginia State Auditor's Office, County Budgets 2011-2012 Fiscal Year.

35 West Virginia State Auditor's Office, Municipal Budgets 2011-2012 Fiscal Year.

36 West Virginia Legislature, 2011 1st Special Session, Senate Bill No. 1002 – Final Version.

37 Shelby Gerking, William Morgan, Mitch Kunce, and Joe Kerkvliet, "Mineral Tax Incentives, Mineral Production and the Wyoming Economy" (report prepared for the Mineral Tax Incentives Subcommitee, Wyoming State legislature, December 2000).

38 *Ibid*.

39 Mitch Kunce, Shelby Gerking, William Morgan, and Ryan Maddux, "State Taxation, Exploration, and Production in the U.S. Oil Industry" (report prepared for the Wyoming State Legislature, November 2001).

40 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).

41 Headwaters Economics, "Energy Revenue in the Intermountain West," October 2008.

42 Jill Findeis and James Shortle, "Trade-offs Between Severance Tax Revenues and Coal Mining Employment," Northeastern Journal of Agricultural and Resource Economics 14 (1985), 2.

43 Daniel Shoag, "The Impact of Government Spending Shocks: Evidence on the Multiplier from State Pension Plan Returns," Harvard University Department of Economics, 2011.

44 Robert McIntyre, Matthew Gardner, Rebecca Wilkins, and Richard Phillips, "Corporate Taxpayers & Corporate Tax Dodgers 2008-10," Citizens for Tax Justice & the Institute on Taxation and Economic Policy, November 2011.

45 Andrew Phillips, Robert Cline, Thomas Neubig, and Julia Thayne, "Total state and local business taxes State-by-state estimates for fiscal year 2009," Council on State Taxation, March 2010.

46 Forbes.com, "Table: The Best States for Business," http://www.forbes.com/2009/09/23/best-states-for-business-beltway-best-states_table.html.

47 West Virginia Department of Revenue, Severance Tax Disaggregation FY 2010.

48 Workforce West Virginia, Employment and Wages 2010.

49 Robert Tannenwald, "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.

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

51 "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.

52 See: http://marshall.edu/cber/research/WVEF-2009.jpg.

53 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).

54 Rose M. Baker and David L. Passmore, "Benchmarks for Assessing the Potential Impact of a Natural Gas Severance Tax on the Pennsylvania Economy," Penn State Institute for Research in Training & Development, September 2010.

55 U.S. Energy Information Administration, AEO2011 National Energy Modeling System.

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