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Did Coal Miners "Owe Their Souls to the Company Store"? Theory and Evidence from the Early 1900s

PRICE V. FISHBACK

Although coal companies may have tried to exploit a local-store monopoly, company-store prices in nonunion areas were appreciably limited by competition from other stores and mines in the same labor market. Company stores persisted in part by lowering transactions costs. Prices at company stores were generally similar to those at nearby independent stores, and higher wages may have compensated for higher store prices at isolated mines. Conditions varied, however, with labor-market tightness. Miners were generally not in debt to the store, nor paid entirely in scrip. Scrip was an advance on payday, when miners received cash.

Labor historians of the coal industry focus on the development of unions and conflicts between laborers and coal-company operators. They describe company stores as devices used by employers to exploit the labor force. Because employers owned the store and housing in company towns, some have argued that they exercised monopoly power over the provision of store goods.[1] David Corbin summarizes this view in his study of southern West Virginia coal miners in the early 1900s:

> If a coal miner survived a month of work in the mines, he was paid not in U.S. currency but in metals and paper (called coal scrip), which was printed by the coal company. Because only the company that printed the coal scrip honored it, or would redeem it, the coal miner had to purchase all his goods—his food, clothing, and tools—from the company store. Hence, the miner paid monopolistic prices for his goods. Journalists and U.S. senatorial investigating committees repeatedly revealed that the region's coal

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[1] See Curtis Seltzer, *Fire in the Hole: Miners and Managers in the American Coal Industry* (Lexington, 1985), p. 19; David Corbin, *Life, Work, and Rebellion in the Coal Fields: The Southern West Virginia Miners, 1880–1922* (Chicago, 1981); and Anna Rochester, *Labor and Coal* (New York, 1931).

company store prices were substantially higher, sometimes three times higher, than the local trade stores. . . . To the miners, it meant, as they later sang, that they 'owed their souls to the company store.' For some miners, it meant being held in peonage.[2]

Corbin and others suggest that company stores had a local monopoly because the company only issued scrip or kept miners in debt. Economic theory and evidence from government reports and archival sources are used here to investigate these claims. I suggest that the company store's monopoly power in nonunion districts was limited because store prices were part of an employment package offered to geographically mobile miners in a labor market with hundreds of mines. Alternative reasons for company ownership of stores exist, and those based on transactions-costs theories of the firm are offered. Claims of high store prices based on scattered evidence are compared with the conclusions of the U.S. Coal Commission in 1922 and the Immigration Commission in 1909. Finally, the use of scrip and the extent of miners' indebtedness are examined with evidence from archival sources and government investigations.

I. THE LIMITS ON STORE MONOPOLY

Those who take a monopolistic view of the company store argue that the store's monopoly power stemmed from geographic isolation of coal towns. They further assert that when independent stores began to compete nearby, the company store maintained its monopoly power by forcing miners to purchase goods by threats of dismissal, issuance of scrip, or debt peonage. The union, in this interpretation, is the only countervailing force to prevent the company from using its monopoly power. Yet, even had the company been able to maintain a local-store monopoly in a nonunion area, there were limits on the prices it could charge. These limits were imposed by competition among mines to attract laborers to their towns.

The store and its prices were only part of the employment package offered by coal companies in what seems to have been a relatively competitive labor market.[3] In nonunion areas, like southern West Virginia in the early 1900s, hundreds of mines competed to attract

[2] Corbin, *Life, Work, and Rebellion*, p. 10.

[3] There is evidence that miners moved in response to nonwage aspects of the employment package, including stores, housing, schools and health care. For example, Jairus Collins, a nonunion operator, attracted workers during one upturn by cutting store prices "to the bone." Letter from George Wolfe to Justus Collins, 9/20/16, Justin Collins Papers, West Virginia Regional and History Collection at the West Virginia University Library, Morgantown, West Virginia; Corbin, *Life, Work, and Rebellion*, p. 42; James T. Laing, "The Negro Miner in West Virginia" (Ph.D. diss., Ohio State University, 1933), pp. 146–51; Marlene Hunt Rikard, "An Experiment in Welfare Capitalism: The Health Care Services of the Tennessee Coal, Iron, and Railroad Company" (Ph.D. diss., University of Alabama, 1983).

miners, who were described as highly mobile by many writers.[4] If the labor market had been perfectly competitive with homogeneous miners and zero transaction, transportation, and information costs, each miner would have received an employment package with value equal to the value of his marginal product. A mine charging higher store prices would have to compensate by paying higher wages or improving other aspects of the package. Variations in employment packages would arise in response to differences in the costs of providing parts of the package and the tastes of miners.[5] Isolated mines, for example, faced higher transport costs for store goods and would therefore be expected to charge higher store prices that were offset by higher wages. Miners' evaluations of parts of the package varied with respect to factors including age, ethnicity, and the size of their families. Miners with lower propensities to purchase goods, like immigrants saving to bring families from Europe, were more likely to select mines with higher wages and higher store prices.

