

**“The Effect of Taxes and Regulations on the Oil Industry”**

An Honors Thesis

by

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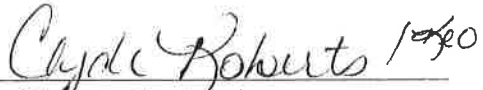
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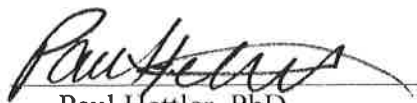
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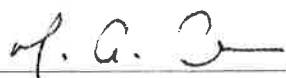
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### The Effect of Tax and Regulation on the Pennsylvania Oil Industry

Pennsylvania has a rich history involving the oil and gas industries. Northwest Pennsylvania was home to the first successful oil well as Colonel Edwin Drake pioneered the search for petroleum in Titusville in the year 1859 (“The story of oil in Pennsylvania”, n.d.). As time progressed, Pennsylvania remained an innovator in the oil and gas industry as the state was one of the leaders in a new form of drilling allowing new depths to be reached and more oil extracted. In 2003, Range Resources was able to drill a well in Washington County that allowed them to discover which new areas of the ground would be promising to drill into. The original idea was to drill into the Oriskany Sandstone which has been an important producer of natural gas in Eastern West Virginia. It was discovered that though the Oriskany Sandstone did not look as if it would be a favorable drilling option, the Marcellus shale seemed as if it would be a prime location. By 2005, Range Resources began producing gas drilled from the shale. As technological advances occurred allowing new methods of drilling, such as the extremely important horizontal drilling and hydraulic fracturing, more companies entered the play in the area to cash in on the large reserves. These reserves were discovered to be very large as it is estimated that fifty trillion cubic feet of natural gas is available for extraction. Such a large reserve to be cashed in on caused a boom in the area when it comes to this industry (Kelsey, 2016); (King, 2015); (Harper & Kostelnik, n.d.).

Because the Marcellus region is considered an unconventional reservoir, the only way to obtain the natural gas from inside would be through fractures in the rock itself. These fractures could be natural or created using the new method called hydraulic fracturing (Harper & Kostelnik, n.d.). Natural fractures were difficult to drill with older

methods of drilling, but with horizontal drilling more of these fractures could be accessed creating a sustainable amount of production. Because the horizontal drilling goes perpendicular to the surface underground, there is a much better chance of hitting these fractures and being able to extract the oil as the fractures usually are vertically situated. Horizontal drilling also allows the boring of numerous fractures, allowing a steady flow to be removed unlike before where only one at a time could be harvested. This method caused enormous growth as the more efficient harvesting makes it more cost effective and allows some horizontal wells to yield millions of cubic feet per day. A yield that high makes these wells some of the most productive gas wells in the Eastern United States. As mentioned before, in addition to the new method of horizontal drilling, hydraulic fracturing, which is sometimes referred to as hydrofracing, has become increasingly popular in the Marcellus shale region. Hydraulic fracturing is the process of using a water or gel to create a high pressure situation that causes the rock surrounding the bore to fracture. More fractures allow for more gas to be extracted creating higher revenues for those drilling (King, 2015).

New drilling opportunities moving in gave a positive economic effect on the areas that were entered. An increase in jobs occurred and more money was infused into the local economies. Land owners in the area who owned the mineral rights on their land were able to receive large signing bonuses. In the beginning, land owners who consented to the use of their property for a gas lease received a bonus of about one hundred dollars per acre, but as the industry blew up, so did the size of the bonus as it began to reach as high as five thousand dollars per acre by 2008 (Kollar, 2016). In addition to property owners collecting the signing bonus, they also receive royalties from the gas drilled from

their land. The usual royalty for allowing the use of land is twelve and a half percent of the resources drilled from that property, however, a more desirable than average piece of land can command a higher royalty percentage which results in a very large payback. A productive well could earn lucky land owners hundreds of thousands per year for the duration the output stays fruitful. The output, however, tends to decline on a yearly basis as the product is depleted. The Marcellus Shale as a whole is expected to do well with the ability to maintain the economic boost it has granted for multiple decades to come. Even if the Marcellus Shale begins to be exhausted, the Utica Shale is expected to be just as fruitful. Located just a few thousand feet below the Marcellus Shale, it may be more expensive to drill down, but it will provide an opportunity for the gas drilling industry to remain in the area for a longer time (Kelsey, 2016); (King, 2015).

