The Ethics of Bootleg Coal*

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Abstract

During the 1930s unemployed coal miners stole coal from company owned land in huge quantities. Juries would not convict the miners, and government officials were mostly sympathetic. This paper examines the ethics of actions taken by miners, governments, coal companies, and unions. We also consider the limits of legitimate exercise of land ownership.

1. Introduction

Land ownership creates unique ethical dilemmas because land is a basic necessity and its supply is limited. Private ownership of land is now so widely accepted, however, that the boundaries of legitimate exercise of the rights of ownership are seldom considered.

The ethics of extreme cases are clear. For example, an individual who purchased all of the land on earth and evicted everyone would clearly be outside the boundaries

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of ethical behavior, even though he might simply be exercising accepted rights of land ownership on a larger than normal scale. At the other extreme, few would see an ethical problem in the eviction a stranger who decided to enter a private home to spend a night, particularly if the stranger had a safe alternative place to sleep.

The interesting ethical cases fall in between these extremes. At what point does land ownership become illegitimate? Does legitimacy depend on the size of land holdings? In the United States, very large land holdings are permitted, including a few timber and ranching companies that own millions of acres. A private individual, Ted Turner, owns nearly 2 million acres of ranch land throughout the United States.(Land Report, 2009) At some point size might affect legitimacy of land ownership in the United States, but this point has never been reached.

Does legitimacy depend on the urgency of the needs of non-owners? Agricultural land produces one of the most basic human necessities, food, and it is almost entirely in private hands. Farmers are not required to maximize production from their land. To the contrary, farmers in the United States are encouraged by the federal government to reduce production in order to raise the price of food.(Blank, 2008) The law of eminent domain allows government to take land out of private hands for specific public projects, such as roads or slum clearance, but just compensation must be paid to land owners in these cases.[1] The law does not recognize many limits on the legitimacy of land ownership caused by the needs of individual non-owners.

Land ownership in the United States is so secure and so uncontested that it is difficult to find cases that define the boundaries of legitimacy. One such case is that of illegal Pennsylvania coal mines in the 1930s. Land containing deposits of anthracite coal was legally purchased and exploited by coal mining companies throughout the 19th and early 20th centuries. During the 1930s, lower coal production resulted in massive

[1] See the Supreme Court case Kelo v. City of New London (545 U.S. 469(2005)) for an example of the application of eminent domain law.

unemployment of coal miners, as high as 75% in some towns.(Dublin, 2005)

Many of these unemployed miners used the skills they acquired on the job to surreptitiously mine coal on company land, using the coal to heat their homes. As the Great Depression continued, these miners expanded their illegal operations, mining thousands of tons each day and eventually accounting for more than 10% of all United States anthracite coal production. (Kozura, 1996) Anthracite coal companies, which had attempted to cartelize the industry for decades, opposed this competing production which came from their own land.

Bootleg coal was an important issue of the day, and a solution eluded policymakers for many years. The governor of Pennsylvania called it "the greatest conflict between moral and property rights in the history of this State."[2] The Pennsylvania State Anthracite Commission reported in 1937 that "Traditional legal right is with the coal companies; but on the plane of common-sense ethics rather than of strict law there is something to be said for the bootlegger."[3]

An interesting aspect of the anthracite industry was that what might have been considered misbehavior on both sides, theft on the part of miners, and market manipulation on the part of the coal companies, was sanctioned and encouraged by government. Juries, local officials, the state and federal governments all failed to enforce laws protecting private property, and the state and federal governments assisted the coal companies to establish a cartel to raise coal prices.

Actions of all of the parties involved face challenges from various systems of ethical standards. The miners stole coal and local officials allowed them to do so, while owners attempted to monopolize anthracite coal production and state and federal governments encouraged them to do so. Unions helped to create the conditions that led to bootleg

[2] New York Times, "Board Hits Snag on Bootleg Coal," April 4, 1937, p. 71.
[3] New York Times, "Predicts Decline of Bootleg Mining," September 13, 1937, p. 42.

mining, and then participated in violent suppression of illegal mining and competing unions.

Questions about the legitimacy of land ownership were widely debated at the time, but no conclusive answers or grand solutions emerged from the case of bootleg coal. Bootleggers continued their activities in spite of many attempts to solve the problem, ending only when the anthracite coal business declined and essentially died. In this paper we analyze the implications of this historical episode for the ethics of land ownership and business practices in general.

In section 2 we analyze the economics of anthracite coal. In section 3 we describe the bootleg coal business. In section 4 we discuss some evidence of the consequences of bootleg operations. In section 5 we discuss the ethical implications of this business. Section 6 concludes the paper.

2. The Economics of Anthracite Coal

Characteristics of Anthracite Coal

Anthracite is the highest grade of coal. It has a very high carbon content and fewer impurities than lower grades. It is harder, burns more steadily, is cleaner to handle than other types of coal, and produces much less soot when burned. Anthracite coal was the most commonly used domestic heating fuel in the United States during the early 20th century, and was also used in some industrial applications. Lower grade coals, such as bituminous, are much more abundant, and were used by railroads, ships, industrial plants, and for making coke for use in blast furnaces.(Devine, 1925)

Anthracite is much less common than other types of coal, and is only found in a few regions of the United States. By far the largest deposits are located in northeastern

Pennsylvania, where anthracite mining was the dominant industry during the early 20th century. Of all wage earners in the anthracite region of Pennsylvania during the 1920s, 45% were coal mine workers.(Obenauer, 1925, p. 296)

Supply and Demand

The coal business in the 1930s was characterized by high fixed costs, inelastic aggregate demand, and elastic demand at the individual producer level. High fixed costs resulted from the fact that, once opened, an underground coal mine could not easily be taken out of production temporarily. Timber used to shore up underground mines quickly rotted without constant maintenance, and mines flooded unless they were pumped out. The skilled labor needed to operate a mine scattered when a large mine was closed, making it difficult to reopen. High fixed costs meant that coal companies had an incentive to maintain high levels of production, regardless of demand, often leading to lower coal prices.

Since coal of a particular grade is a commodity, consumers have no brand loyalty and will quickly switch to different sellers in response to lower prices, making price wars common. The fact that aggregate demand was relatively inelastic, however, meant that these price cuts lowered overall industry revenue. High fixed costs and low revenue often resulted in low or negative profits for coal companies. (Risser, 1958)

To counteract the gloomy economics of coal, anthracite companies constantly attempted to cartelize the industry. Most of these attempts were short-lived, but evidence is strong that they often succeeded in raising prices above the competitive level. (Jones, 1914) By the late 19th century eight railroad companies controlled most anthracite production, and by 1920 only 8.7% was independent of the cartel. (Hale, 1925) The railroad companies themselves were controlled by a small group of investors, which facilitated collusion. It was commonly believed that strikes were encouraged by the coal companies as a way of enforcing cartel discipline, reducing output, and raising prices.[4]

In 1920 the United States Supreme Court forced the largest anthracite producer (the Reading Railroad conglomerate) to break apart into separate railroad and mining units, making price control more difficult. In 1936, a new period of "cutthroat competition" began, (Woolley, 1954) exacerbated by the production of bootleg miners. Profits vanished, forcing the mining unit of the former Reading conglomerate, the Philadelphia and Reading Coal and Iron Company, which owned about half of the anthracite coal land in Pennsylvania,[5] to declare bankruptcy in 1937. The company continued to operate under court supervision, but its operations were drastically curtailed. (Dublin, 2005)

The total market capitalization of the five largest anthracite companies[6] was $877 million in early 1926, peaked at $1.76 billion in August 1929, and was $241 million in mid-1939.

Federal and state governments believed that low profitability of the anthracite industry was a problem, and during the 1930s established legalized cartels to raise prices of many goods, including coal. Codes of "fair competition" put floors on prices, and violators risked jail sentences.

Labor

Anthracite miners earned relatively high wages during the 1920s. During the 19th century wages were tied to coal prices, but a strike in 1900 ended this practice. The United

[4] The New York Times, "The Coal Strike; Further Evidence that it is in the Interest of the Dealers," May 15, 1869, p. 1, reported that "The great companies welcome the strike as a saving blessing, and while they are entirely willing that the turbulent monkeys among the miners shall pull their chestnuts out of the fire, they do not propose that the monkeys shall have any of the chestnuts for their trouble." Yearly (1961, p. 189) presents evidence that the companies colluded with union leadership to orchestrate strikes.

[5] New York Times, "Gov. Earle Asserts Socialization May End the Bootleg Coal War," November 18, 1936, p. 17

[6] Delaware & Hudson, Erie Lackawanna Railway, Lehigh Valley Railroad, Pennsylvania Railroad, and the Reading Company.

States Coal Commission, established by Congress after the 1922 strike to investigate conditions in the industry, found that average annual earnings for unskilled miners before the 10% wage increase negotiated during the strike were $1,315. (Bezanson, 1925) Adjusting only for consumer price increases, this is equivalent to more than the amount earned in 2015 by a full time worker at the federal minimum wage. Adjusting for the increase in unskilled earnings over this time, these earnings are equivalent to $54,400 in 2015, indicating that anthracite miners earned more than workers in many other industries. Skilled miners such as pumpmen, timbermen, and machinists earned as much as 34% more than unskilled miners.(Bezanson, 1925)

Nominal wages remained essentially frozen after the early 1920s. A strike in the winter of 1925-6, during which labor demanded another 10% increase and owners wanted wage cuts, resulted in no changes in wage rates. (Kanarek, 1974) During the Great Depression, anthracite coal mining was the only major industry in which nominal hourly wages did not fall. (Wolman, 1933) Actual earnings of miners did fall during the 1930s, however, because of cutbacks in the number of days worked, and because many mines closed altogether.

Wages in many industries rose from the low point of the Great Depression to the end of the 1930s due to the effects of the National Industrial Recovery Act, which legalized industrial cartels and gave more power to labor unions. The anthracite industry, however, was unable to come to an agreement with labor, and so its wages were not covered by by the act. (Cole, 2003)

During the strike of 1925-6 a movement arose to demand equalization of work between the mines so that the available work would be shared, but such a provision was not a part of the final contract. Available work tended to be given to mines employing English and Welsh miners instead of those employing Slovaks and Lithuanians. Recent immigrants believed that their lack of representation in the leadership of the United Mine Workers

(UMW) resulted in failure of the union to take the equalization strategy seriously, leaving mine owners free to consolidate mining operations. (Kashatus, 2001 p. 20-21; Kozura, 1996 p. 205)

In 1933 Slovaks and Lithuanians formed an alternative union, the United Anthracite Miners of Pennsylvania (UAMP). The new union favored equalization, but it was violently suppressed by the UMW. Many were killed in this violence, including the president of the UAMP, the victim of a mail bomb. (Dublin, 2005; Kozura, 1996) Rocks, bricks, guns and dynamite were used on both sides of the conflict. The UMW obtained a federal injunction against the UAMP in 1935, effectively destroying the new union. (Sperry, 1973)

The UMW later pushed for equalization, offering to help end bootleg mining in return for spreading available work to different collieries,[7] but little progress was made in this direction.