To the extent that information and transportation costs were high or employers obtained labor-market power, employers could potentially "exploit" miners by providing employment packages valued at less than their marginal product. Several hypotheses about changes in the value of employment packages follow from consideration of these possibilities. First, to the extent that moving to another mine was costly, differences in local-store competition become more important in determining company-store prices. We should expect lower store prices at mines where workers could buy from nearby independents. Second, we should expect less exploitation over time in the coal labor market as information and transport costs declined. As the demand for coal boomed, previously isolated areas became dotted with mines—in West Virginia the number of commercial mines rose from 35 in 1870 to 325 in 1900 to a peak of 1,702 in 1923—and transportation costs fell with improved railroad connections and, later, the paving of highways.[6] Further, the miners' ability to assimilate information improved with

[4] Price Fishback, "Employment Conditions of Blacks in the Coal Industry, 1900–1930" (Ph.D. diss., University of Washington, 1983), pp. 60–65; Corbin, *Life, Work, and Rebellion*, pp. 40–43; U.S. Senate, U.S. Immigration Commission, *Report on Immigrants in Industries, Part I: Bituminous Coal Mining*, 61st Cong., 2d sess., (Washington, D.C. 1911), vol. 2, p. 209. Corbin asserts that the mobility was limited to movements within the same coal region, but there was substantial movement in and out of coal mining as well. U.S. Senate, U.S. Coal Commission, "The Bituminous Mine Workers and Their Homes," *Report of the United States Coal Commission*, part 3, 68th Cong., 2d sess. (Washington, D.C., 1925), p. 1522; West Virginia Bureau of Negro Welfare and Statistics, *Report*, 1923–24 (Charleston, 1924), p. 39; Margaret Ripley Wolfe, "Aliens in Southern Appalachia: Catholics in Coal Camps, 1900–1940," *Appalachian Heritage*, 6 (Winter 1978), pp. 43–56.

[5] Sherwin Rosen, "Hedonic Prices and Implicit Markets: Product Differentiation in Pure Competition," *Journal of Political Economy*, 82 (Jan. 1974), pp. 34–35.

[6] James T. Laing, "Negro Miner," pp. 39–52; West Virginia Department of Mines, *Annual Report* for the years 1901 (p. 2) and 1923 (p. 265).

increasing literacy and, after 1907, the immigrants' improved knowledge of English.[7] Third, the value of employment packages would be expected to decline during coal downturns when labor markets loosened and to increase during upturns when labor markets tightened. Declines in the value of the package during downturns do not necessarily imply increased exploitation because the value of the marginal product also declines with the price of coal. Fourth, miners who faced higher moving costs, illiterate miners or miners with families, were more likely to be exploited by higher store prices. Fifth, if the cost to the miner of gathering information were higher for store prices than wages, then the coal employer would be able to charge higher store prices, given the wage, than to pay lower wages, given store prices. When the operator raised store prices, the miner was less likely to move than if nominal wages had been lowered because it was more costly to compare store prices than wages.[8] Sixth, employment packages would have higher value in union than in nonunion mines, as successful collective action gives workers the market power to raise the value of the employment package.

II. WHY DID COMPANIES OWN STORES?

Miners and operators agreed that during initial stages of mine development, company provision of stores and housing was a necessity. Population density in mining regions was generally very low, with few if any existing stores or homes. Opening a mine was a risky proposition; mines expanded, contracted, and closed with fluctuations in coal demand. But opening an independent store was even riskier because determining future actions of a mine company was costly. Further, most early mining towns were small, probably below the necessary size to open a profitable independent store or housing area. One would expect most independents to locate in areas with several mines, where the extent of the demand for their product was greater and uncertainty could be reduced by a more balanced portfolio of customers.[9] The location of stores in the Kanawha and New River districts in West Virginia confirms this logic. Nearly all independent stores were located

[7] Illiteracy rates for males of voting age in the five leading mining counties in West Virginia fell by more than one-third between 1900 and 1920. U.S. Bureau of the Census, *Twelfth Census of the United States, Population, 1900* (Washington D.C., 1902) part 2, p. 487; U.S. Bureau of the Census, *Fourteenth Census of the United States, Population, 1920* (Washington, D.C., 1922) vol. 3, part 2, pp. 1105–09. The percentage of miners who did not speak English in West Virginia fell from approximately 10 percent in 1908 to 2.9 percent in 1920. U.S. Coal Commission, "Bituminous Workers," p. 1424 and U.S. Immigration Commission, *Immigrants in Mining*, vol. 2, pp. 249, 276.

[8] Another way companies could take advantage of the higher information costs for store prices would be to raise store prices before lowering wages during downturns and raise wages before lowering store prices during upturns.

[9] Coal demand fluctuations did not affect all mines equally. See Fishback, "Employment Conditions," pp. 49–50.

on major thoroughfares in the region, where they could be reached by workers from several mines.[10]

This explains why the companies established stores in the first place, but why did they continue to operate them? The Corbin quote in the introduction suggests that companies owned stores and issued scrip to obtain monopoly profits. Yet gains from store monopoly were limited to the extent that mines hired in a competitive labor market. George Hilton offers two reasons for company ownership of stores in Britain. First, store prices could be adjusted to alter real wages when nominal wages are fixed by collective bargaining. This hypothesis is consistent with the continuation of company stores at mines with union contracts. But it does not explain the large number of company stores in nonunion areas where wages were more flexible.[11] Second, Hilton suggests that scrip was a sumptuary device used to ensure labor productivity through control of drinking. This could not be a dominant explanation. Some saloons provided credit, stores and scrip existed throughout Prohibition, and miners in Appalachia often made their own liquor, sometimes with the encouragement of the mine owners.[12] Some argue that company stores were part of a broader strategy to limit miners' collective power. Yet this may only partially explain company ownership of stores, because employers had more effective means of limiting collective power: firing union sympathizers or bringing in replacements for striking miners.

The literature on transactions and information costs provides alternative explanations for the persistence of company stores. Company ownership of stores lowered the information and enforcement costs of providing credit. Because the company paid miners their wages, it had nearly complete income information and could deduct credit provided directly from wages. Supplying credit to miners was much riskier for an independent store. The independent had far less information about an individual's earnings, especially for miners new to the area, and the options for forcing repayment were costly, requiring a lawsuit to garnish wages. Further, denial of continued credit when debts got too large during downturns often meant a loss of trade during upturns from that miner and his friends.[13] In isolated regions with relatively few banks,

[10] U.S. Coal Commission, "Bituminous Workers," p. 1513–14, 1531–32.