With businesses throughout the years moving in and making big money on oil and natural gas in the region, the opportunity for the state to gain revenue from this industry was apparent. Many different taxes and regulations have been put in place for many different reasons such as revenue generation for the state and local governments and using them as a deterrent from using certain practices that may be harmful to the environment. Oil has been a massive revenue generator as three oil companies in the United States paid out a total of 289.7 billion dollars in corporate income taxes between the years 2007 and 2012. This is the highest total in that span. The three companies combining for that total were ExxonMobil, Chevron, and ConocoPhillips (Starr, 2014). With so much revenue being collected for governmental entities, it is always tempting officials to raise the taxes even higher to generate even more. However, doing this could have negative economic effects if the taxes are raised. When determining whether or not

to raise or even lower taxes in any industry, it is important to analyze the current laws that are in place as well as investigate any trends that may have occurred in the past when such action has taken place. There can be serious positive or negative economic repercussions that could occur and have occurred in the past when a new tax or regulation is introduced.

### **Why are there taxes on oil and gas?**

When it arises whether states should raise or lower taxes on any industry, it is important to determine why the tax is being set in place. An obvious answer as to why a state would tax anything is that the revenue can be generated and used by the government for various things, but the reason to tax a certain industry in particular can vary. A rise in tax on one entity could stem from a desire to counteract a reduction or complete removal of a different tax. An example of this strategy is the implementation of gas wells in the local property taxes. In some states, oil and gas wells are excluded from local property taxes. This does not give them a break though. In the states that are exempt from those taxes, the tax rate on production tends to be about two-thirds higher (Weber, 2016).

Using a tax as a deterrent has been used for a long time on items such as cigarettes as they are perceived as vices by the state as they can directly lead to premature death. The tax on cigarettes is in place to lower the amount of people that smoke by making cigarettes more expensive than they would be otherwise. This strategy has worked with cigarettes, especially with people of a lower income, as the Congressional Budget Office has concluded through research that increases in cigarette prices by ten percent has reduced minor's smoking by between ten to fifteen percent and adult

smoking by between three and seven percent (Marr & Huang, 2014). This same principle can and is being used in the oil and the gas industries. Lawmakers for years have been using taxes on resource consumption as a way to reduce the depletion in the name of sustainability. They believe that the exhaustion of natural resources is selfish and unethical against those in future generations that would not have these resources at their disposal. It is believed by some that drilling companies are wasteful and a tax that encourages efficient production would help the preservation of the earth's natural resources for future generations without too much of an economic fallout (Hotelling, 1931, p. 137-8).

In addition to preserving reserves for the future, a tax can be used to address some of the environmental fallout that drilling can cause. Pennsylvania has a fee, called the Pennsylvania Impact Fee, which is a method of collecting funds from the drilling companies that leave an imprint behind as a way to fund the reparations that must be made. Usually, road restoration is one of the main costs left behind that this fee helps cover. Environmental restoration is another large cost for the local governments to address with this money (Weber, 2016). Since the impact fee was enacted as a part of Governor Tom Corbett's Act 13 in 2012, over eight hundred and fifty million dollars were collected as a result.

### **Current Pennsylvania taxes in place**

Like other types of laws, tax on natural resource consumption vary from state to state. There can be differences among rate, how the rate is applied, when a tax is levied, and more. Because of this, sometimes the available tax rates that can be acquired quite easily when searching can be applied in a different form than that of another state leading

to some misinformation in how much is actually being applied. Some states have rates that apply to the typical dollar of production while others use the rate on a subset of production. Some states even have multiple rates that are applied differently based on circumstance. With the introduction of Marcellus Shale drilling into Pennsylvania and surrounding states and the economic boom that was brought because of it, there has become a new focus from lawmakers, companies, and citizens alike upon the state tax policies as much more revenue is available to be taxed (Weber, 2016).

Oil companies fall under the category of the liquid fuels sales tax. The liquid fuels sales tax applies to oil companies, so it is very important to note what the laws define an oil company as in order to determine what companies are required to pay this tax. In the state of Pennsylvania, an oil company that would fall under the jurisdiction of the liquid fuels tax is defined as every corporation, association, joint-stock association, partnership, limited partnership, co-partnership, natural individual or individuals, and a business conducted by a trustee or trustees wherein evidence of ownership is evidenced by certificate or written instrument, formed for or engaged in the sale or importation of petroleum products within this Commonwealth; or anyone deemed to be an oil company under 75 Pa.C.S. §§ 9501 or 9502(f) (relating to definitions; and imposition of tax); or anyone who elects to be an oil company under 75 Pa.C.S. § 9502(i) (61 Pa. Code § 351.1). This tax applies to the use of petroleum products. A petroleum product is a product that is completely or partially derived from crude oil and is used for operating a motor vehicle on public highways. The end product is a key to determining whether or not the tax applies as the liquid fuels tax only applies to products that are to be used to propel motor vehicles and not for products that will be used off-highway. Examples of