The history of labor unrest in the anthracite region clearly convinced owners not to reduce wage rates during the 1930s. Since the market clearing wage rate had fallen, the inevitable result was massive unemployment.

Decline

After rising for decades, production of anthracite declined after World War I. Strikes in 1920, 1922, 1923, and 1925-6 created fuel shortages, particularly in northeastern states. Governors of these states, hoping to avoid future shortages, and perhaps influenced by the politically active Oil Burners Association[8] began education campaigns designed to convince consumers to switch away from anthracite coal.(Kanarek, 1974) The greater

[7] New York Times, "Lewis Sees Amity on Hard Coal Pact," December 5, 1935, p. 4.

[8] See "Oil Tariff Called Levy on Taxpayers," New York Times, February 13, 1932 p. 25 for an example of the Association's political activities.

convenience of heating oil and gas, as well as declining accessibility of coal deposits would eventually have caused these fuels to replace coal for home heating, but strikes accelerated the process.

In addition to the loss of markets to other fuels, unusually high temperatures combined with reduced consumer purchasing power during the Great Depression reduced the demand for all heating fuels. (Mead, 1935)

High anthracite prices at a time when heating oil prices were declining also reduced the market for coal. (Mead, 1935) These prices were maintained in part by an industry cartel (Mead, 1935 p. 87; Jones, 1914) and in part by inflexible wages.[9] It was also alleged at the time that the owners of the coal companies had interests in other fuels, and may not have acted in the best interests of the anthracite coal industry.[10]

Once families installed oil or gas burners it was impossible to return them to coal, and so the anthracite industry's decline was permanent. (Kanarek, 1974) Total anthracite production fell from 100 million tons in 1917 to 74 million tons in 1929, and to less than 50 million tons in 1932. (Pennsylvania Department of Mines, 2000) The rise and fall of anthracite production is shown in Figure 1.

[9]High property taxes on coal lands may also have played a role in the decline of anthracite. See New York Times, "Use of Oil and Gas for Power Growing," February 21, 1933 p. 21

[10]See Tyrone (PA) Daily Herald, "Coal Bootlegged on Big-Business Basis," December 26, 1936, p. 3. Note that failing to act in the interests of the anthracite industry is not incompatible with acting in the broader public interest. Facilitating a switch from anthracite to heating oil and gas may have been bad for coal miners, but may have been economically efficient overall.

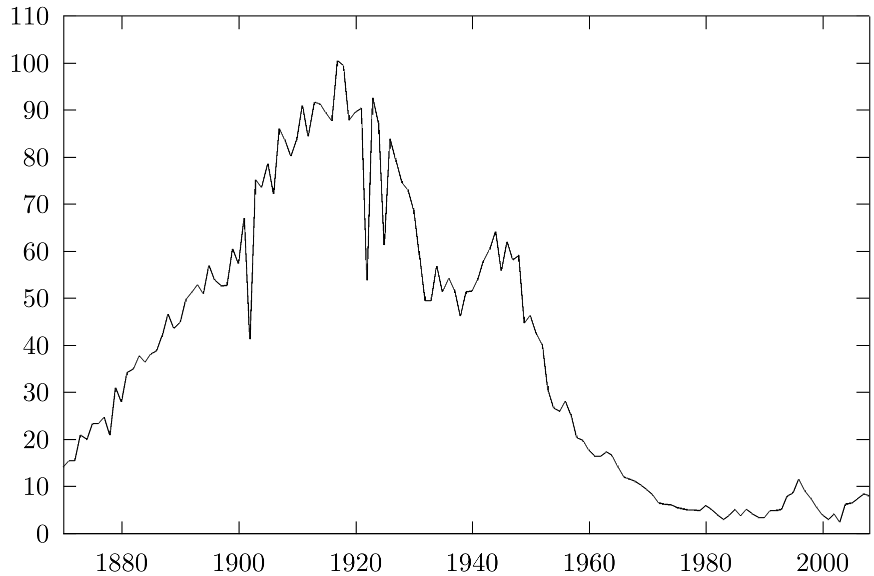

Figure 1: **Pennsylvania Anthracite Production, 1870-2008.** In millions of tons.

3. The Bootleg Coal Business

The Economics of Bootlegging

Bootleg coal mining was much less efficient than legitimate mining, so at first it is difficult to see how it could have competed and survived. In an economic equilibrium, coal companies, with their large scale and modern production methods, would have had enormous advantages over bootleggers.

For reasons described above, however, the market for labor in the coal industry was not in equilibrium. Unions were able to maintain wages above marginal productivity through political actions and the threat of violence. Unions also pushed companies to adopt expensive safety practices. As a result, less efficient independent mining operations were able to produce and sell coal at prices that established coal companies could not profitably match.

Also helping to create an opportunity for bootleg miners to compete was the cartel behavior of the coal companies. Coal companies cut production and raised prices above competitive equilibrium levels, making it possible for bootleggers, even with their small scales and inefficient production methods, to compete.

Growth of Bootlegging

As a result of declining demand for anthracite coal, fixed wages, high prices, and greater mechanization in the mines,[11] employment in anthracite regions plummeted during the 1930s. Adult male unemployment in Mahanoy City, Pennsylvania, in the heart of the anthracite region, was estimated to be 75% in 1934 after six of seven collieries closed. (Dublin, 2005) It had been customary for some coal miners to pick out bits of waste coal from slag heaps outside of mines for their own home heating use. During the anthracite strike of 1902 demand for this waste coal exceeded supply, so some miners began to secretly dig small shallow mines on coal company land. Some small scale selling of "bootleg coal" occurred during the 1902 and 1920s anthracite strikes and coal companies usually did not object.[12] (Gustafson, 1997) The United Mine Workers union opposed bootleg mining during these strikes.[13]

Greater mechanical efficiency reduced the amount of waste coal available for scavenging during the 1920s, which further increased the number of illegal mines.(Adamic, 1934) The difficult conditions of the Great Depression, however, produced a bootleg coal industry on an entirely different scale. By 1932, hundreds of tons were illegally mined each day.[14] Large trucks by the hundreds shuttled back and forth each night between the illegal mines and markets in eastern cities, selling coal to homeowners at substantial

[11] Anthracite output per man-hour increased by 59% from 1929 to 1939. (Barger, 1944)

[12] See also New York Times, "Coal Region Girds for Record Strike; Miners Feel Pinch," December 3, 1925 p. 10. Some bootleg miners took advantage of the coal shortage caused by the strike to sell their coal for high prices.

[13] New York Times, "Coal Bootlegging Follows Strike," December 19, 1925, p. 5.

[14] New York Times, "To Check Bootleg Coal," December 25, 1932 p. N14.

discounts to prices charged by legitimate producers.[15] (Adamic, 1934) Coal was often sold door to door claiming that the coal was "direct from the mines without the middleman's profit."[16] High prices for legitimate coal set by state and federal codes increased the market for bootleg coal.[17]

Bootleg sales were estimated to be $32 million in 1935, nearly 10% of total anthracite output.(Time, 1936) The Anthracite Institute estimated that 46% of all interstate shipments of coal were bootleg.[18] A survey taken by the Pennsylvania Anthracite Coal Industry Commission in 1937 estimated that 13,000 workers supported 45,000 family members in the bootleg coal business. Their survey was taken in the summer, when operations were significantly smaller than in the winter, so the actual number was probably much higher. (Dublin, 2005) By 1941, sales may have reached $41 million with a workforce of 30,000. (Kozura, 1996) Other estimates were much higher.[19] Economists compiling national income and product accounts noted that after illegal alcohol during prohibition, bootleg coal was the largest source of underground economic activity ever in the United States. (Fabricant, 1946)

Bootleg mines were shallow and simple at first, taking advantage of coal the miners knew was close to the surface. Family members and friends used hand windlasses to raise buckets of coal, which was hidden by the roadside in hundred pound bags, then loaded into pickup trucks. Eventually, employing the skills they learned while employed by coal companies, miners dug deeper and created more elaborate structures using hoists powered by old cars. Most mine operators earned between $2.25 and $3.00 per day, although some were rumored to earn as much as $10 per day. (Flynn, 1936)

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[15] Some claimed that bootleg coal deliveries were often fraudulently weighed, negating the price difference. New York Times, "Bootleg Coal Ban Urged," March 30, 1937, p. 22.

[16] "To Check Bootleg Coal," New York Times, December 25, 1932 p. N14.

[17] New York Times, "Defies Code Authorities," September 19, 1934, p. 2.

[18] New York Times, "Sale of Stolen Coal Rose 18% Last Year", March 2, 1936, p. 38.

[19] A prosecutor in New York investigating dealers in illegal coal estimated that 150,000 miners and their families were bootleggers. See New York Times, "Raids Here Reveal Bootleg Coal Ring," August 8, 1936, p. 28.

Bootleg mining spread rapidly throughout Schuylkill and Northumberland counties. A reporter described a 150 mile drive around the region where he was "seldom out of sight of an illegal mine for more than a minute."[20] Surveys taken using motion picture equipment found that daily tonnage of bootleg coal being shipped on two Pennsylvania highways increased from 104 tons in 1934 to 1,072 tons in 1935 and 2,129 tons in 1938.[21]

As the industry grew, division of labor began to appear. Some workers became full-time truck drivers, and others constructed "breakers," where coal was washed and sized using a series of sieves shaken by small steam engines.