[11] George Hilton, "The British Truck System in the Nineteenth Century," *Journal of Political Economy*, 65 (June 1957) pp. 237–56. For evidence on greater wage flexibility in nonunion than in union areas, see U.S. Coal Commission, "Wage Rates in the Bituminous Coal Industry," *Report of the U.S. Coal Commission* (Washington, D.C., 1925), part 3, p. 1098.

[12] U.S. Immigration Commission, *Immigrants in Mining*, vol. 1, pp. 225–28; Charles K. Sullivan, "Coal Men and Coal-Towns: Development of the Smokeless Coalfields of Southern West Virginia, 1873–1921" (Ph.D. diss., University of Pittsburgh, 1979), pp. 195–96; Corbin, *Life, Work, and Rebellion*, pp. 35–38; A. F. Hinrichs, *The United Mine Workers of America and the Non-Union Coal Fields* (New York, 1923), pp. 41–42.

[13] U.S. Coal Commission, "Bituminous Workers," p. 1514.

issuance of scrip saved on costs of obtaining and holding currency. In particular, the company's interest income increased, and the costs of police protection of the payroll fell.

A final implication of the transactions-cost literature is that companies ran stores to prevent opportunistic behavior by an independent. There were mine-specific locational and administrative advantages to running a store on company land through the store payroll. These advantages were also specific to a single store because at many mines the population was probably not large enough to support more than one store profitably. Once established, an independent storeowner had incentives to exploit these advantages by charging higher prices than the company would like. The independent's profits are affected only indirectly by competition in the mining labor market, even though his higher prices would force the mine to pay higher nominal wages in competing for workers. Vertical integration saves on the contracting and enforcement costs required to prevent such opportunism.[14]

III. STORE PRICES

Ideally, store prices should be discussed in the context of the entire employment package at the various mines. Unfortunately, such information for each mine is unavailable. One can, however, examine claims that company store prices were "substantially higher, sometimes three times higher than at the local trade stores." Because pricing practices varied across stores and across goods within stores, scattered evidence on a few prices at a few stores can be highly misleading when used to describe price differentials faced by most miners. The evidence brought forth by the major Senate investigations of violent conflict in the mining regions is especially problematic.[15] Evidence was gathered only through testimony in hearings before the Senate subcommittee. Testimony was often emotional, the evidence provided was adversarial, and miners offered contradictory testimony.[16] Given the evidence presented, these

[14] Oliver Williamson, "The Modern Corporation: Origins, Evolution, Attributes," *Journal of Economic Literature*, 19 (Dec. 1981), pp. 1548– Benjamin Klein, Robert G. Crawford, and Armen Alchian, "Vertical Integration, Appropriable Rents, and the Competitive Contracting Process," *Journal of Law and Economics*, 21 (Oct. 1978), pp. 297–326. Pennsylvania mine officials made statements consistent with this argument. U.S. Immigration Commission, *Immigrants in Mining*, vol. 1, p. 325.

[15] U.S. Senate, Subcommittee of the Committee on Education and Labor, *Hearings on Conditions in the Paint Creek District, West Virginia*, 3 vols., 63rd Cong., 1st sess. (Washington, D.C. 1913); U.S. Senate, Committee on Education and Labor, *Hearings on West Virginia Coal Fields*, 2 vols., 67th Cong., 2d sess. (Washington, D.C., 1921–22); U.S. Senate, Committee on Interstate Commerce, *Hearings on Conditions in the Coalfields of Pennsylvania, West Virginia, and Ohio*, 2 vols., 70th Cong., 1st sess. (Washington, D.C., 1928).

[16] For evidence of conflicting testimony by miners, see *Conditions in Paint Creek District*, pp. 572, 998, 1013, 440, 442, 476. One analyst at the time suggested that the miners made far-reaching

TABLE 1
PRICE COMPARISONS OF STORES IN COAL AREAS WITH STORES IN MANUFACTURING AREAS OF NEARBY CITIES, DECEMBER 1922

Coal District[a]	Nearby City	Price Differential Percentage[c]	District Type
New River district, W. Va.	Charleston, West Virginia	11.8%	nonunion[d]
Kanawha district, W. Va.	Charleston, West Virginia	4.9	mixed
Alabama district	Birmingham, Alabama	0.0	nonunion
Connellsville region, Pa.[b]	Uniontown and Connellsville, Pennsylvania	−0.5	nonunion
Westmoreland district, Pennsylvania	Greensburg, Pennsylvania	5.4	nonunion
Barnesboro region, Pennsylvania	Pittsburgh, Pennsylvania	−5.0	union
Belmont County, Ohio	Zanesville, Ohio and Wheeling, West Virginia	−2.2	union
Central and southern Illinois	Springfield, Illinois	−2.0	union
Southern Ohio	Zanesville, Ohio and Wheeling, West Virginia	−1.0	union
Windber district, Pennsylvania	Pittsburgh	−1.8	nonunion

[a] Includes both company stores and independent stores in the mining regions.
[b] In Pennsylvania, company-owned stores were illegal, but the stores in mining areas were often affiliated with the mines indirectly.
[c] The percentage represents the percentage by which the prices at coal district stores exceed the prices in stores in the manufacturing district in the nearby city listed.
[d] This district was traditionally nonunion but was unionized briefly from 1918 to 1921.
Source: U.S. Coal Commission, *Report*, 68th Cong., 2nd Sess. (Washington, D.C., 1925), p. 1457.

investigating committees could hardly reach accurate conclusions about the norm for company-store prices.