petroleum products are gasoline, gasohol, diesel fuel, LP gas, and kerosene (61 Pa. Code § 351.1). The liquid fuels tax is a 3.5% tax on the revenue obtained from the first sale of a petroleum product made within the Commonwealth of Pennsylvania. The first sale is the sale of the petroleum product to either a wholesale dealer, retail dealer, a consumer, or direct use of the product. This occurs immediately after the petroleum product is produced or imported into Pennsylvania. There is a way for the companies to defer this tax. If the purchasing company chooses to pay the Oil Company Franchise Tax on its subsequent sale or use, the selling company can defer the 3.5% tax (61 Pa. Code § 351.3). The oil company can value based on actual sales or the average wholesale price.

The Pennsylvania Impact Tax, as previously described, is a fee that is on a tiered system that causes the actual amount required to be paid to vary (Commonwealth of Pennsylvania, Independent Fiscal Office, 2014). This fee is a per-well tax, meaning that each individual well is hit with an impact fee rather than per company, and is used for unconventional gas wells. The tiers at which each well are taxed are based on various factors. Age of well and the price of natural gas are two of the factors that help determine the size of what needs to be paid (Weber, 2016). There is a multi-year schedule that coincides with the natural gas price that companies use to know how much is owed. The schedule is set up to have years ranging from year one to year fifteen (“Act 13 of 2012”, n.d.). The impact fee, the only one of its kind, was signed by Pennsylvania Governor Tom Corbett as a part of Act 13, which became an amendment in 2012. Because it just became law in 2012, any wells drilled before 2011 were considered to have been drilled in 2011 for the purposes of the fee in order to collect a full schedule of revenue (“Pennsylvania Impact Fee Summary”, n.d.).

Year	\$0-2.25	\$2.26-2.99	\$3.00-4.99	\$5-5.99	\$6 or higher
1	\$40,000	\$45,000	\$50,000	\$55,000	\$60,000
2	\$30,000	\$35,000	\$40,000	\$45,000	\$55,000
3	\$25,000	\$30,000	\$30,000	\$40,000	\$50,000
4	\$10,000	\$15,000	\$20,000	\$20,000	\$20,000
5	\$10,000	\$15,000	\$20,000	\$20,000	\$20,000
6	\$10,000	\$15,000	\$20,000	\$20,000	\$20,000
7	\$10,000	\$15,000	\$20,000	\$20,000	\$20,000
8	\$10,000	\$15,000	\$20,000	\$20,000	\$20,000
9	\$10,000	\$15,000	\$20,000	\$20,000	\$20,000
10	\$10,000	\$15,000	\$20,000	\$20,000	\$20,000
11	\$5,000	\$5,000	\$10,000	\$10,000	\$10,000
12	\$5,000	\$5,000	\$10,000	\$10,000	\$10,000
13	\$5,000	\$5,000	\$10,000	\$10,000	\$10,000
14	\$5,000	\$5,000	\$10,000	\$10,000	\$10,000
15	\$5,000	\$5,000	\$10,000	\$10,000	\$10,000

*Figure 1* – Impact fee schedule table companies used to determine how much they owed when Act 13 was passed. Retrieved from: (“Pennsylvania Impact Fee Summary”, n.d.).

The Impact fee is unique in the fact that it is distributed among local governments and state governments. The fees are collected by the first day April each year and then are distributed between the state and local governments by the first day of July. This action of collecting and disbursing is done by the Pennsylvania Utilities Commission. Another duty of the Pennsylvania Utilities Commission is to issue opinions to the local governments on proposed ordinances while also reviewing local ordinances already in place. The most important duty though is the collection of the Impact Fee and ensuring all drilled unconventional gas wells are paying it. The producers self-report to the

Pennsylvania Utilities Commission and then the reports are compared to the official database maintained by the Department of Environmental Protection. After collected, the fees must be distributed (Sacavage, 2013).