Breaker operators bought coal from miners and sold it for a profit to truckers, who then sold it to dealers in cities and towns. (Flynn, 1936) Wage scales emerged and some bootleggers began to profit. A reporter interviewing an owner of a breaker operation found that his net revenue was approximately $330 per day on 120 tons of coal. He paid 12 workers each $2.50 per day.[22] (Flynn, 1936) Low as bootleg earnings were, they were enough to attract thousands of workers; in a survey of 7,700 bootleg miners, only 35% had previous experience in legitimate mining, and 17.5% had never had any gainful employment.[23] Some bootleggers came from outside of the anthracite region.[24] Many were supplementing their relief income, some working between shifts on WPA projects. Some bootleg miners who had previously held legitimate mining jobs lived rent free in company houses.[25]

Assuming that a breaker operator had a fleet of 12 trucks, each with a capacity of 10 tons, traveling 150 miles per day, obtaining 8 miles per gallon, and assuming a cost of 19 cents per gallon for gasoline, fuel costs would have been less than $45 per day. Assuming that the trucks cost $500 and could travel 50,000 miles before being replaced,

[20] New York Times, "20,000 Unemployed Bootlegging Coal," November 19, 1936, p. 16.
[21] New York Times, "Mining Engineers Honor L.S. Cates," February 16, 1939, p. 14.
[22] Union workers at the time were paid between $4.62 and $5.96 per day. (Flynn, 1936)
[23] New York Times, "20,000 Unemployed Bootlegging Coal," November 19, 1936, p. 16.
[24] Olean Times Herald, "Bootleg Coal May Cause Warfare," Olean, New York, May 16, 1936, p. 13
[25] New York Times, "Assail Mine Policy at Earle Hearing," December 23, 1936, p. 4.

depreciation was less than $20 per day.[26] Adding another $20 for depreciation on the breaker building and equipment suggests that profits could have been at least $215 per day. If the breaker was able to work 100 days per year,[27] annual profit would have been $21,500, equivalent to more than $380,000 in 2015 dollars.[28] One bootleg breaker owner boasted to a reporter that he had earned a profit of $20,000 in 1935 on an investment of $3,000 for machinery.[29]

For a long distance trucker, a 10 ton load delivered to a city such as Philadelphia or New York might produce net revenue of $28. A 300 mile round trip might cost $11 in fuel and depreciation for a profit of $17 in a day; more than miners earned, but less than breaker entrepreneurs. High profits in the coal bootlegging business were reportedly attracting participation by organized crime rackets from around the country.[30]

The Politics of Bootleg Coal

Popular opinion in anthracite regions generally favored the bootleg miners. Local retailers, hurt by high unemployment, benefited from the increased local income that the bootleg coal business produced. Local poor boards encouraged aid applicants to dig coal illegally to avoid having to appropriate county funds. Companies were warned that too vigorous enforcement of their property rights would result in higher poor relief bills which would be paid by raising taxes on coal companies. (Adamic, 1934) Courts were reluctant to convict accused coal thieves, and jail wardens often set free those who were convicted. Local clergymen, particularly Catholic clergy, supported the miners, and

[26]See Winnewisser, 2006 for information supporting these assumptions. See `http://www1.eere.energy.gov/vehiclesandfuels/facts/2005/fcvt_fotw364.html` for historical gasoline price information.

[27]Six days per week from November-March, minus 20% for equipment breakdowns and other difficulties.

[28]It is likely that breaker operators were required to pay bribes to local law enforcement, (Cerullo, 1983) so the amount kept by the operators is difficult to estimate.

[29]New York Times, "20,000 Unemployed Bootlegging Coal," November 19, 1936, p. 16.

[30]See New York Times, "Raids Here Reveal Bootleg Coal Ring," August 8, 1936, p. 28.

helped them to develop ethical justification for their actions.[31] (Adamic, 1934)

Coal companies vigorously opposed bootleg mining. Employees of the Philadelphia and Reading Coal and Iron Company[32] dynamited 1,200 illegal mines during 1934, but it was estimated that 4,000 new mines opened on company property during that year. (Adamic, 1934) Company police were often driven off by force and strip mining equipment sent by the coal companies into bootleg mining areas was dynamited. (Kozura 1996) Company buildings were burned and company roads dynamited in retaliation for closing of bootleg holes by the coal companies.[33] Other bootleggers remained in their mines and dared company police to blow them up.(Time, 1936)[34] Coal companies responded with tear and nauseating gases.[35]

Attempts were made to eliminate bootlegging by taxing and prohibiting truck transport of coal, since legitimately mined coal was usually transported by rail. These attempts drew large protests from bootleg miners, however, and failed in the state legislature. (Dublin, 2005) Bootlegging was less popular in New York, where major owners of coal mining companies lived, and in New Jersey, where dealers in legitimate coal resented competition from bootleg coal. New York and New Jersey State Authorities often arrested drivers carrying bootleg coal. A New York Grand Jury called on the state of Pennsylvania to "stop this condition of anarchy which results in a flow of polluted commerce."[36] Laws aimed at stopping the sale of Pennsylvania bootleg coal were eventually ruled unconstitutional.[37]

[31] By contrast, a Welsh Congregational Church minister "deplored the effect of bootleg mining on the moral concepts of the young, but opposed the use of armed force to stop it." New York Times, "Assail Mine Policy at Earle Hearing," December 23, 1936, p. 4.

[32] 65% of all bootleg mining was estimated to take place on P&RC&IC land. See New York Times, "Predicts Decline of Bootleg Mining," September 13, 1937, p. 42.

[33] New York Times, "Raiders Defend Seizures of Coal," November 21, 1936, p. 7.

[34] See also Olean Times Herald, "Bootleg Coal May Cause Warfare," Olean, New York, May 16, 1936, p. 13

[35] New York Times, "Planned Gas War on Bootleg Miners," September 25, 1936 p. 8.

[36] New York Times, "Jury Urges Drive on Bootleg Coal," September 17, 1936, p. 26.

[37] New York Times, "3 New Jersey Acts are Held Invalid," May 17, 1940, p. 36.

Shortly after the demise of the UAMP, a union of bootleg miners was formed, called the Independent Miners and Truckers Association.[38] The union claimed 20,000 members and charged dues of 10 cents per month.[39] This union, like the UAMP before it, became a target of the United Mine Workers, and clashes between the rival unions were often violent. The UMW worked with coal companies to locate and dynamite bootleg mines,[40] and eventually was a key part of a government-industry partnership to end bootleg mining.

Unions other than the UMW saw bootleg mining as a threat to organized labor. The Teamsters, Longshoremen, and Steam and Operating Engineers unions all supported efforts in New York to ban the importation of bootleg coal, claiming that the practice "tends to break down labor standards whereever decent labor is forced to compere with such conditions."[41]

The two primary strategies anthracite miners had for dealing with the Great Depression, equalization and bootlegging, were both opposed by the United Mine Workers union, creating long lasting tensions. Lingering hostility between bootleg miners and the UMW led to protests against higher union dues and a wildcat strike in 1942. The wildcat strike triggered a nationwide coal miner strike in 1943, which ended after threats by President Roosevelt to use the Army to end the strike and to draft striking miners.[42]

[38] Communists, who had earlier been thrown out of the UAMP, were involved in the early stages of the bootleggers union. (Howard 2005) The extent of later communist involvement in bootlegging was disputed. Adamic (1934) claims that their involvement was minimal, while others held that communists held key positions in the union and directed policy. See New York Times, "Raiders Defend Seizures of Coal," November 21, 1936, p. 7.

[39] Tyrone (PA) Daily Herald, "Coal Bootlegged on Big-Business Basis,"December 26, 1936, p. 3. Another estimate claimed 33,000 members of the independent union. See New York Times, "Bootleg Mines Views," November 13, 1935, p. 46.

[40] See John Frankish, United Press, "Bootleg Coal May Cause Warfare," published in Olean Times Herald, Olean, New York, May 16, 1936, p. 13. The UMW campaign against bootlegging continued for many years. See "Union Officers Head Drive Against Bootleg Coal Mining," The Daily Courier, Connellsvile, Pennsylvania, September 19, 1958, p. 9

[41] New York Times, "3 Unions Ask Ban on Bootleg Coal," February 26, 1937.

[42] Thomas Kennedy, who later became President of the UMW, remarked that "coal miners would as quickly throw a soldier as anyone else down a shaft if he was helping to break a strike." (Blum, 1967 p. 201, Sperry, 1973

Pennsylvania had two governors during this period who sympathized with the bootleggers. Gifford Pinchot, a Republican serving from 1931 to 1935, eliminated state backing for the Coal and Iron Police, a private force that had been commissioned by the state since 1865.[43] (Time, 1931) The coal companies might have initially supported the move, thinking that state police would substitute at no cost to the companies, but Governor Pinchot declined to send state police to the region without requests from local authorities.[44]

George Earle III, a Democrat serving from 1935 to 1939, toured the anthracite region (sometimes making appearances with the 'King of the Bootleggers,' the head of the Independent Miners and Truckers Association (Time, 1937)) and appointed a commission to study bootlegging, but did little to stop the practice. (Dublin, 2005) Earle often snubbed coal company spokesmen while making public his friendship with bootleggers.[45] On his tour the governor met a local sheriff who admitted he had taken no action against bootleggers because he felt that their actions were morally justified. Earle complemented the sheriff, saying that his actions were "very humane but very illegal."[46] Following the tour, Earle promised never to use force to stop bootleg mining.[47]

Governor Earle was occasionally attacked for his hands-off policy towards coal bootlegging. Al Smith, the former governor of New York and Democratic presidential candidate in 1928 suggested that a governor of New York who tolerated illegal bootlegging would be impeached. Earle responded to an impeachment attempt by Republicans in the Pennsylvania legislature, saying "The sentiment in the coal regions is all for the bootleggers. The sentiment of New York City during the prohibition era was against

[43] Coal companies reportedly maintained large private police forces after they were decommissioned. See New York Times, "Coal Bootlegging Stirs New Trouble," April 12, 1936, p. E11.

[44] New York Times, "Police Aid Refused to Coal Operators," February 16, 1936, p. E11.

[45] New York Times, "Gov. Earle Asserts Socialization May End the Bootleg Coal War," November 18, 1936.

[46] New York Times, "Earle Hears Views on Bootleg Mining," December 22, 1936, p. 28.

[47] New York Times, "New Deal on Coal Pledged by Earle," December 24, 1936, p. 9.

prohibition. Twenty thousand illegal speakeasies were operating in New York City. Did Mr. Al Smith do anything about them?"[48]

Earle eventually proposed that the state of Pennsylvania purchase the land being illegally mined, employ the bootleggers, and market the coal produced in cooperation with the private coal companies. Through "scientific marketing" and more efficient production, Earle believed that prices could be cut and profits increased.[49] Unable to gain legislative or industry support, Earle unsuccessfully appealed to President Roosevelt for a federal takeover.[50] In the end, Earle was unable to enact his proposals, and bootleg mining continued to increase.

The End of Coal Bootlegging

In 1939 a new governor, Republican Arthur James, a former "breaker boy" from anthracite country, was inaugurated. His attempts to ban bootleg mining by law failed after 10,000 miners marched on the state capital.[51] (Kozura, 1996) Within a year, however, James made a deal with the coal companies and the United Mine Workers that the companies hoped would simultaneously solve the problems of competition, labor demands, and bootlegging.