An effective investigation of store prices requires systematic collection of evidence, budget studies to determine weights for a price index, and widespread coverage of the mining fields. The investigation that best meets these requirements was performed by the U.S. Coal Commission in December 1922. By analyzing store purchases and interviewing miners' families, the commission determined the average miner's consumption bundle. Prices of food items in the bundle were collected in December 1922 from coal company stores and independent stores in the mining and manufacturing districts in Table 1. The commission held other conditions of demand constant by comparing goods of the same quality and by comparing stores in areas where incomes and tastes of the workers were similar to those of miners. The results show that in six of the ten comparisons the stores in mining districts—including independent and company stores—charged less than stores in manufactur-

accusations often based on negligible evidence. Hinrichs, *The UMWA and the Non-Union Coal Fields*, pp. 42–45.

ing districts. As expected, price differentials were lowest in the four union districts, where workers had effectively obtained market power. Price differentials were also generally low in nonunion districts, less than 2 percent in three of the five comparisons of manufacturing and nonunion coal districts. The largest differential appears between store prices in the New River district and in Charleston, West Virginia.

The differentials in the two southern West Virginia districts, the Kanawha district adjacent to Charleston and the more isolated New River district, merit further discussion. With a weak union but a highly mobile workforce, this area provides an excellent testing ground for the ability of labor-market competition among mines to limit store prices. Since the union often asserted that West Virginia was the site of the worst abuses, price differentials there should establish an upper bound for price differences between company and independent stores in general.

Price differentials between the two districts and Charleston are consistent with the hypothesis that store prices and wages would be higher in more isolated districts. Up to half of the price differential between the New River district and Charleston is due to transportation costs.[17] Further, the 6.6 percent difference in prices between the New River and Kanawha districts was offset at least partially by differences in wages. Average earnings per day listed on the payroll in the New River district were about 2.8 percent higher than in the Kanawha district in 1921.[18]

The Coal Commission also compared company-store prices with prices at nearby independent stores within the Alabama, New River, and Kanawha districts. Again, these comparisons hold the quality of goods, and incomes and tastes of consumers constant. In both West Virginia mining districts, the company stores charged 4.2 percent more for food; in Alabama they charged 7 percent more. These differences represent the maximum rents from the company stores' more convenient locations within mining towns. The actual rents may have been lower because the company provided more services by offering more credit through issuance of scrip. Further, transport costs to many company stores were probably higher than to most independents, which

[17] According to the Coal Commission, the additional freight rates on flour from Charleston to Mount Hope in the New River district accounted for about 50 percent of the price differentials on flour, 22 percent on oats. U.S. Coal Commission, "Bituminous Workers and Homes," p. 1518.

[18] The relative wage rates in the two districts were the same in 1921 as they were in December 1922. The comparison was made for earnings per day listed rather than wage rates because wage rates for daymen, paid time rates, and tonnage men, who were paid piece rates, are not comparable. Calculations of earnings per day listed are based on tables of the average number of starts for each income category in U.S. Coal Commission, "Atlas of Statistical Tables," *Report* (Washington, D.C., 1925), part 5, pp. 308, 457–58, 472–73. More detail on the calculations is available in Price Fishback, "Were Coal Company Stores Exploitative?" University of Georgia, College of Business Working Paper No. 85-188E (Jan. 1986).

were more often located along major thoroughfares. By examining the range of prices, one can see how scattered evidence can be misleading. On many foods the highest price at company stores was double the lowest price at independent stores. On those same foods, however, the highest price at independent stores was double the lowest price at company stores.

Although the Coal Commission data for 1922 are the most comprehensive and scientifically-collected evidence on store prices in the early 1900s, they may present a biased picture of the entire period. The two potential biases, however, produce opposite effects. Price differentials may have been lower than in earlier periods due to the long-term trend toward lesser isolation of mines; automobiles and paved roads had reached these regions by 1922. Alternatively, if company-store prices were adjusted upward during downturns, the price differentials during the down year of 1922 may have been higher than normal.

Evidence from comprehensive but less quantitative field investigations by the Immigration Commission in 1908 and 1909 portrays conditions similar to those found by the Coal Commission. In its general conclusion the Immigration Commission stated that:

> In isolated communities . . . it has been charged that the prices at the store were too high and that stock of an inferior quality was carried. In the majority of cases, however, the reverse is true, the employee being able to secure from the company store as good, if not better, articles for the same or a less price than would be charged by an independent store.[19]

In Alabama "a careful investigation of prices in several of these commissaries, as compared with market prices in workingmen's districts in Birmingham, reveals very slight differences."[20] In West Virginia:

> Prices varied at different stores and in some isolated communities are excessive. In many locales there are independent stores in nearby towns and in stores so located they usually meet the prices of competitors. Many companies offer better quality at the same or lower prices. Stocks at company stores in many instances are larger, more varied, and of better quality.[21]

Investigators in Pennsylvania found that "many company stores handle first-class goods throughout and charge prices no higher than in the best-managed town and city stores," but at the other extreme were stores marketing poor-quality merchandise and charging higher prices

[19] U.S. Immigration Commission, *Immigrants in Mining*, vol. 2, p. 95. In part to determine the extent of exploitation of immigrants in industry, researchers were sent into the field to collect micro-level evidence on the earnings and living conditions of immigrants. Researchers in the coal regions recorded their impressions of store prices but reported no data.

[20] Ibid., vol. 2, p. 199.