There are earmarks that a certain amount must be sent to state agencies in order to equipoise the environmental impact left by the drillers. The earmarks are distributed to the state government to be used to offset statewide drilling impact. In 2012, the first year the Impact Fee was collected, twenty-five of the over two-hundred million was earmarked. The money remaining after what is earmarked to the state government goes to the local governments via two funds in a set fashion. Sixty percent of the funds remaining after earmarks are given to the Unconventional Gas Well Fund. The Unconventional Gas Fund is the distribution that the counties and local municipalities receive. Breaking it down further, thirty-six percent of the money in the Unconventional Gas Fund goes to counties with wells, thirty-seven percent goes to municipalities with wells, and the remaining twenty-seven percent going to municipalities in counties with wells. Half of the money going to the municipalities in counties with wells are allocated to municipalities within five miles of the wells while the rest is spread within the county. For all three of the distribution locations, there is a formula to determine the amount to be distributed to each eligible county, municipality, or municipality within a county with wells. For a county, the amount to be received is calculated by dividing the number of wells in the county by the amount in the Commonwealth of Pennsylvania as a whole and multiply the resulting percentage by the amount of money available to be distributed. This same formula is used for municipalities and municipalities within counties as well. By law, there are thirteen different usages that these funds can be spent on, but the laws

are intentionally written in broad terms to allow flexibility for the local governments (Sacavage, 2013). The thirteen categories are public infrastructure construction, storm sewer systems, emergency prep, environmental programs, water preservation, tax reductions, housing, information technology, social sciences, judicial services, capital reserve fund, career centers, and planning initiatives (“PA PUC Interactive Impact Fee Reporting Website”, n.d.).

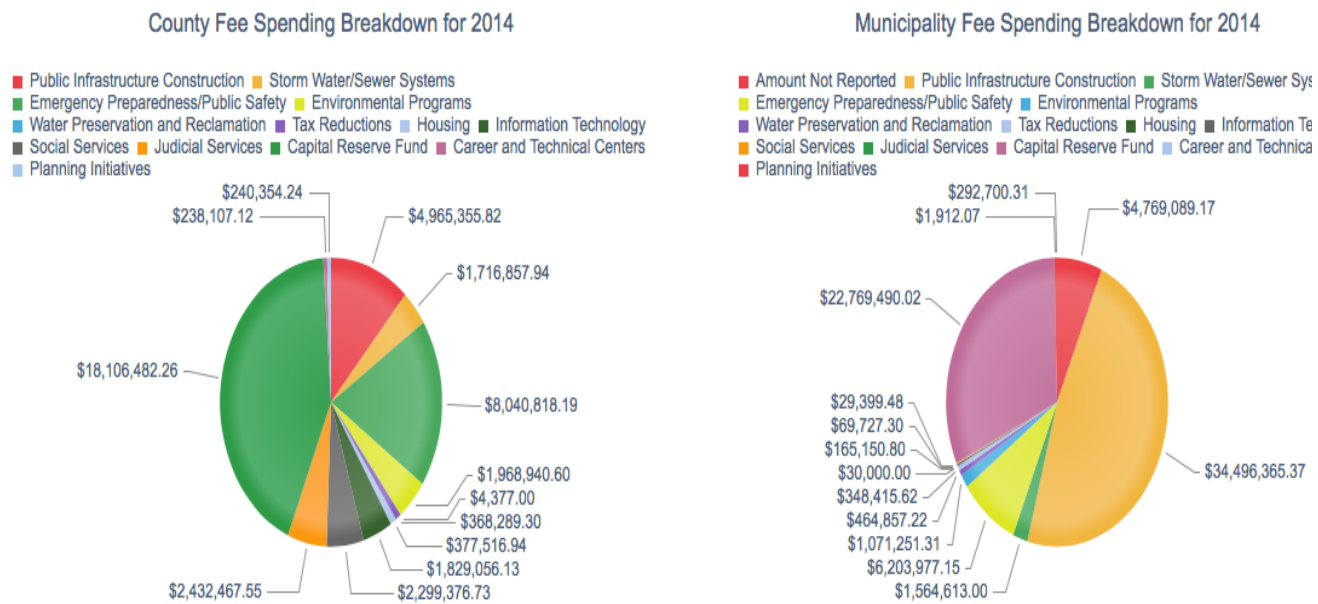


Figure 2: 2014 usage of funds from Impact Fees by counties and municipalities.

Retrieved from: (“PA PUC Interactive Impact Fee Reporting Website”, n.d.).

The remaining forty percent of the revenue from the Impact Fee goes to the Marcellus Legacy Fund, a fund devoted to initiatives with potential local impacts and value. Much like the Unconventional Gas Fund, the monies in the fund are distributed to different areas. Twenty percent of the Marcellus Legacy Fund is used by the Commonwealth Financing Authority to issue grants to assist in the renovation of the

areas with acid mines, abandoned wells, and places with a poor water quality. Another ten percent is allocated to the Environmental Stewardship Fund to be used on special preservation projects. Twenty-five percent, with a minimum of forty thousand dollars, is distributed by PennDOT for highway bridge improvement. This is used to replace or repair bridges that may have been overused by large oil transport trucks and is assigned based on county population. A quarter of the Marcellus Legacy Fund is taken by the H2O PA program for use in water and sewer projects. Environmental Initiatives receive another portion of the Marcellus Legacy Fund at fifteen percent, but each county receives a minimum of twenty-five thousand dollars. It is distributed based on population for use on trails, conservation projects, heritage parks, and similar enterprises. Finally, five percent of the Marcellus Legacy Fund is allocated to oil and natural gas projects by the Department of Community and Economic Development. The Impact Fee is enforced by the Pennsylvania Utilities Commission. Untimely payments by the producers are met with harsh penalties from five percent and up to twenty-five percent per month. In addition to the penalty, failure to pay will result in a producer being stripped of the permit to drill (Sacavage, 2013).