Under the plan, coal companies would permit former bootleggers to operate on their land, but all of their output would be purchased by the coal companies. Independent breakers would be eliminated. Independent miners would be subject to state safety inspections.[52]

An Anthracite Emergency Committee was created by the state with representatives

[48] New York Times, "Illicit Coal Brings Attack on Earle," December 6, 1936, p. E10.
[49] New York Times, "State Urged to Run the Bootleg Mines," December 2, 1937 p. 11.
[50] New York Times, "Coal Solution Evades Earle," April 17, 1938, p. 62.
[51] New York Times, "Hard Coal Miners Invade Harrisburg," May 28, 1939, p. 3.
[52] New York Times, "Gov. James Proposes Concerns Lease Anthracite Holes to Miners, Says Report," January 19, 1940, p. 13.

of the coal companies and the UMW as members. Attempts by the federal National Recovery Administration to place a floor on coal prices had failed, but the Anthracite Emergency Committee successfully set weekly production quotas for participating coal companies.[53](Woolley, 1954) Production quotas were raised for each former bootlegger hired by a coal company, and coal purchased from former bootleggers leasing company land was not counted against their quota.[54]

Determining the effect of the new legally sanctioned cartel on industry profits is difficult, since World War II broke out in Europe in the same month that hints first appeared that meetings were taking place between the coal companies and the UMW.[55] Both anthracite and bituminous coal exports surged beginning in September 1939.[56] Anthracite company stock prices surged, but so did other stocks on news of the war. Anthracite prices increased by 11% from August of 1939 to August of 1940 at a time when the CPI increased by only 1.4% and bituminous prices rose only one cent to $4.25 per ton, suggesting that the new legally sanctioned cartel was effective. Beginning in 1941, demand resulting from World War II increased substantially, causing prices to rise still more, and allowing coal companies to increase production.(Woolley, 1954)

The agreement to establish the Anthracite Emergency Committee was made public on December 28, 1939. As additional information about the agreement was released over the New Year's Day holiday, total returns on an equally weighted portfolio of Anthracite stocks totaled 13.9% over 5 trading days. A portfolio of bituminous coal stocks increased by 6.0% over the same time period, and an equally weighted portfolio of all stocks increased by 4.0%. These returns suggest that stock traders believed that the agreement would increase anthracite coal company profits. The market capitalization

[53]99% of anthracite producers agreed to participate in the program. New York Times, "Anthracite Group Will Limit Mining," January 14, 1940, p. 5.

[54]New York Times, "Maps Plan to Halt Coal Bootlegging," February 16, 1941, p. E10.

[55]New York Times, "Anthracite Parley Held," September 6, 1939, p. 19

[56]New York Times, "Coal Exports Spurt," November 7, 1939 p. 41

of these companies increased from $241 in mid-1939 to $361 in mid-1941, a significant increase, but still far below the levels of the 1920s, and some of this increase was due to increased European demand. It is clear, however, that coal company profits were increased substantially by the legal cartel agreement.

The bootleggers and their union were not parties to the agreement. Following the establishment of the Anthracite Emergency Committee, state police used tear gas bombs and riot clubs to clear bootleg mines, which were then dynamited.[57] The United Mine Workers union, which signed the agreement and had representatives on the Anthracite Emergency Committee, supported the moves and participated in the actions to clear the illegal mines. (Dublin, 2005) Protests occurred over the evictions and over high United Mine Worker dues, but the support of the union provided the political cover needed to overcome public sympathy for the bootleg miners.

The coal companies, through the Anthracite Emergency Committee, promised to employ former illegal miners and to buy the output of remaining bootleggers, but by March of 1942 less than 15% of the total number of bootleggers had been hired, and the agreement to buy bootlegger's output was set to expire on March 31.[58] A promise to stop expansion of illegal mining was extracted from the bootleggers in return for an extension of the purchase agreement.[59] State officials hoped that bootleggers would become dependent on the coal companies to process their output because of wartime restrictions on trucking, including tire rationing, rules against trucks returning empty, and the drafting of many independent truck drivers. The state of Pennsylvania also imposed new licensing requirements on trucks.[60]

Strip mining operations were also used to push out the bootleggers. In the spring

[57] Salamanca Republican-Press, "'Bootlegging' Miners Battle Police, Guards," Salamanca, New York, October 18, 1941, p. 1
[58] Gettysburg Times, "1300 Bootleg Miners Hired," March 5, 1942, p. 4
[59] Gettysburg Times, "Bootleggers of Coal Will Not Expand," March 17, 1942 p. 8
[60] Gettysburg Times, "'Empty Load' Order Affects Coal Trucking," June 6, 1942, p. 4

of 1941, 350 miners and their families formed what was called a "living wall" to stop strip mining equipment from being moved into place.[61] In the summer of 1941 2,000 bootleggers armed with stones and clubs battled 25 coal company police armed with shotguns. 13 miners were wounded and a number of guards were injured. A huge steam shovel was pushed off of a mountain onto a highway, another was dynamited, and another was drained of lubricating oil and left running until it was destroyed. 150 state police eventually took control.(Kozura, 1996)[62] In the fall of 1941, state police sent to dynamite bootleg mines drove out miners with tear gas and riot clubs, injuring 30 miners.[63] Soon after these episodes, the bootleggers union split into smaller groups and was less active. (Kozura 1996)

Wartime demand for coal eventually convinced coal companies to hire additional former bootleggers, and others found jobs in other war industries. The draft forced many into military service. A state legislator charged that a higher proportion of men were drafted in areas where bootlegging had been most common, and that names taken in the earlier census of bootleggers were used to select draftees.[64]

Official statistics showed declines in bootleg mining, but some unofficial estimates suggested that bootleg output continued to equal more than 10% of total anthracite output. During World War II, justification for bootleg mining switched from the economic plight of miners to the need to maintain maximum production for the war effort. War price and ration boards in the anthracite region, either out of sympathy for the miners or desire to keep production high, continued to allocate gasoline and tires to the bootleggers. State mine regulators also tolerated illegal mining during the war.[65]

In 1943, the Anthracite Emergency Committee issued its twentieth "final ultimatum"

[61] New York Times, "350 Mine Folk Hold Ghost Town," March 18, 1941, p. 25.

[62] See also Gettysburg Times, "State Troopers Patrol Rioting Coal Regions," July 10, 1941, p. 1, 5

[63] New York Times, "30 Injured in Riot at 'Bootleg' Mine," October 18, 1941, p. 34.

[64] Joseph Agor, United Press, "'Bootleg' Mining Industry Will Become Major Problem After War," Published in Evening Standard, Uniontown Pennslyvania, March 26, 1943, p. 10.

[65] New York Times, "Coal Bootleggers Thrive in Crisis," January 16, 1944, p. 12.

to bootleggers to cease operations, but the order was ignored. (Kozura 1996) A new Governor, Edward Martin, followed the policy of governors Earle and Pinchot by refusing to send state police unless requested by local authorities, knowing that local authorities were in sympathy with the remaining 2,000 bootleggers. Governor James' promises that companies would lease land and purchase the output of bootleggers were nullified.[66] As a result, independent breaking and distribution operations were reconstituted.[67]

Because of higher demand for coal and less interference from authorities, bootleg miners were able to invest and expand. Bootleg operations became safer and more sophisticated during the war. Miners searched county records to find coal company lands with unpaid property taxes to mine, knowing that court cases to evict them would be complicated by tax liens. Bootlegger earnings were said to substantially exceed the pay of regular miners.[68]

Miners charged that the UMW only supported the drive to eliminate bootlegging because they wanted more income from dues. Miners joining the UMW were often permitted by the union to continue bootlegging, while those who did not faced threats of closure.[69]

Governor Martin announced in 1946 that bootleg mining had been completely eliminated.[70] A UMW drive to "eliminate forever" bootleg mining was announced in 1958.[71] As the industry declined and production at union pay rates became more and more unprofitable, coal companies were more willing to lease lands and abandoned mines to independent miners.[72]

[66] New York Times, "Anthracite Bootleggers to Defy Deadline of Order for Cessation," November 29, 1943, p. 1.

[67] New York Times, "Coal Bootleggers Thrive in Crisis," January 16, 1944, p. 12.

[68] New York Times, "Coal Bootleggers Thrive in Crisis," January 16, 1944, p. 12.

[69] New York Times, "Coal Bootleggers Thrive in Crisis," January 16, 1944, p. 12.

[70] New York Times, "Bootleg Fuel Ends in Pennsylvania," February 23, 1946.

[71] The Daily Courier, Connellsvile, Pennsylvania, "Union Officers Head Drive Against Bootleg Coal Mining," September 19, 1958, p. 9

[72] New York Times, "Why They Still Go Into the Mines," November 24, 1963, p. 135.

Attempts by the coal companies to monopolize the industry with the help of the UMW continued. In 1953 a Vice President of the Lehigh Navigation Coal Company proposed that all anthracite producers be merged into a single company. He claimed that efficiencies would benefit consumers by "producing just enough coal to meed market demands" and would benefit labor by eliminating non-union bootleg producers.[73]

Competition from other fuels eventually destroyed the anthracite industry. Production was 46 million tons in 1950, 18 million tons in 1960, 9 million tons in 1970, and 3 million tons in 1990. Fewer than 1,000 employees currently mine anthracite coal in Pennsylvania. 70% of these workers are nonunion.

4. The Effects of Bootleg Coal Mining

Crime

Coal companies claimed that illegal mining undermined respect for law and property rights. It is difficult to measure this effect, however, because of scarcity of data on local crime rates during this time, and because of other criminal and corrupt activity in the area.

The anthracite region of Pennsylvania had a long history of violence associated with labor disputes. In the late 1870s twenty men believed to be members of a secret society known as the Molly Maguires were hanged for murders of mine supervisors employed by coal companies. Observers commented that violence was endemic in the anthracite region. (Sperry, 1973) The region was lawless in other ways as well. Crimes such as prostitution, gambling and trade in illegal alcohol were common. (Cerullo, 1983)

Both sides in labor disputes used violence. In the Lattimer Massacre of 1897, law

[73] Gettysburg Times, "Wants 1 Firm to Handle All U.S. Anthracite," February 27, 1953, p. 10

enforcement officers killed 19 protesting anthracite miners. Non-union miners were often intimidated or killed by pro-union workers.

One reason that violence occurred was that much of labor union activity was illegal until the Clayton Antitrust Act of 1914 stipulated that unions were not subject to antitrust actions. As a result, labor activity was often conducted in secret and without the ability to use courts to settle disputes.

To avoid prosecution, unions often took control of local governments and union sympathizers held positions in local law enforcement. Opportunities for corruption were common. (Rhodes, 1919 p. 58)

The extent of local corruption was illustrated by the events surrounding the Kelayres Massacre in 1934. A former coal miner, Joseph Bruno, was the political boss of the town of Kelayres, controlling vice rackets and taking kickbacks from the school system. Extortion of bootleg miners was apparently another source of income for the Bruno family. Elements of Bruno's political machine broke down with the onset of the Great Depression, leading to a conflict which resulted in the deaths of five people and injuries to at least twenty.[74] (Cerullo, 1983)

Corrupt local government and tolerance of illegal activities continued well after the bootleg coal era. The Pennsylvania state police commissioner complained in 1960 that apathy toward crime and corruption was "almost overwhelming" in the anthracite region and added that this was due "to a basic fault in many of the people of Schuylkill County." Vice crimes were common, the commissioner reported, and juries would not convict.[75]

U.S. congressman Daniel Flood represented a portion of the anthracite region from 1944 until 1980, when he was censured and convicted of accepting bribes. Flood, with

[74]The Republican Bruno family opened fire on a Democratic political march outside of their house. Joseph Bruno escaped from jail with help from guards, but was recaptured after nearly a year. Joseph was the last of his family to be paroled, moving back to Kelayres in 1947.