[21] A similar description was given of the nearby Virginia field. Ibid., vol. 2, pp. 201, 213.

for the same brand as elsewhere.[22] In sum the Immigration Commission's impressions suggest that at most company stores the prices were similar and sometimes even lower than those at nearby independent stores. Store prices were higher at more isolated mines. But the Immigration Commission pointed out that "in many of these isolated communities it costs more to get provisions laid down at the stores because of their inconvenient location, and this accounts, at least in part for the higher prices."[23]

The range of store prices apparently widened as coal demand plunged during the Great Depression. Homer Lawrence Morris of the American Friends Service Committee presented price comparisons from an independent investigation in 1932. Two price lists comparing a company store with a nearby independent selected "at random" showed company store prices that were typically double those at nearby chain stores. At the other extreme, Consolidation Coal Company, which owned numerous mines in Kentucky and West Virginia, charged prices similar to those the Salvation Army paid in purchasing large lots from independent storekeepers.[24] With numerous operations failing and others working sporadically at a loss, coal companies may have tried to use the store to offset losses. But owning the store was not necessarily a good hedge against coal losses. At the Stonega mines in Virginia, where the sale price of coal fell from 7.5 percent more than the cost of production in 1929 to 12.4 percent less in 1933, net store profits also fell from 8 percent to -1 percent of sales.[25]

Although most discussions of company stores focus on cross-sectional comparisons, Corbin also discussed intertemporal price changes at particular mines. He claimed that company stores had enough market power in southern West Virginia so that "wage advances were always absorbed, 'in whole or in part,' by price increases at the company store."[26] The miners he quotes may have mistaken price

[22] Ibid., vol. 1, p. 327.

[23] Ibid., vol. 2, p. 204.

[24] Homer Lawrence Morris, *The Plight of the Bituminous Miner* (Philadelphia, 1934), pp. 166–69.

[25] Net store profits at the Stonega mines were between 10 and 15 percent of sales from 1910 to 1915 and then averaged about 6 percent both from 1916 to 1929 and from 1937 to 1947. Compiled from Comparative Statements of Annual Store Reports, 1911–1947 in Boxes 253–5. Data on coal prices and production costs are from Annual Operating Statements, 1929–1933, Box 248 from the Stonega Coke and Coal Collection, Series II, within the Westmoreland Coal Collection at the Hagley Museum and Library, Wilmington, Delaware.

The Stonega Coke and Coal operations, which employed about 1400 men in 1915, seem representative of the average coal community. In the Coal Commission's rankings of 349 company communities, the Stonega communities of Osaka and Dunbar were ranked 67th and 210th. U.S. Coal Commission, "Bituminous Workers," pp. 1489–94; and individual Community Ratings Schedules for Osaka and Dunbar, Boxes 24–32, U.S. Coal Commission Records, Record Group 68, National Archives, Suitland, Maryland. More details about Stonega's reputation are available in Fishback, "Were Coal Company Stores Exploitative?", pp. 36–37.

[26] Corbin, *Life, Work, and Rebellion*, p. 32.

increases caused by inflation as attempts by operators to reduce real wages. A retail food price index for stores at the Stonega mines in the adjacent nonunion district in Virginia is strongly correlated (0.797) with the U.S. consumer price index for foods for the years 1918 to 1932, while showing almost no correlation (0.036 or −0.089) with nominal wage rates at these mines.[27]

Generally, it appears that in normal or tight labor markets, company-store prices were at most slightly higher than prices at nearby independent stores. Store prices at more isolated mines were higher, in part due to higher costs of transporting goods, but wages there may also have been higher. The overall employment package therefore may look less exploitative than store prices alone. During severe downturns, as in the Depression, the range of prices appears to have broadened. In sum, even had the miners been forced to purchase at the store, it appears that the market power of miners in union districts and the competition among mines for labor in nonunion districts limited the degree to which high store prices were used to lower real incomes.

IV. WERE MINERS FORCED TO BUY AT THE STORE?

Company stores were charged with maintaining a monopoly by three techniques: forcing miners to buy at the store, issuing scrip, or imposing debt peonage. Reported cases of forced buying included delivery of unwanted goods to the miner's door, threats of dismissal for not buying at the store, and placement of recalcitrants in the worst workplaces.[28] Yet these practices may not have been typical. The Immigration Commission reported that Alabama and Virginia miners in 1908 were not forced to buy at the company store, although several cases of coerced buying were found in Pennsylvania.[29] The Coal Commission in 1925 reported that "the system of openly forcing employees to buy at commissaries is said to be no longer in practice." They noted that

[27] Simple correlations for 1918 to 1932 were calculated between the United States food CPI (Series E137 in U.S. Bureau of the Census, *Historical Statistics of the United States: Colonial Times to 1970* [Washington, D.C., 1975]) and a retail price index constructed for foods at the Stonega stores. The retail price index is the product of a Stonega wholesale price index and an index of the average markup on goods at the Stonega stores from the Comparative Statements of the Store Department (Boxes 253–5). Using weights from the Coal Commission's store price study (see Table 1), the wholesale price index was constructed from wholesale prices on 25 foods from 1918 to 1932 in the Annual Operating Reports of the Stonega Coke and Coal Company for 1925, 1926, 1928, 1930, and 1932 (Boxes 212–5). The 25 foods account for 77 percent of the food purchased by miners in the Coal Commission study of the New River district. More details are available in Fishback, "Were Company Stores Exploitative?, Appendix I." Simple correlations were also run between the Stonega food price index and two wages, the hourly rate paid machine miners and the piece rate paid loaders, also available in Stonega's Annual Operating Reports.

[28] Morris, *Plight of Bituminous Miner*, p. 166; Hinrichs, *The UMWA and Non-Union Fields*, pp. 42–43.