When drilling a well, application fees for drilling permits are another way the state generates revenue from the companies. With conventional wells, the total bore length determines how much an entity will pay for a permit application. A value is assigned to each five-hundred feet of bore length that must be paid in order to send an application. Lengths over twelve-thousand feet pay one-hundred additional dollars over the twelve-thousand foot value for every five hundred feet over that length.

Unconventional wells have a different application fee system. There are only two

possible values for the application fee of an unconventional well permit. A vertical unconventional well has a permit fee of four thousand two hundred dollars. A nonvertical unconventional well cost eight hundred more than the vertical one. Adding fees for the permit may only cut a small amount into profits, but any extra costs will have an effect on a company no matter how small. (Pa. Code § 78.19)

<b>Conventional Wells</b>	
<i>Total Well Bore Length in Feet</i>	<i>Total Fee</i>
0 to 2,000	\$250
2,001 to 2,500	\$300
2,501 to 3,000	\$350
3,001 to 3,500	\$400
3,501 to 4,000	\$450
4,001 to 4,500	\$500
4,501 to 5,000	\$550
5,001 to 5,500	\$650
5,501 to 6,000	\$750
6,001 to 6,500	\$850
6,501 to 7,000	\$950
7,001 to 7,500	\$1,050
7,501 to 8,000	\$1,150
8,001 to 8,500	\$1,250
8,501 to 9,000	\$1,350
9,001 to 9,500	\$1,450
9,501 to 10,000	\$1,550
10,001 to 10,500	\$1,650
10,501 to 11,000	\$1,750
11,001 to 11,500	\$1,850
11,501 to 12,000	\$1,950

*Figure 3: The Application fee schedule for conventional wells. (Pa. Code § 78.19)*

In addition to the taxes and fees related to the business, oil and gas companies still must pay the standard Pennsylvania state taxes. Pennsylvania's corporate net income tax sits at just under ten percent of apportioned taxable income. This corporate income tax is one of the highest rates for a state corporate income tax in the country. Owners of entities that are organized as S corporations, limited liability companies, or limited partnerships must pay the personal income tax of three and seven hundredths percent of taxable income. Also, there is a sales and use tax when personal property is either sold at retail or used. With the sales and use tax, there is an exception for the equipment used directly in mining, but there are many forms of equipment that do not fall under the exemption. Finally, under the realty transfer tax, mineral rights acquisitions are taxed at one percent state-wide, and also usually one extra percent locally (Cosmo Jr., 2015).

Though not necessarily a tax, a large expense for oil and gas companies comes in the form of government regulation. The state Department of Environmental Protection is the entity that determines what regulations need to be placed on the oil and gas industry. In order to comply with regulations placed on them by the state, companies have to spend more money and in some cases avoid certain practices while drilling. Estimates from January of 2016 show the newest regulations could cost the industry between six and thirty-one million dollars annually. Initial costs could be higher, with a price tag of what could be seventy-three million dollars in the first three years to become compliant. One of the examples of costly regulations is the banning of fracking pits. This ban was instituted to protect ground water as it was believed that the fracking pits contributed to some contamination. The newest batch of regulations have been deemed a midpoint, not

an endpoint, and it is expected that there will be consistent improvement in the regulations on the shale industry. (Saha & Muro, 2016)

### **The severance tax proposal**

With Pennsylvania Governor Tom Wolf officially proposing a severance tax in early 2016, a great debate has ensued as to whether it would be beneficial. A severance tax, sometimes called an extraction tax, is a tax paid when natural gas is removed from the ground. Severance taxes are used in almost every state. Iowa, New York, and Pennsylvania are currently the only states to not have a severance tax in place (“Oil Severance Tax”, n.d.). Before Tom Wolf’s proposal, the Pennsylvania House of Representatives passed a severance tax in 2010, but the Pennsylvania Senate did not allow it to go through (Cosmo Jr., 2015). The proposal that Governor Tom Wolf has created would not only create a severance tax, but create one of the highest severance taxes among major gas producing states. The severance tax in his proposal is modeled after the one that is in place in West Virginia, which is at five percent. This new severance tax would replace the impact fee, as it is seen that the impact fee has been a substitute for a severance tax. The difference in expected revenue between the tax and fee is large as Wolf claims the severance tax would raise one billion dollars per year while the impact fee has not even generated that much since 2008. Other lawmakers believe that his projections may be a bit optimistic, as their forecasts show that there may be multiple repercussions not only for the oil companies that pay more, but also for the contractors and communities that receive the earnings of the Impact Fee currently (McKelvey, 2015).