[75]Uniontown PA Morning Herald, "Police Head Hits Apathy to Crime," 5/27/1960 p. 18

senior positions on appropriations committees, was responsible for a requirement that U.S. military bases overseas switch from local fuels to Pennsylvania anthracite at an additional cost to the government of hundreds of millions of dollars. (Higgs, 2006)[76]

Reported rates of ordinary crimes, however, were not unusually high in Schuylkill and Northumberland counties, the two counties where most of the bootleg coal mining took place. Reliable crime statistics at the county level are not available until 1977, but earlier FBI reports for Scranton, Pennsylvania do not show a particularly high crime rate. 1977 FBI data show Schuylkill and Northumberland counties had lower rates of murder, rape, robbery, assault, burglary, larceny, and vehicle theft than average for all counties in the U.S., all coal mining counties, and with the exception of murder, lower than other anthracite coal mining counties in Pennsylvania.

There is no evidence suggesting that ordinary crime increased as a result of bootleg coal mining. Rather, a longstanding climate of corruption and disregard for laws that locals considered unjust probably contributed to the growth of illegal mining.

Infrastructure

Bootleg miners took coal wherever they could find and extract it. Unlike the coal companies, which had large fixed investments that were at risk if laws were violated or property rights of others were infringed, illegal miners had little to lose. Legal consequences were practically nonexistent, and miners took advantage of their immunity from prosecution.

A reporter traveling in the anthracite region in 1936 noticed the effects of bootleg mines everywhere. Public roads curved "up and down like roller coasters" and some collapsed because miners had tunneled underneath and taken coal. A railroad line was

[76] A recent case in the region involved a judge who sentenced youthful offenders to prison for minor offenses in return for payoffs from a private company running the local prison. See http://www.cnn.com/2009/CRIME/02/23/pennsylvania.corrupt.judges/

out of commission for two years after being damaged by underground bootleg mining. Cemeteries were also damaged. (Flynn, 1936)

Illegal mines required timber for support. Miners made use of whatever timber was available nearby, and since they did not own the timber, they had no incentive to conserve it or use it efficiently. Forest owners cut immature trees so as to salvage some value before it was taken by bootleggers. Premature harvest lowered local wood prices, and lower profits were a factor in the demise of private forest protective associations, raising fire dangers. Fire fighters risked falling into unmarked mines. (Silvius, 1937)

Unmarked bootleg mines were dangerous in many ways. Children were at risk of falling into mines.[77] Homeowners were at risk from mine gases entering through bootleg holes in basements. (Gustafson, 1997) Several major disasters were either caused or made worse by abandoned bootleg mines.

The Centralia mine fires, which began in 1962 and continue to burn today, were worsened by abandoned bootleg mines. The entire town of Centralia, Pennsylvania was abandoned after the federal government purchased the property of town residents at a cost of $42 million. Fire fighting efforts were hampered by a practice of bootleggers known as "robbing the pillars."[78] Legitimate mining companies hollowed out underground rooms, leaving pillars of coal to support the roof. Bootleg miners entered these mines to dig out the pillars. The roofs of the mines would soon collapse, filling the rooms with debris. (DeKok, 1986)

The Porter Tunnel Mine disaster of 1977 occurred when a crew accidently penetrated an old bootleg mine. Incoming water killed nine miners. Many bootleg mines have never been surveyed and do not appear on mine maps, creating a continuing hazard to

[77] Daily News Standard, "Hunt Missing Lad," Uniontown PA, 4/30/1937 p. 10

[78] Legitimate coal companies also engage in this practice. The Crandall Canyon Mine disaster of 2007 in Utah occurred while miners removed pillars left by previous operations, attempting to retreat as the mine collapsed.

legitimate miners. (United States Mine Rescue Association, 2009)

Bootleg miners were not the only people responsible for such disasters, however. The Knox Mine disaster in 1959 occurred when the Knox Coal Company, digging for coal underneath the Susquehanna River, illegally mined six feet below the river when the recommended distance was 50 feet. The river broke into the mine, flooding it and all of the interconnected mines of the Wyoming valley, ending underground mining in the area. United Mine Workers union district president August Lippi was later revealed to have been an owner of the company, in violation of labor laws. He and other union officials had also taken bribes from the company.[79] (Dublin, 2005)

Economic Growth

Coal bootlegging appears to have benefitted local economies in the anthracite region during the Great Depression. Above market wages required by union contracts and monopolistic behavior by coal companies both reduced legitimate coal production and caused unemployment. Bootleg operations, however, paid market wages and supplied coal competitively, resulting in much higher production. Bootlegger income spent locally stimulated local economies.

Unemployment data are clearly inadequate for comparisons of areas where bootleg mining occurred with other areas because illegal activities such as bootleg mining were not reported, making the economic performance of these areas appear worse than they actually were. Retail sales data are more promising, since bootleg miners would presumably spend their earnings in many legitimate businesses which reported their sales.

Table 1 shows data for counties in the United States with retail sales data available.[80]

[79] Lippi was reelected twice as UMW district president after his conviction for taking bribes. A subsequent challenge to the national leadership of the UMW led to the murder of the challenger and his family, on orders from the national union president.

[80] Data are those used in Fishback (2001). They are available at `http://www.u.arizona.edu/`

Table 1: **County Retail Sales.** Percentage growth over time period. Bootleg counties are Schuylkill and Northumberland in Pennsylvania. Anthracite counties are all counties mining anthracite coal. Coal counties are all counties with coal mining.

Time Period	Bootleg	Anthracite	Coal	All
1929-1933	-34.6	-35.9	-44.6	-47.3
1933-1939	38.8	34.7	46.9	45.2

Coal producing counties, and particularly anthracite counties, already hurt by declining sales during the 1920s, did not see retail sales decline as much as other counties during the early Great Depression. Sales in these counties also did not grow as much as other counties during the late Great Depression. In the two bootleg mining counties, while retail sales declined by close to the amount in other anthracite counties during the early Great Depression, they rose significantly more than in other anthracite counties during the late Great Depression, the years when bootleg mining was common.

A reporter touring the anthracite region remarked that "yet with all the distress that is visible on every side hereabouts it is the impression of this correspondent...that the unemployed in the bootleg coal-mining section are vastly better off than the jobless in other parts of the country he has seen."[81] He reported that an official of the Independent Miners and Truckers Association admitted that many of the bootleg miners were better off than they had been when they had legitimate employment with the coal companies.

The sheriff of Northumberland County in Pennsylvania remarked that the communities in the area "would be forgotten towns if it hadn't been for free-lance mining."[82]

After the 1930s, however, economic growth in the region was unusually low. The anthracite region was one of only a few regions in the country that remained economically depressed throughout World War II. (Sperry, 1973) This lack of growth appears to be the result of failure to obtain war production facilities. (Fairchild, 1959)

`~fishback/Published_Research_Datasets.html`.

[81] New York Times, "Bootleg Coal Anarchy Baffles Pennsylvania," December 27, 1936, p. E7.

[82] New York Times, "Continue Mining of Bootleg Coal," December 2, 1943, p. 40.

After World War II the region lost population at a rapid rate, and numerous efforts to bring industry to the area failed. (Dublin, 2005) Surveys suggest that those who left the area had better economic prospects than those who stayed. (Dublin, 2005) The long term decline in the population of the area is clearly due to the nationwide decline in demand for anthracite coal.

The data are consistent with the hypothesis that bootleg mining had a positive economic influence. Counties with large amounts of illegal mining outperformed other anthracite mining counties during the 1930s. After the partial suppression of bootleg mining in the early 1940s, economic performance appears to have suffered, although this decline is mostly due to other factors.

Safety

Bootleg mining operations were much less safe than legitimate mining. As early as 1932 it was estimated that 40 men had been killed in one year in bootleg mining accidents.[83] A report of the Anthracite Emergency Committee showed that the fatal accident rate was four times higher for bootleg mines than for legitimate mines. In 1939 there were 72 fatal accidents in bootleg mines that the committee discovered. Safety measures, such as timbering of openings and ventilation, were much less stringent than in company mines. (Anthracite Coal Industry Commission, 1938) On some occasions, coal company personnel came to the rescue of illegal miners trapped by cave-ins.[84] (Time, 1936)

Hours worked in these small family operations were much longer than under negotiated union contracts. Boal (2009) shows that unionism had a very large effect on coal mining accidents. Holding other factors constant, unionized mines had 40% fewer fatalities than non-unionized mines from 1897-1929.

[83] New York Times, "To Check Bootleg Coal," December 25, 1932 p. N14.
[84] See also New York Times, "5,000 See Rescuers Toil to Save Miner," July 2, 1936, p. 6.

Bootleg mines operated every day but Sunday[85] and unemployed miners were assisted by women, old men, and children.[86] Miners were taking these risks voluntarily, but many also placed family members at significant risk.

The question of overall mortality resulting from bootleg mining is complicated. Mine accidents resulted in many deaths, but income from the illegal mining may have reduced mortality. Fishback (2007) finds that relief spending during the Great Depression reduced the incidence fatal diseases that were worsened by poor nutrition. Spending of $67,000 was estimated to be enough to prevent a single fatality. Since bootleg coal mining was adding around $32 million per year in income to the region during the 1930s, these activities might have prevented approximately 478 deaths per year. The number is likely less than this amount because expenditures in an area probably have declining returns, meaning that the average benefit is smaller than the benefit of the first dollar spent.

The population of the two counties where bootleg mining was common was 364,009 in 1930 and the overall death rate was 10.3 per 1000 population per year, so a reduction of 478 deaths would have been a 13% reduction, an amount that seems large. It does seem likely, however, that the reduction of mortality from poor nutrition was larger than the estimated 72 deaths from bootleg mine accidents per year.

5. The Ethics of Bootleg Coal

An ethical analysis of coal bootlegging must start with the fact the coal companies were the legally recognized owners of the land and the mineral rights to the land. Bootleggers were trespassing on company land and stealing a valuable commodity. The stolen

[85] Pennsylvania only repealed laws against movie showings and fishing on Sunday in 1937.

[86] Some turned to bootlegging because they were unable to pass state mandated health and fitness examinations. See New York Times, "Death in 'Bootleg' Shaft Ends Partnership Formed by 2 Coal Miners to Keep Off Relief," October 28, 1935.

property was transported across state lines in violation of the federal National Stolen Property Act of 1934. Bootleg miners were clearly in violation of the law, and legal authorities at the local, state, and federal levels failed to prosecute them.

An ethical defense of bootleg mining would have to argue either that the legal title of the coal companies to the coal was illegitimate, or that the usual proscription against stealing is illegitimate under the circumstances faced by anthracite coal miners in the 1930s.

Land Titles of the Coal Companies

A common argument made at the time in defense of bootleg coal miners was that the legal title of the coal companies to the land was illegitimate. A reporter quoted a miner as saying "As for the 'steeling' pert of it, how did the different companies get their coal lands? In some cases they paid $6 an acre; was that a fair price? In other cases they stole it from the Indians. Was that a nice thing to do? Well [laughing], we're the new Indians, taking what coal we can back from the companies." (Adamic, 1934)

The first part of the argument asserts that the fact that the original price paid for something was unfair justifies theft of the item. Some case of this nature might be made by the original seller of the item, particularly if the low price was obtained through fraud. Some states allow reversals of contracts if the terms of the contract are "unconscionable." Minnesota's title 515A.1-112, for example, allows a court to refuse to enforce an unconscionable contract. The law, however, specifically states that the fact that real estate is sold for an amount that is different from sales of similar property cannot render the contract unconscionable. It also states that commercial transactions are less likely to be considered unconscionable, since parties to commercial transactions are presumed to know what they are doing.