[29] U.S. Immigration Commission, *Immigrants in Mining*, vol. 1, pp. 95, 327; vol. 2, pp. 66, 199, 212, 213.

attempts to solicit trade by an energetic store manager might be misconstrued as coercion and lead to ill feelings toward the company when not proposed congenially.[30] Some abuses did occur. Some companies tried to keep peddlers and nearby independents from delivering goods. Other companies allowed peddlers but carefully checked that they transacted only their stated purpose.[31]

The most frequently misunderstood practice of the company store was the issuance of scrip to miners. The quotation that opens the article suggests that miners were paid almost entirely in scrip. In reality, miners were paid in cash monthly or every two weeks. Scrip was an advance on wages due the following payday, which was negotiable at full value at the company store.[32] Given that periodic paydays were and are an institutional feature of employment with a transactions-cost basis, scrip was a convenience that offered miners the opportunity to draw wages as they were earned. Relatively few firms today provide the service of advances on payday in any form. The Immigration Commission described scrip as a convenience in some parts of its report, but they also suggest that the practice made store "patronage practically compulsory," because only scrip was available between infrequent paydays.[33] The extent to which scrip raised the percentage of miners' earnings spent at the store may have been small. Given the slight differences in the prices at company stores and nearby independents and the company store's more convenient location, miners might have spent similar amounts at the store had they been paid entirely in cash. Any compulsion through scrip was lessened further with the shift toward biweekly paydays, which were almost universal by the early 1920s. By then, the Coal Commission, which also recognized scrip as a convenience, was criticizing issuance of scrip for relieving the miner's wife of all responsibility for planing a household budget, allowing her to avoid close examination of goods and prices, and dulling her sense of the value of money. They recommended a switch to a pure cash system, in essence, to give the miners the "responsibility of adults."[34] One

[30] U.S. Coal Commission, "Bituminous Workers," p. 1462.

[31] U.S. Immigration Commission, *Immigrants in Mining*, vol. 1, p. 326; Letters between George Wolfe and Justus Collings, 12/26/15, 12/27/15, 12/28/15, Justus Collins Papers; Sullivan, "Coal Men and Coal Towns," pp. 182–83; Testimony of Cabell, *Conditions in Paint Creek*, pp. 1497–98.

[32] U.S. Immigration Commission, *Immigrants in Mining*, vol. 1, p. 95; vol. 2, pp. 65, 199, 202, 212–13; U.S. Coal Commission, "Bituminous Workers," pp. 1462–63. At some mines miners could get cash advances, but these were carefully doled out only to better workers. Testimony of Cabell, *Conditions in Paint Creek*, p. 1499. In West Virginia in 1908 some "individuals, saloons, and independent storekeepers buy the scrip at from 65 to 85 percent of its face value and use it in buying provisions from the company store." A majority of companies disallowed the selling of scrip to stop such practices. U.S. Immigration Commission, *Immigrants in Mining*, vol. 2, p. 202. The discounts do not reflect differences between the company and independent store prices because the miners often sold scrip to obtain cash to buy services not available from the company.

[33] Ibid., vol. 1, p. 95.

[34] U.S. Coal Commission, "Bituminous Workers," pp. 1462–63.

wonders how the miners would have responded to the removal of this service, if this were the reason given.

Debt peonage at the mines was unusual. It certainly is not implied merely by the existence of scrip. Debt peonage could only have existed if the miner owed the company money on payday. Even then it cannot be confirmed without greater knowledge of the circumstances of the loan. Both the Immigration Commission and the Coal Commission suggested that scrip was rarely extended beyond the amount due the employee on payday.[35] Records of the Stonega Coke and Coal Company agree. Between 1910 and 1947, outstanding accounts at the stores averaged about 1.9 percent of store sales with a range of 0.45 to 4.68 percent. Store correspondence during the 1930s shows that store owners carefully monitored these accounts and sought quick repayment.[36]

The companies allowed miners to incur debts in three ways. To keep a skeletal workforce when the mine was not working, rent and fixed charges often were allowed to accumulate; at some mines in severe downturns these charges were waived. To attract workers from distant locations, the company advanced the cost of transportation to the mine. Finally, the company loaned funds to better workers to purchase durable goods like furniture, automobiles, and later, houses and washing machines.[37] Debt peonage was not the primary motivation for these loans, because the possibility that miners would repudiate their debts was enhanced by the lack of attachment to the mines of workers owing transport costs, and the adversarial attitudes that developed during strikes.[38]

Evidence from government reports and archival sources shows that miners received a significant proportion of their earnings in cash, that these proportions varied widely for individual miners, and that relatively few miners were in debt. Table 2 summarizes frequency distributions of the percentage of earnings paid to the entire workforce in cash on payday. The percentages paid in cash ranged widely from mine to mine and over time. In West Virginia the Stevens and Cabin Creek Consolidated companies in the early 1900s typically paid 30 to 50 percent of their payroll in cash on payday. The Cabin Creek data show that the percent paid in cash varied by type of worker; coalmen, paid piece rates, generally received less of their earnings in cash than

[35] Ibid.; U.S. Immigration Commission, *Immigrants in Mining*, vol. 1, pp. 95, 326; vol. 2, pp. 204, 212–13.

[36] Comparative Statements of the Store Department (Boxes 253–5) and Store Files 5–7, Box 347, Stonega Records.

[37] Ibid.; U.S. Coal Commission, "Bituminous Workers," pp. 1517–22, 1536–37, 1438; Laing, "Negro Miner," pp. 297–98.