The severance tax against the Impact Fee of Act 13 has been a hot debate in Pennsylvania since Act 13 was put in place. With Pennsylvania being the only state to have anything similar to the Impact Fee and being one of the only states without an extraction tax, the Impact Fee has always been seen as an alternative to a severance tax. Former Pennsylvania Governor Tom Corbett, the governor who was in command when Act 13 was passed, was adamantly opposed to a severance tax. With a new governor, Democratic Governor Tom Wolf, and state tax revenue expected to be about two hundred million dollars below expectations, it appears as though there is an opening to pass a severance tax in the near future, possibly as soon as the next legislative session. (Swift, 2016) Opposition for the new severance tax consideration have cause for concern, as the severance tax would send control of the funds to the state, while the Impact Fee is dispersed to the counties and municipalities with drilling in the area. The money earmarked to fix roads and help reinvigorate the environment that has felt the effect of drilling in the area will not be available, which could lead to distress in the communities with drilling. (Cosmo Jr., 2015)

### **The effects of adding tax**

When determining whether raising taxes is a good idea, it is important to have a solid grasp on the global market to ensure the macroeconomic conditions will support a tax hike. Though some believe that the United States can be truly energy independent, oil prices on a global scale have an effect on what the oil prices can be in America. Over the past two years, oil prices have dropped over seventy-five percent as the supply of oil on the market has drastically risen. Saudi Arabia, one of the leaders in oil production, has

been one of the key players in providing a huge supply of oil to the marketplace, causing the drop in prices recently. Saudi Arabia has even been known to purposefully keep prices down to adversely affect other countries. After an attack from Iran in early 2016, analysts concluded that in an effort to keep Iran from being a beneficiary of their own oil supply, Saudi Arabia intentionally refused to cut their production, a move that would have raised oil prices. Energy economist James Williams of WTRG concluded at the time that this was Saudi Arabia's best move as keeping Iran broke was the most favorable short term option. Even though designed to hurt Iran, the low oil prices have an effect on everyone (Saefong, 2016). With oil prices lower, every expense counts as the profit margin for oil companies in Pennsylvania get smaller and smaller. Both revenues and profits are declining due to the price drop and hits from the federal government adding a ten dollar per barrel tax on oil. Due to this constriction on profit, the capital budgets of oil companies have to be cut in order to stay profitable ("The Revenue Proposal", 2015). The employment in the industry has been one of the first areas to take a hit. Nationwide, about seventeen thousand of the one-hundred eighty-five thousand oil and gas jobs have been cut according to the United States Department of Labor. If the jobs cut within the supply chain are also considered, that number is much higher (Woodall, 2016).

In the same mold as job loss, the number of oil rigs are hitting a steady decline as well. In the United States, the rig count has declined to less than twenty-five percent of what the total was in 2011. Pennsylvania has been among the states taking a shot, with only twenty-five rigs remaining as of a yearly report released on January 8, 2016. This number is down from fifty-one the year before and one-hundred fifteen in 2011.

Although Pennsylvania has yet to take a hit on the scale of some of the larger drilling

states such as Texas, Oklahoma, and North Dakota, it is still very troublesome that the number of oil rigs and oil jobs are on such a decline.

#### Predicted employment response from declining oil & gas rigs

State	Change in rig counts (January 2015-March 2016)	% Change in rig counts (January 2015-March 2016)	Short run decline in employment	Long run decline in employment	Long run job loss as a share of total employment
Texas	-614	-73%	19,955	121,265	-1.21%
Oklahoma	-139	-67%	4,518	27,453	-2.09%
North Dakota	-136	-81%	4,420	26,860	-7.25%
New Mexico	-84	-83%	2,730	16,590	-2.60%
Louisiana	-63	-58%	2,048	12,443	-0.75%
Colorado	-49	-74%	1,593	9,678	-0.46%
Wyoming	-47	-84%	1,528	9,283	-4.29%
Pennsylvania	-37	-70%	1,203	7,308	-0.14%
Ohio	-34	-74%	1,105	6,715	-0.14%
Utah	-23	-100%	748	4,543	-0.39%