There are good reasons for these qualifications to the Minnesota statute. Sellers of real estate are engaged in a high-value commercial transaction, and should be encouraged to seek appropriate advice. If sales can later be reversed, the incentive of a seller to be careful will be reduced. The ability to reverse sales would make it difficult to be confident of secure title to any real estate, since someone might claim in the future that some past transaction was unfair and should be reversed. Finally, land markets are often illiquid, and quick sales can result in substantial discounts. Sellers who need to liquidate often cannot sell their property at a "fair" price and are willing, sometimes desperate, to sell at a much reduced price. Taking this ability away from sellers would not improve their welfare.

Since the bootleg miners were not parties to the original land purchase, and since even if they were the case for confiscation of property on these grounds is very weak, the original price paid by the coal companies for the land does not appear to be a legitimate justification for theft.

The second part of the argument made by the coal miner quoted earlier asserts that the land was stolen from Native Americans, which justifies current theft of coal from the land. Similar to the argument above, this assertion would seemingly require the bootleggers to return the coal to Native Americans, not to sell it and keep the money for themselves. Presumably the identification of descendants of Native Americans from the region would not be particularly difficult. As early as Roman times, legal systems have held that if property is stolen from a thief, the original owner has a legitimate claim against the second thief. (Justinian, 1979)

Suppose, however, that the miners' claim to be "new Indians" was valid. Their defense to the charge of theft is known as the "claim of right defense." Under common law, a good faith belief of valid ownership is a defense to a charge of theft.[87] Some

[87] California Supreme Court, People v. Tufunga (1999) 21 Cal. 4th. This defense is often not successful and does not always immunize violent actions from prosecution, as O.J. Simpson discovered

states in the United States accept this defense, while other do not; but it seems clear that a reasonable case can be made that such a theft might be ethical. The argument is strengthened by the fact that the United States government of the 1930s had no intention of returning land to Native Americans, and so legal means to return it to them were not available.

What eventually became anthracite coal land was originally part of a deed obtained by William Penn for nearly the entire present state of Pennsylvania and much of southern New York from the King Charles II of England. Penn's father had assisted in the restoration of King Charles II to the throne. The grant did not extinguish Native American land titles, however, and so Penn and his heirs purchased land from Native American tribes. The infamous "Walking Purchase" of 1737, (after William Penn's death) widely acknowledged to have been fraudulent,[88] included lands immediately adjacent to anthracite land. (Miller 2002) Nearly all of the land containing anthracite deposits was purchased from a Native American tribe in 1749. European settlement had begun before the purchase, however, suggesting that the purchase was made under some duress. (History of Schuylkill County, 1881)

The Penn family sold land to settlers and speculators. One particularly large section of anthracite land illustrates the issues that arise when analyzing the legitimacy of land titles. The Penns sold the land, but a subsequent purchaser attempting to develop the coal resources (Yearly, 1961) lost it in a foreclosure action taken in 1801 by the First Bank of the United States. Stephen Girard, a wealthy shipper and merchant, purchased the stock of the bank when Congress would not renew its charter in 1811. It was not until 1830, however, that he learned of the bank's ownership of the coal lands, probably because others were already mining it without permission or were hoping to

in 2008.

[88]See Delaware Nation v. Commonwealth of Pennsylvania, U.S. District Court, E.D. Pa., No. 04-CV-166.

gain control over it in some way. Girard, as was required by law, put the land up for sale at public auction, but he purchased the land himself. He was easily able to outbid any other interested party, since as the owner of the bank he was essentially paying himself. (Hoffman, 1972)

After a prolonged dispute over Girard's will, the land was owned by a charitable trust controlled by the City of Philadelphia, which then leased it to coal mining companies. Rent and royalties from the coal supported a orphanage, a school, and many other projects. (Hoffman, 1972) The estate continues to provide revenue to the city of Philadelphia.

The parties who purchased land from the Penn family apparently intended to mine coal. They must have expended some money and effort in learning about these resources. The First Bank of the United States, similarly, must have devoted some effort to learning about these resources before committing to lend money with the land as security. Once the purchaser defaulted on the mortgage, the bank was within its rights to take possession, and Girard, the eventual owner of the bank, was entitled to its assets, and his heirs were entitled to lease the land to the coal companies.

There is no legal uncertainty about the legitimacy of the claims of the coal companies; clearly the claims of the owners of the coal lands and their heirs and successors would continue to be upheld in U.S. courts.[89]

The claim that coal land was stolen from Native Americans, and that this fact justified theft of coal is very weak. Theft from Native Americans does not justify theft by non-Native Americans who had no intention of returning anything to them. In addition, although there are questionable aspects of the transfer of land from Native

[89]Some writers have hinted that many bootleggers had legitimate leases to coal lands (Kozura, 1996 p. 237) and others suggest that coal under the land leased from the Girard estate was not owned by the coal companies before it was mined, and was therefore open to leasing by bootleggers. See New York Times, "Bootlegged Anthracite," December 2, 1936, p. 26. These claims appear to be far-fetched and unproven.

Americans, these transfers are typical of land purchases across the United States. If theft from the coal companies was justified, then theft from nearly any home or business is justified, which would lead to chaos.

Failure of Coal Companies to Utilize Resources

The previous section demonstrated that the coal companies had clear legal title to the land they mined. Anthracite coal is a scarce, unique natural resource, however, and some might argue that the right to own such a resource should be limited, particularly when, as happened by the late 19th century, that ownership is concentrated.

Strengthening this argument is the fact that a great deal of coal was lying in the ground unused. The coal companies had no immediate plans to mine the coal in question, so it was claimed they were not hurt by the theft. A reporter for Collier's Magazine quoted a coal miner as saying: "What did the coal company do for this coal? Bought this land years ago for a song. They've got enough coal here to last 200 years. They may get around to this coal I'm working a hundred years from now. But we'll all be dead by then. They'll never use it. But we've got families that are hungry now. Should I leave here so some guy can enjoy it a hundred or two hundred years from now - some guy that won't pay a penny for it, that won't put in a lick of work?" (Flynn, 1936)

A similar legal argument is known as adverse possession. Under this doctrine, if a land owner fails to assert property rights, a trespasser can eventually establish legal ownership. For example, if a farm is abandoned and a squatter moves in and farms the land for a period of years and the original owner takes no action, the squatter can claim the land and prevent the original owner from reclaiming it.

Different states have different standards and time limits for this to occur, but it is a common feature of real property law in jurisdictions around the world. Common to all of these jurisdictions, however, is a requirement that the squatter's possession be "notorious;" in other words, that a responsible owner would notice the intrusion and take appropriate action. Bootleg coal miners worked secretly, knowing that the coal companies were trying to find and evict them, so a basic feature of this law was not met. When bootleggers worked in the open it was because they were confident that the legal system was not working, not that the coal companies were ignoring their trespass.

Apart from legal issues, however, a reasonable claim can be made that, at the very least, the theft of unused property, regardless of its market value, is less of an offense than the theft of property in active use. The coal lands in question were not being mined by the coal companies, and perhaps would not have been mined for a considerable length of time.

Weakening this argument is the fact that coal companies tried hard to strip mine land with coal deposits near the surface, but miners violently prevented them from doing so. Strip mining required far fewer workers than underground mining, which is why coal miners opposed it. They guarded roads leading to strip mines and overturned trucks carrying workers. Mine owners and officials were pelted with stones.[90]

Another counter-claim is that the coal companies may have been holding these lands in reserve, perhaps as insurance against an event like the Susquehanna River flooding of underground mines in 1959. Most anthracite mining after 1959 has been done at the surface, often where bootleg miners operated. A precautionary motive would seem to justify the possession of land not currently in use.

Even if the land were not held for precautionary purposes, lack of use might not undermine the legitimacy of land ownership. The American economist Henry George believed that it did, arguing that all land value should be taxed away to force owners

[90]New York Times, "W.F. Carey, Ex-Boxing Promoter, Stoned by 2,000 Pickets in Coal-Stripping Area," September 10, 1933, p. 1.

to make maximum use of it in order to pay the tax. He believed that idle land holdings were unethical and should be confiscated. The modern view is more accepting of idle land for at least two reasons.

First, idle land is another name for land conservation. Many people now believe that huge tracts of land should be left idle in order to preserve wilderness and open space. Second, the application of option pricing theory to real estate has caused many to rethink the value of vacant land. Land represents a call option, similar to an option to buy a share of stock at a certain price. The construction cost of a building is analogous to the strike price of the option. Construction of a building is reversible only at great cost, so the decision of whether to exercise the option at any particular time is a difficult one.

For example, suppose that a low density building could be constructed today, but there is a possibility that a higher density building might be viable some years in the future. It is possible that the economically efficient (and most profitable) course of action is to leave the land vacant until the uncertainly is resolved. Option pricing theory can be used to predict when this decision should be made. The result of this analysis is that the earlier presumption that vacant land is always wasteful is no longer generally accepted.

A related argument is that the coal miners were entitled to the coal because they were working hard for it, while the coal companies were doing nothing with those particular parcels of land. A bootleg miner was quoted as saying "Stealing! No, I don't think this is stealing. If I go into a grocery store and take a loaf of bread some other man made just because it's easier than to make some - that's stealing. But, I'm working for this coal." A coal company official was somewhat persuaded by this argument: "Those fellows take such gosh-awful chances that in a way they're entitled to that coal." This argument seems confused. Most thieves work hard and take risks, but this is not usually considered a convincing defense.

It seems reasonable to conclude that if the coal companies legally owned their land that they had the right to do with it as they pleased, including leaving parts of it unused. A further complication of this analysis, however, is the fact part of the reason coal companies wanted to leave large amounts of coal unused was to manipulate market prices. Monopolization and market manipulation are not generally considered to be within the legal rights of property owners, and anti-trust law has developed to stop these practices. Even where technically legal, many might consider this activity to be unethical. (Stucke, 2006) By mining unused coal and lowering prices, bootleg miners mitigated the harm the cartel did to the public.

Another complication of this situation is that both the state and federal government actively assisted the coal companies in their goal to manipulate markets. Past attempts had usually failed as private cartels were unable to cooperate and broke down, but government sanction and assistance allowed the formation of an effective cartel. The stated goal of this government activity was to restrict what was called "ruinous competition," but it was clear that the outcome would be higher prices for consumers and higher profits for coal companies. Another outcome was higher wages for unionized workers, but a price for this result was destruction of bootleg mines and the violent suppression of the independent mining movement.