[38] From 1910 to 1923, 16 to 37 percent of the men who came to the Stonega mines on transportation left, often for other mines, without working. Annual Operating Report, 1923, p. 6, Stonega Records.

TABLE 2
FREQUENCY DISTRIBUTIONS OF PERCENTAGES OF EARNINGS PAID ON PAYDAY, PAYROLL SUMMARIES

% of Earnings Paid on Payday	Cabin Creek Consolidated Coal Company, 9 mines, Jan. 1912–June 1912		Stonega Coke & Coal Average, All Mines, 1925–1947	Pennsylvania Representative Mines, Averages, Jan. 1906–Dec. 1908	Stevens Coal Company		
	Coalmen	Daymen			Keystone, Half-months, Nov. 1905–Jan. 1907	Empire, Half-months, Oct. 1905–Jan. 1907	Acme, Months, Dec. 1895–Oct. 1897
10–20%[a]	13.0%	0%	0%	0%	0%	3.1%	0%
20–30%	33.3	0	0	0	3.3	40.6	30.4
30–40%	38.9	42.6	0	0	43.3	53.1	60.9
40–50%	14.8	42.6	21.7	0	50.0	3.1	8.7
50–60%	0	13.0	47.8	0	3.3	0	0
60–70%	0	1.9	30.4	44.4	0	0	0
70–80%	0	0	0	56.6	0	0	0
Number of payrolls	54	54	23	36	30	32	23

[a] This should be read as greater than or equal to 10 and less than 20 percent.

Sources: Cabin Creek Consolidated Coal Company, West Virginia: *Conditions in Paint Creek District*, pp. 1236–41. Stonega Coke and Coal Company: Comparative Statements of Store Departments, Boxes 253–255, Stonega Coke and Coal Company Records, Westmoreland Collection, Hagley Museum and Library. Representative Mines for Pennsylvania (7 mines in 1906, 12 mines in 1907–1908): U.S. Immigration Commission, *Immigrants in Bituminous Mining*, vol. 1, p. 316. Stevens Coal Company, West Virginia: Payroll of Keystone Mines, Payroll of Empire Mines, and Payroll of Acme Mine; all are from Stevens Coal Company Records, West Virginia, Regional and History Collection, West Virginia University Library.

daymen. The normal cash percentage may have been higher in 1910 in West Virginia, where the Immigration Commission found percentages of 51 and 62 percent at "representative" mines. Representative companies in Pennsylvania, where the Immigration Commission's descriptions of stores were harshest, paid 60 to 80 percent of their payroll in cash on payday.[39] After 1924, the Stonega mines in Virginia typically paid out 50 to 70 percent of their payrolls in cash despite sharp drops in income during the Depression that might cause miners to rely more on scrip prior to payday.

The payments above are in cash after deductions for the miner's rent, doctor fee, fuel, blacksmithing, powder, and store purchases before payday. The Coal Commission's description of family spending in the New River and Kanawha districts in 1922 suggests that the miner spend about 5 percent of his income on rent and another 6 to 7 percent on doctors, fuel, blacksmiths, schools, and insurance. About 75 to 80 percent of his income was spent on items that might be obtained at the store.[40] The extent of store deductions from earnings is summarized in Table 3. The highest percentages for store deductions are found in the monthly pay periods at the Acme mine prior to 1900. After 1900 the data suggest that store deductions accounted for 30 to 50 percent of the mine payroll in West Virginia and Virginia, 20 to 30 percent in Pennsylvania. These percentages suggest that miners purchased about 40 to 70 percent of their store goods in cash at company or independent stores. The bulk of these goods were probably purchased from independents because most of the business at stores was conducted in scrip.[41]

At least part of the cash income on payday was used for savings. Stories of immigrants saving to send money home, to bring their families to America, or to return and buy property in their native land are legion. A number of black and white migrants from the South used West Virginia as a way station, where they earned enough to move north. Others saved enough to purchase farms or homes in nearby towns.[42] Finally, miners saved during booms and dissaved during downturns and strikes. Mining families in the Kanawha district accumulated savings

[39] U.S. Immigration Commission, *Immigrants in Mining*, vol. 1, p. 317; vol. 2, pp. 202–3.

[40] The items in the budget considered as purchasable at the company store were food, clothing and dry goods, house furnishings, drugs and toiletries, hardware and mine supplies, and other miscellaneous items. U.S. Coal Commission, "Bituminous Workers and Homes," p. 1456. Examination of the payrolls summarized in Tables 2 through 4 suggests similar breakdowns of expenditures in the early 1900s.

[41] Since scrip prices were the same as cash prices, the miner had little incentive to buy goods with cash if he could draw scrip. Between 85 and 97 percent of the Stonega stores' business was paid for with coupons or on a charge account. The Stonega data overestimate deductions for store purchases by 3 to 15 percent in Tables 2 and 3, because the data were calculated as total store sales as a percentage of the payroll. Comparative Statements of Store Department, Box 253, Stonega Records.

[42] West Virginia Bureau of Negro Welfare, *Second Biennial Report, 1922–23*, p. 39. Laing, "Negro Miner, pp. 292–300.