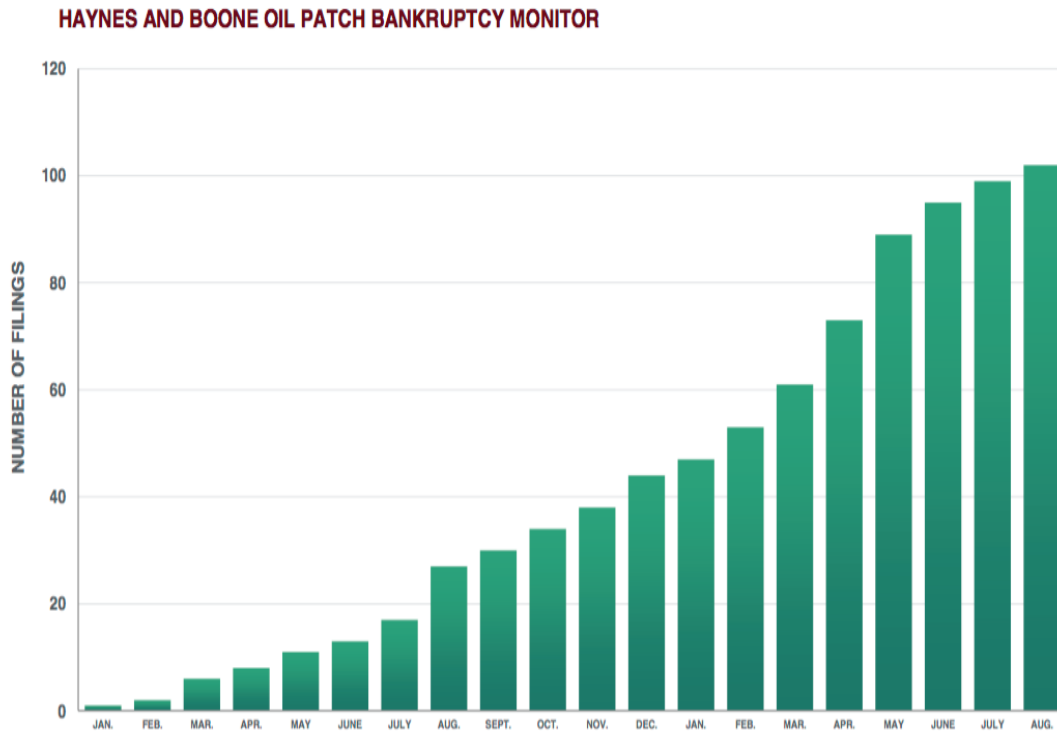
Source: Brookings Analysis of employment impact of active rigs data developed by Mark Agerton and Others, "Employment Impacts of Upstream Oil and Gas Investment in the United States," (Rice University, 2014), and Jason Brown, "The Response of Employment to Changes in Oil and Gas Exploration and Drilling," (Federal Reserve Bank of Kansas City, 2015).

*Figure 4:* Predictions on how the decline in oil rigs will effect employment opportunity based on measurements from January 2015 to March 2016. Retrieved from: (Saha & Muro, 2016).

Although the state is fully aware that oil prices are exceptionally low, they still think the implementation of a severance tax should still be considered. Jeff Sheridan, a spokesman on behalf of Governor Tom Wolf, states that a tax would still be feasible because even though the prices are so low, they have nowhere to go but up. Those involved in the industry believe they are being punished by lawmakers as not only do they have to pay every tax a normal Pennsylvania business has to pay, they have the Impact Fee tacked on as well. If the Impact Fee is switched out for the severance tax, the

cost of doing business will go up even further. In contrast to what is looking to be passed by Governor Wolf, oil companies and those who work or have been laid off are looking for policies to be enacted that will give the companies a bit of a break in order to promote investment opportunities and employment (Woodall, 2016).

With the squeeze on profits caused by low prices and high expenses, oil companies have taken hit in stock prices. Some major players have seen catastrophic stock drops during the last year, to the point where some might even consider it a crash. Chesapeake Energy had their stock drop eighty percent over the past year. Southwestern Energy had their stock fall seventy-four percent. One of the more well known companies, Range Resources, also took a hit of a fifty-two percent drop in stock. Some of the smaller drillers are taking it even worse as they are being forced to file for bankruptcy (Woodall, 2016). Not only is this a problem in Pennsylvania, this is occurring throughout the country. Pennsylvania though, is one of the only ones looking to raise taxes specifically on the declining industry. Haynes and Boone, a limited liability company who tracks bankruptcies throughout the United States and Canada, has found that the number of oil patch bankruptcies have increased each month since January 2015 (“Oil Patch Bankruptcy Monitor”, 2016).