Robin Hood Defense

The most common justification for coal bootlegging was simply that the miners were poor and the coal companies were rich. A minister from the region quoted Leviticus 23:22: "And when ye reap the harvest of your land, thou shalt not make clean riddance of the corners of thy field when thou reapest, neither shalt thou gather any gleaning of thy harvest: thou shalt leave them unto the poor, and to the stranger." The minister claimed that the bootleg miners were the poor, gleaning unused coal from the wealthy, who had an obligation to let them take it.

The preamble to the constitution of the Independent Anthracite Miners Association said that the union was organized "Knowing the coal which is in these mountains was put there by our Creator and that this mineral wealth was stolen away from us by the greedy rich class, the coal operators and the bankers."[91]

The moral intuitions of most people probably agree that the severity of the crime of theft depends to some degree on the relative economic positions of the thief and the victim. Theft committed by a rich person against a poor person would generally be considered the worst crime, while theft committed by a poor person against a rich person would be a less serious offense, and if the thief and victim have equal wealth the seriousness of the crime would be somewhere in between. Gauging the ethics of bootleg coal mining therefore requires some assessment of the relative wealth of miners and company owners.

Bootleg coal mining certainly involved some of the poorest people in the country, although the fact that there were very few members of racial minorities in the anthracite region indicates that there probably were individuals in the United States with even fewer opportunities. In spite of claims that miners were starving (Adamic, 1934; Carlson, 1935), outright death from malnutrition during the Great Depression appears to have been rare. There is evidence, however, suggesting that fatalities from diseases aggravated by poor nutrition were caused by the economic downturn. Fishback (2007) demonstrates that higher government relief spending had a statistically significant effect, reducing mortality from infectious and parasitic diseases and diarrhea, indicating that poor economic conditions adversely affected health and mortality across the country. Since unemployment was higher and consumption fell further in the anthracite region

[91] New York Times, "Raiders Defend Seizures of Coal," November 21, 1936, p. 7.

than in other parts of the country, it seems reasonable to believe that many unemployed anthracite coal miners were poor enough to be undernourished.

The wealth of the coal company owners is a complex question for several reasons. Most of the large anthracite companies were publicly traded companies, so there were many different owners in different financial circumstances. The owners were less wealthy than they had been recently; an investment of $100 at the end of 1925 in the Philadelphia and Reading Coal and Iron Company, for example, would have been worth $17.39 by the end of 1930, $5.16 by the end of 1935, and 34 cents by the end of 1940.

Figure 3 shows the value of an investment of one dollar made in 1932 in both the Philadelphia and Reading Coal and Iron Company and the entire stock market. The returns are similar during the early years of the Great Depression, but diverge sharply near the beginning of 1935 when bootleg mining began to expand. Returns to the P&RC&I were very poor for the remainder of the Great Depression. There is a sharp increase in the return during the year 1939 when the hope of ending bootleg mining and enforcing a cartel agreement was highest, but returns quickly deteriorated again.

Figure 4 shows the same returns beginning in 1926. Here the effects of declining demand for anthracite coal during the late 1920s can be seen. While the rest of the stock market boomed, investments in the P&RC&I performed poorly.

Many important owners of anthracite companies were, however, very wealthy. J.P. Morgan Jr. and others associated with J.P. Morgan and Company, for example, exercised control over several anthracite coal companies through stock ownership, directorates, and banking relationships.[92] To some degree, therefore, bootleg coal mining involved poor people stealing from rich people. The situation is complicated, however, because these rich people had lost money, and other, less wealthy people were also being stolen from.

Despite these complications, it seems clear that bootleg coal mining involved many

[92] "Directorships or Trusteeships Held by Morgan Men," New York Times, May 24, 1933, p. 15.

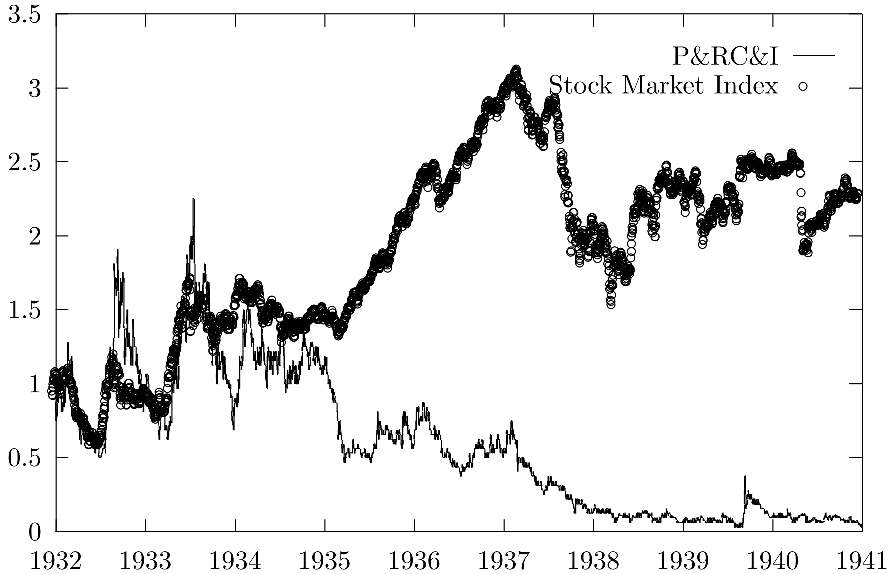

Figure 2: **P&RC&I Stock Return, 1932-1941.** Value of one dollar invested in the Philadelphia and Reading Coal and Iron Company in 1932 along with the value of a value-weighted stock index.

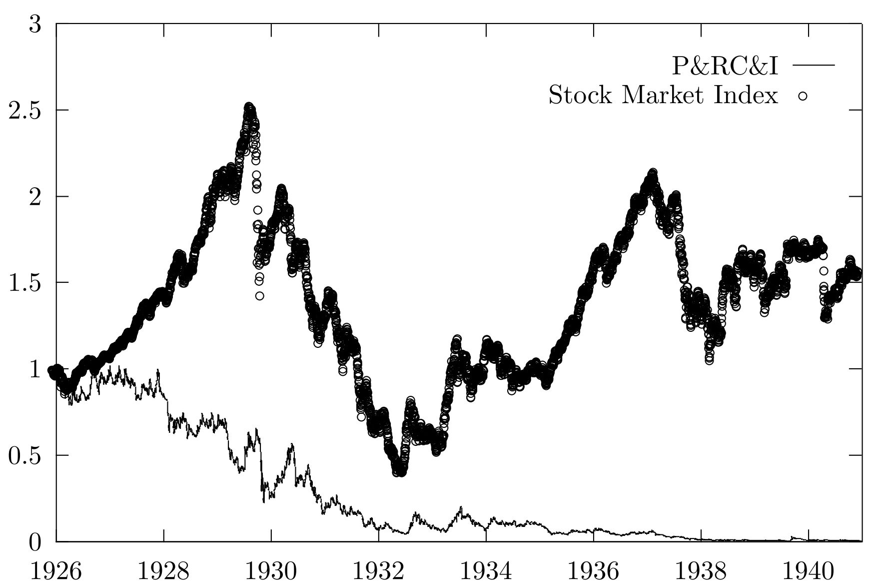

Figure 3: **P&RC&I Stock Return, 1926-1941.** Value of one dollar invested in the Philadelphia and Reading Coal and Iron Company in 1926 along with the value of a value-weighted stock index.

people who were quite poor stealing from people who were wealthy. Juries and local officials in the anthracite region refused to enforce laws protecting the property of the mining companies, perhaps because they believed that theft from the rich by the poor was ethical. Jury nullification, a feature of English common law, allows citizens to substitute ethical judgements for the letter of the law. The actions of juries and local officials, however, may have been due to their own interests in maintaining local business activity, which might diminish the ethical significance of their actions.

Common ethical standards do not appear to endorse theft as a method of wealth redistribution. If they did, then burglary rings that stole from the rich and sent the proceeds to aid organizations to feed the millions who are estimated to starve to death each year might not only be permissible, but moral imperatives. The fact that such activities are not generally sanctioned, attempted, or advocated indicates that theft is considered wrong, even when it is done to aid very poor people. While redistribution of funds raised through government taxation has widespread support, theft does not. It seems more likely that juries and local officials were concerned with local economic activity instead of redistributive economic justice.

An extreme redistributionist might argue that any means available should be employed to shift wealth from the rich to the poor, but this does not appear to be a widespread or mainstream belief. In fact, a capitalist economy that allows individuals to keep the wealth they create is commonly viewed as necessary for economic growth, and that economic growth is needed for the alleviation of poverty. In this view, allowing theft, even in extreme circumstances, would undermine the basic principles of capitalism, which most people appear to believe improve human welfare.

Obligations of Coal Companies to Employees

Governor Earle of Pennsylvania said in an interview in 1936 that the coal companies were largely to blame for the bootlegging situation. He said "They brought these people into the coal region, let them build their homes and churches, and then closed down the mines to concentrate their operations so that they could make bigger profits. They made millions of dollars from the labor of these men who are now unemployed. They can't let them starve."[93]

Earle argued that the coal companies operated "company towns" where workers had no choice of employers or suppliers of basic goods. He said that "Such conditions are symbolic of a feudalism of the Dark Ages, which has no place in our modern life."[94] Recent research has found, however, that company provided housing and retail establishments reduced the cost of living for miners. (Fishback 1992) Boal (1995) finds high turnover rates in company towns which he says casts doubt on the view of coal companies as monopsonistic purchasers of labor services. (Boal and Ransom, 2002)

Another problem with this reasoning is that anthracite coal company profits by this time were small or nonexistent. It is doubtful that the companies had the resources to keep all mines and collieries open at high union wage rates. Limited liability companies do not have the ability to force shareholders to contribute their personal wealth to failing firms.

Whether the companies have obligations to workers that go beyond contracts, explicit or tacit, is a controversial question. Milton Friedman famously stated in 1970 that "The social responsibility of business is to increase its profits."[95] Others claim that

[93] New York Times, "Gov. Earle Asserts Socialization May End the Bootleg Coal War," November 18, 1936, p. 17

[94] New York Times, "Earle Opens Fire on Company Towns." December 20, 1936, p. 17.

[95] New York Times Magazine, "The social responsibility of business is to increase its profits," September 13, 1970, p. 25-28.

corporations have social and moral responsibilities to society as a whole and to all who are affected by the operations of the company. (Flynn, 2008)

6. Conclusion

During the 1930s, there was widespread acceptance of trespassing and stealing on idle land owned by coal companies. The scale of the theft was massive. Public opinion favored the illegal miners, juries refused to convict them, jailers set them free, and all levels of government failed to enforce private property protections. Coal mining companies, having tolerated small scale theft in the past, saw large-scale bootleg mining as theft and vigorously opposed it.

An examination of the ethics of bootleg mining produces somewhat contradictory results. There is no evidence that the practice caused societal harm, such as increased crime or retarded economic growth. To the contrary, economic activity was increased by bootlegging. Thousands of miners and several entire towns made their livings from bootleg coal at a time when other opportunities were severely limited. Coal companies lost coal that they were, in many cases, withholding from the market in order to raise prices. From a short-term, purely utilitarian perspective, therefore, there is little reason to condemn bootleg mining.