TABLE 3
FREQUENCY DISTRIBUTIONS OF PERCENTAGES OF PAYROLLS DEDUCTED FOR STORE PURCHASES, PAYROLL SUMMARIES

% of Payroll Spent at Store	Stonega Coke and Coal Co., All Mines, Annual Average, 1910–1947	Pennsylvania Representative Mines, Monthly Averages, Jan. 1906–Dec. 1908	Stevens Coal Company: Keystone, Half-months, Nov. 1905–Jan. 1907	Stevens Coal Company: Empire, Half-months, Oct. 1905–Jan. 1907	Stevens Coal Company: Acme, Months, Dec. 1895–Oct. 1897
20–30%[a]	7.9%	86.1%	0%	0%	0%
30–40%	47.4	13.9	36.7	25.0	4.3
40–50%	39.4	0	56.6	68.8	52.2
50–60%	5.3	0	6.7	6.2	43.5
Number of payrolls	38	36	30	32	23

[a] Read as greater than or equal to 20 and less than 30 percent.
Sources: See Table 2.

during the coal boom in the late teens but ran them down during the 1921 downturn and the strike year of 1922.[43] Morris gives examples of miners who accumulated savings during the 1920s but, like most workers, saw them dissipate quickly during the Depression.[44] Miners may have suffered more than most workers during the 1930s because opportunities to save were limited while the coal industry stagnated during most of the 1920s.

The payroll summaries in Tables 2 and 3 hide the wide divergence in cash percentages received by individuals at each mine. At the Raleigh and Coalburg mines in West Virginia and the representative Pennsylvania mines, none of the miners was in debt and the range of cash percentages was large. At the Stevens Keystone mine in December 1906, nearly 12 percent of the miners owed the company on payday, yet nearly 20 percent received 80 to 100 percent of their earnings in cash. The differences in percentages were not purely random. At the Cabin Creek mines cash percentages received by industrious individuals with high earnings in Table 4 were substantially higher than the payroll percentages in Table 2. The Immigration Commission found that immigrants drew much higher percentages of their earnings in cash than did native white and black miners, in part because a greater percentage of native workers had families.[45] The wide range of cash percentages suggests that miners were a diverse group with varying demands for store goods and savings. The range in percentages also seems inconsistent with the notion that the mines in Table 4 had a consistent policy of forcing workers to spend a minimum percentage of their earnings at the company store.

V. CONCLUSION

Economic theory and empirical evidence offer several reasons to doubt labor historians' descriptions of monopolistic company stores. First, company stores faced competition not only from local stores but also from other mines to the extent that mine employers hired in a competitive labor market. In nonunion areas like West Virginia, company-store prices were part of an employment package, including wages and housing, offered to mobile miners in a labor market with hundreds of mines. The theory of compensating differences suggests that the gain from charging high store prices would be offset by the higher wages the mine would be forced to offer to attract workers. Second, extension of this analysis suggests that the value of employment packages would have fluctuated cyclically within a long-term trend toward less oppor-

[43] U.S. Coal Commission, "Bituminous Workers and Homes," pp. 1454, 1456, 1534.

[44] Morris, *Plight of Bituminous Miner*, pp. 169–72; U.S. Coal Commission, "Bituminous Workers," pp. 1454–58.

[45] U.S. Immigration Commission, *Immigrants in Mining*, vol. 2, p. 202.

TABLE 4
FREQUENCY DISTRIBUTIONS FOR PERCENTAGE OF EARNINGS RECEIVED ON PAYDAY, INDIVIDUAL MINERS

	Percentage of All Employees				Percentage of Selected Industrious Individuals	
% of Earnings Paid on Payday	Keystone, Stevens, Dec. 1–16, 1906	12 Mines, Pennsylvania, Apr.–June 1909	Raleigh Coal & Coke, Feb. 1903	Coalburg, Apr., July 1912	W. Va. Colliery, Jan., Feb., Mar., Aug. 1912	Cabin Creek Consolidated, 1912
Less than 0	11.6%	0%	0%	0%	0%	0%
0–20%[a]	24.1	7.2	28.6	26.4	4.7	5.4
20–40%	21.4	38.2	12.1	23.7	9.3	16.1
40–60%	15.6	43.4	15.9	22.0	30.2	35.7
60–80%	8.0	7.9	17.9	13.7	32.6	23.2
80–100%	19.7	3.3	17.1	14.1	23.3	19.6
Number of workers	112	152	280	227	78	56
Mean percentage of earnings paid in cash	28.0	43.0	41.6	44.0	60.4	57.4
Mean gross earnings per month	\$51.08[b]	\$61.22[c]	\$35.71	\$53.63	\$95.26	\$105.49

[a] Read as greater than or equal to 0 and less than 20 percent.
[b] These workers were paid half-monthly. Figure was obtained by multiplying by 2.
[c] Information was provided for 3-month period. Figure was obtained by dividing by 3.
Sources: Keystone mine: Payroll Book, Stevens Coal Company Records, West Virginia Regional and History Collection, West Virginia University Library. Pennsylvania mines: U.S. Immigration Commission, *Immigrants in Bituminous Mining*, vol. 1, pp. 316–20. Raleigh Coal and Coke: Payroll Book on Display at Beckley Exhibition Mine, Beckley, West Virginia. Coalburg, West Virginia Colliery and Cabin Creek mines: *Conditions in the Paint Creek District*, pp. 1220–25, 1499–528, 2284–98.

tunities for exploitation as information and transportation costs fell. Third, one reason company ownership of stores persisted was that it lowered transactions costs, reducing the costs of holding currency in isolated areas, lowering the risks of extending credit for store purchases, and preventing the costs of contracting to minimize opportunistic behavior. Fourth, comprehensive studies by the Immigration Commission in 1908 and the Coal Commission in 1922 show that prices at most company stores were similar to prices at nearby independent stores. Prices apparently were higher at isolated mines, in part due to higher transport costs, but scattered evidence suggests that higher prices were partially offset by higher wages. Finally, miners were typically not in debt to the stores nor paid entirely in scrip. Scrip was offered as an advance on payday, when miners, on average, received 30 to 80 percent of their earnings in cash after deductions for rent, fuel, doctors, and store purchases between paydays.