*Figure 5:* The number of oil patch bankruptcies tracked by Haynes and Boone LLC tracked each month from January 2015 through August 2016. Retrieved from: (“Oil Patch Bankruptcy Monitor”, 2016).

### **Analysis of the tax system in Pennsylvania**

With the unfavorable conditions currently in the industry of oil and gas, it would seem to be a poor time to begin to implement more taxes and regulations on to these companies. The price of oil is at the lowest it has been since the 1990s, leading to a drop in stock, some bankruptcies, and large job cuts that caused Pennsylvania to have one of the lowest employment growth rates in the country. In 2015, according to the Federal Reserve Bank of Cleveland, Pennsylvania’s employment grew by less than one percent, less than half of the national average in that year (Conklin, 2016). Adding more expenses

to the oil companies, as switching from the Impact Fee to a severance tax would be projected to do, could cause even more job loss or even have companies move their drilling completely out of the areas. Not only would the profit squeeze hurt the companies, but it would also hurt some Pennsylvania citizens. Those who once worked in oil and get laid off will have to find new work. People in the communities where oil provides most of the local revenue through the Impact Fee would have less money for expenditures. Some of the many people who use oil companies as a source of income in their tax-deferred retirement accounts may lose money from their energy-based investments. If oil companies are pressured by low profits to shut down, many lives could be altered. Because of what some of the effects of a higher tax could be, Pennsylvania lawmakers should hold off on passing a severance tax until a more favorable global marketplace exists. There is a fine line that must be walked with taxation. If taxes are high, it may seem fruitful in the short term, but in the long run the slowing or departure of business could lead to less revenue long term. With the oil market seeming to be on the decline, it will be important that the state does not stunt an industry that is very important to its own revenue and the economy as a whole.

The possible switch from the Impact Fee to a severance tax has been debated within the past year in the state of Pennsylvania. One of the most important aspects of the Impact Fee is that the revenue received from it is given back to the communities that is directly affected by drilling. If the severance tax is passed, which would revoke the Impact Fee, these earmarks will no longer be in place. Without the earmarks, the state government will decide how to allocate the proceeds. Pennsylvania Governor Tom Wolf has already stated some ideas on where he would like to distribute the funds citing

education and some other programs. Although state education funding is important, municipalities losing their Impact Fee money can result in the deterioration of roads with high traffic from trucks heading to rigs and a lack of environmental restoration. The Impact Fee distributions are very important to these areas as without them it will be difficult to minimize the footprint left by drilling. The current system stresses the importance of both state and local governments receiving funds as there is a set distribution that includes both (Sacavage, 2013). The switch to a severance tax sending all of the funding to the state could lead to unintended consequences at the local level as their much needed revenue would be greatly reduced.

The best solution to the debate would likely be to keep the tax code the same or even reduce the amount companies pay until the oil prices globally increase. Any increase could be dangerous to the sustainability of the industry inside of Pennsylvania. If it is unnegotiable that a severance tax be implemented, a small percentage rather than being one of the highest in the country would be best because the commonwealth should not risk chasing more companies out of the region. Another issue regarding a switch is that the state should keep the structure that shares revenue with local governments. Also, regulations on the industry should be reduced in order to create an environment that allows business to grow in a period of time where it is difficult to do so.

## **Conclusion**

Oil companies are required by law to spend a lot of money to comply with the government. They must pay federal and state taxes as every other type of business has to. In Pennsylvania, the unique Impact Fee must be paid according to the schedule set by

Governor Corbett in Act 13. This Impact Fee is split among the local and state governments in order to assist in covering the environmental costs of drilling. In addition to this, the liquid fuels tax must be paid if the gas being drilled is going to be used as fuel on public highways. Beyond taxes, it costs a large amount of money to pay for fees and to become compliant with regulations. A severance tax has been proposed to replace the Impact Fee by the state government. If the Impact Fee is replaced, tax rates will increase and the money that is currently going to local governments will mostly go to the state government.

All of these extra costs incurred after production can have negative effects. With prices worldwide being historically low, profit margins have grown increasingly slim causing job loss, stock declination, and some bankruptcies. With such troublesome market conditions, it would seem to be an inopportune time to raise tax on oil like the severance tax would do. A tax hike could hurt revenue in the long run as companies could either shut down or relocate to a state with a more favorable tax code. It would behoove the state to hold off on a tax raise or even lower what they have to pay until the global prices begin to increase. A misstep that causes more departures of oil companies could deal a catastrophic blow to an important revenue stream for the state.



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