Many other ethical arguments favoring bootlegging, however, appear to be weak. The coal companies had legitimate title to the land and the coal it contained, there were legitimate reasons for leaving some coal land idle, and some land was idle because of violent actions of the bootleggers. While it is true that most bootleggers were poor and some coal company owners were rich, there is no general belief in a "Robin Hood" ethical system where the poor are allowed to rob the rich at will. The Robin Hood defense is also complicated by the fact that some bootleggers earned large profits and coal company owners sustained large losses.

Improving market efficiency was clearly not the motive of bootleg coal miners. Their motive was to improve their own economic situations. The same is probably true for law enforcement officers who failed to protect private property; it seems likely that they were primarily concerned with the economic well being of their region. If motivations of parties are relevant for ethical judgements, then ethics of the actions of both of these groups seems to rest on the "Robin Hood" defense, that it is permissible for the poor to take from the rich, which does not appear to be a widely held view.

Perhaps the strongest ethical argument supporting bootleg coal concerns the reason that coal companies left large amounts of coal untouched. Legitimate reasons might have included insurance against the loss of other coal reserves or conservation of resources that might have been more valuable in the future. If, however, as seems more likely, the reason was simply to manipulate market prices, then the ethical case is more complicated. Husbanding resources as a precaution against scarcity seems ethical, but creating artificial scarcity does not. Bootlegging, by this argument, reversed the unethical actions of the coal mining companies.

A strict interpretation of private property rights would hold that the coal companies had the right to monopolize the supply of anthracite coal and charge any price that they liked, but common interpretations of property rights do not accept the right to monopolize and manipulate markets.

Markets were also manipulated by unions. By threatening strikes and violent actions, unions were able to increase wages above market levels, causing coal companies to reduce employment. Bootlegging helped solve this problem as well, by allowing miners to work for market wages and supplying consumers with coal.

The market power of the coal companies and unions was, however, not only approved, but assisted by state and federal governments. If market manipulation and monopolization are considered unethical, even when legal, then this might have provided some ethical justification for bootleg miners to take coal that was being withheld from the marketplace and sell it, bringing down market prices. If government sanction makes these market manipulations legitimate, then this would hurt the ethical case for bootlegging.

In summary, a utilitarian view would mostly exonerate the bootleg miners, although it would hold them to account for damage they did to infrastructure. Such a view would also exonerate law enforcement officers who failed to protect private property, since bootlegging appears to have increased total economic welfare by reversing the effects of market manipulations. State and federal governments would be condemned for allowing markets to be manipulated, and the coal companies and unions would be condemned for these manipulations.

An altruist view of ethics would condemn the miners who stole for their own benefit as well as the coal companies and unions who manipulated markets for higher profits and pay. Law enforcement officers and juries who did not enforce laws out of concern for unemployed miners would be praised under this view, but not if their inaction was due to a desire for greater local economic activity from which they would benefit.

Ethical systems derived from political ideologies would also have conflicting views of coal bootlegging. A socialist might judge the ethics of actions according to whether they further the goal of social ownership of the means of production. Bootleggers, in this view, were correct in taking from the coal companies, but wrong in working for themselves instead of collectively. Cartelization of markets by coal companies and unions could be seen by socialists as positive steps toward a centralized, government controlled economy.

Free-market libertarians would oppose government protected cartels, whether of coal companies or unions. They would support the enforcement of property rights of the coal companies, but might have qualms about the attempts of coal companies to monopolize natural resources.

The ethical limits of land ownership, a compelling topic of public discussion during the 1930s, might again someday capture the nation's attention. In the aftermath of the implosion of the housing bubble, many bank-foreclosed houses and apartments were vacant at the same time that others were unemployed and homeless. Some groups encouraged these people to forcibly enter and occupy vacant dwellings,[96] while others considered these actions to be criminal. The ethical questions are remarkably similar to those regarding bootleg coal mining in the 1930s. These questions are also being raised in parts the world where illegal mining continues to occur.[97]

[96] New York Times, "With Advocates' Help, Squatters Call Foreclosures Home," April 10, 2009, p. 1.

[97] See http://www.dailymail.co.uk/news/article-3174243/Police-destroy-entire-TOWN-including-grocery-sto html, http://elpais.com/m/internacional/2016/03/07/actualidad/1457322478_207959.html, http://pubs.iied.org/pdfs/G00719.pdf.

References

Adamic, Louis. 1934. The Great Bootleg Coal Industry. *The Nation January 9*, 140, 46.

Association, United States Mine Rescue. 2009. *Mine Accidents and Disasters.* http: www.usmra.com saxsewell portertunnel.htm.

Barger, Harold, & Schurr, Sam. 1944. *The Mining Industries, 1899-1939: A Study of Output, Employment, and Productivity.* New York: National Bureau of Economic Research.

Blank, Steven. 2008. *The Economics of American Agriculture.* London: M. E. Sharpe.

Blum, Albert. 1967. *Drafted of Deferred: Practices Past and Present.* Ann Arbor: Bureau of Industrial Relations, University of Michigan.

Boal, William. 1995. Testing for Employer Monopsony in Turn-of-the-Century Coal Mining. *Rand Journal of Economics*, 519–536.

Boal, William. 2009. The Effect of Unionism on Accidents in U.S. Coal Mining, 18971929. *Industrial Relations*, 97–120.

Boal, William, & Ransom, Michael. 2002. Monopsony in American Labor Markets. *EH.Net Encyclopedia*, 346–365.

Carlson, Oliver. April 1935. Bootlegging Coal: A New Industry Appears on the Horizon. *Harper's Magazine*, 613–22.

Cerullo, John, & Delena, Gennaro. 1983. The Kelayres Massacre. *The Pennsylvania Magazine of History and Biography*, 107, 331–362.

Cole, Harold, & Ohanian, Lee. 2003. New Deal Policies and the Persistence of the Great Depression: A General Equilibrium Analysis. *Research Deparement Staff Report*.

DeKok, David. 1986. *Unseen Danger: A Tragedy of People, Government, and the Centralia Mine Fire*. Philadelphia: University of Pennsylvania Press.

Devine, Edward. 1925. *Coal: Economic Problems of the Mining, Marketing and Consumption of Anthracite and Soft Coal in the United States*. Bloomington: American Review Service Press.

Dublin, Thomas, & Light, Walter. 2005. *The Face of Decline: The Pennsylvania Anthracite Region in the Twentieth Century*. Ithaca: Cornell University Press.

Fabricant, Solomon. 1946. Measuring National Consumption. *Studies in Income and Wealth*, 8, 33–46.

Fairchile, Byron, & Grossman, Jonatham. *The Army and Industrial Manpower*. The U.S. Army in World War II, volume 4 part 6.

Fishback, Price. 1992. The Economics of Company Housing: Historical Perspectives from the Coal Fields. *Journal of Law, Economics, and Organization*, 346–365.

Flynn, Gabriel. 2008. *Leadership and Business Ethics*. New York: Springer.

Flynn, John. 1936. Bootleg Coal. *Colliers*, 12–13, 30, 32, 34. December 5.

Hale, Sidney. 1925. Wherein Anthracite Differs from Bituminous Coal. *What the Coal Commission Found*, 283–294. Edward Hunt, F.G. Tryon and Joseph Willits, Eds.

Higgs, Robert. 2006. *Depression, War, and COld War*. Oxford: Oxford University Press.

Hoffman, John. 1972. *Girard estate coal lands in Pennsylvania, 1801-1884*. Washington: Smithsonian Institution.

Howard, Walter. 2005. *Forgotten Radicals: Communists in the Pennsylvania Anthracite, 1919-1950.* University Press of America.

Jones, Eliot. 1914. *The Anthracite Coal Combination in the United States.* Cambridge: Harvard University Press.

Justinian, translated by C.F. Kolbert. 1979. *The Degest of Roman Law.* Penguin Classics.

Kanarek, Harold. 1974. Disaster for hard coal: The anthracite strike of 1925-1926. *Labor History*, 15, 44–62.

Kashatus, William. 2001. *Diamonds in the Coalfields: 21 Remarkable Baseball Players, Managers, and Umpires from Northeast Pennsylvania.* McFarland.

Kozura, Michael. 1996. We Stood Our Ground: Anthracite Miners and the Expropriation of Corporate Property, 1930-41. *We Are All Leaders: The Alternative Unionism of th eEarly 1930s.*, 199–237. Michael Kozura, Staughton Lynd Eds.

Magazine, The Land Report. 2009. *The Land Report 100.* Birmingham: San Miguel Partners.

Mead, Richard. 1925. *An Analysis of the Decline of the Anthracite Industry Since 1921.* Dissertation, University of Pennsylvania.

Miller, Randall, & Pencak, William. 2002. *Pennsylvania: A History of the COmmonwealth.* Penn State Press.

Obenauer, Marie. 1925a. The Anthracite Mine-Workers and Their Environment. *What the Coal Commission Found*, 295–297. Edward Hunt, F.G. Tryon and Joseph Willits, Eds.

Obenauer, Marie. 1925b. The Anthracite Miners: Earnings. *What the Coal Commission Found*, 313–326. Edward Hunt, F.G. Tryon and Joseph Willits, Eds.

Price Fishback, Michael Haines, & Kantor, Shawn. 2007. Births, Deaths, and New Deal Relief During the Great Depression. *Review of Economics and Statistics*, 1–14.

Rhodes, James. 1919. History of the United States from Hayes to McKinley 1877-1896. *of the United States of America, From the Compromise of 1850 to the McKinley-Bryan Campaign of 1896*, 8.

Risser, Hubert. 1958. *The Economics of the Coal Industry.* Lawrence: Bureau of Business Research, School of Business, University of Kansas.

Silvius, A. C. 1937. The Forest Despoilers of Pennsylvania's Anthracite Region. *Journal of Forestry*, 35, 645–648.

Sperry, J.R. 1954. Rebellion Within the Ranks: Pennsylvania Anthracite, John L. Lowis, and the Coal Strikes of 1943. *Pennsylvania History*, 40, 293–312.

Stucke, Maurice. 2006. Morality and Antitrust. *Columbia Business Law Review*, 443–547.

Time. 1931. Industrial Police. *Time Magazine*. February 9.

Time. 1936. Coal & Irony. *Time Magazine*. July 13.

Time. 1937. Anarchy Explored. *Time Magazine*. January 4.

Unknown. 1881. *History of Schuylkill County, Pa.* WW Munsell & Co.

Wolman, Leo. May 1, 1933. Wages During the Depression. *Bulletin*, 46, 1–6.

Woolley, Edward. January 1954. The Anthracite Coal Production Control Plan. *University of Pennsylvania Law Review*, 102, 368–394.

Yearley, Clifton. 1961. *Enterprise and Anthracite: Economics and Democracy in Schuylkill County, 1820-1875*. Baltimore: The Johns Hopkins Press.