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An institutional analysis of the evolution of labour relations in the US bituminous coal industry

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Introduction

By the late 1970s important changes in industrial structure were moving labour relations in the US soft coal industry into a 'new era'. Analysts predicted that centralised bargaining between the Bituminous Coal Operators Association (BCOA) and the United Mine Workers of America (UMW) would come under increasing pressure from: (1) major oil companies' growing interests in coal mining; (2) competitive pressures on eastern unionised producers from new non-union western surface operations; and (3) an emerging dichotomy between rich (oil/gas) and poor (independent) US coal operators. After a period of relative peace in the early 1980s, rapidly rising tensions between the UMW and the BCOA characterised labour relations a decade later. Collective bargaining has played an integral role in the operation and performance of the US soft coal industry, yet researchers have paid little or no attention to significant changes in industrial and bargaining structures that began in the late 1970s and continue currently, despite their importance to understanding the industry's labour relations.

This article provides the results of an in-depth case study of the evolution of bargaining structures, industrial relations and labour standards in the US bituminous coal industry over the past 25 years in the context of an ever-changing institutional environment. The framework used in the study integrates Craypo's (1988) ability-to-pay/ability-to-make-pay framework for evaluating relative bargaining power into Wilkinson's (1983) broader productive systems framework. Combined they allow consideration of a broader range of forces that determine industrial development and collective bargaining relationships than mainstream neoclassical approaches. The approach assumes that an evolving set of economic, political, social, technical and power relationships form the basis for firms' market and labour relations strategies and affect labour market outcomes. Craypo defines the firm's ability to meet the union's demands as the product of: (1) its relative market position; (2) spatial limitations in the geographic distribution of production; (3) public policy that affects product market conditions and productive operations; and (4) forces, such as new technology, that affect productive efficiency. The degree of unionisation of the relevant workforce, the extent of competition among unions organising the workforce and the nature of the bargaining structure influence the

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union's ability to make the employer meet its demands. The productive systems framework provides additional institutional depth. A productive system is defined as any organisation or institution, the primary objective of which is the creation and distribution of wealth. To understand the system's operation and performance, examination of the interaction of key social, political and economic forces is necessary.

Part 1 of this article briefly describes the industry and its labour relations in the 1950s and 1960s. Part 2 examines the beginnings of market problems and fragmented bargaining in the 1970s. Part 3 provides an in-depth analysis of developments during the 1980s, and part 4 considers the implications of the most recent changes in the early 1990s. The study reveals that, in response to continuing, significant changes in market conditions during the periods considered, major BCOA operators have increasingly consolidated their control over coal supply domestically and internationally. Rather than use this control to enforce union labour standards industry-wide in an effort to control prices and profit margins as in the past, most recently they have instead used it to attempt to undermine union labour standards to protect their returns in the face of persistently low domestic and international coal prices over which their control has increasingly diminished. This strategy has produced growing fragmentation in the industry's bargaining structure and variations in major operators' labour relations strategies. The UMW, in response, has employed strategies that initially exacerbated growing fragmentation. However, the union has used this fragmentation to its advantage to preserve its members' labour standards and encourage leading BCOA operators to consider co-operation, rather than reducing union labour standards through adversarial bargaining, as a more fruitful manner of solving continuing market problems.

1. Initial conditions in the industry and its labour relations

1.1 The origin of centralised bargaining

Centralised bargaining in soft coal began after major northern independent and captive producers (discussed below) responsible for half of the US coal production formed the BCOA in 1950 (Baratz, 1955; Seltzer, 1985). In the face of stagnant coal demand and chronic oversupply, the BCOA's immediate goal was to dictate industry labour costs, thereby stabilising supply. As Seltzer (1985, pp. 65, 67) explained:

> If . . . the BCOA could impose uniform labor costs across the industry, they could squeeze out small operators and finance the new machines that would raise productivity . . . 'Solvent corporations, sufficiently financed' meant . . . bigger companies with stable markets . . . It meant the imposition of semioligopolistic structure over supply through which a handful of major producers established the terms of business for most of the industry.

Mechanisation was expected to reduce unionised operators' production costs below those that small, non-union operators could match by cutting wages. Major coal consumers also were only willing to enter into long-term contracts with major suppliers if the supplies were cheap and reliable.

The UMW then represented 90% of coal miners, most of whom worked in eastern underground mines. To realise its goals, union co-operation was necessary.

The first National Bituminous Coal Wage Agreement (NBCWA), concluded in 1950, established life-time health care and pension funds for UMW miners in exchange for union acceptance of the widespread introduction of continuous mining systems, despite the massive unemployment that would ensue. Thereafter, the NBCWA set the pattern for industry labour standards, with all but a few operators belonging to the BCOA. Members' votes, weighted by the tonnage produced, determined policy, which left the largest operators in control (Seltzer, 1985). Non-member operators, usually voluntarily but at times forcibly, followed the NBCWA's terms and became 'non-member signatories'.[1]

1.2. Market segmentation, ownership structure and pricing practices

Primarily two grades of bituminous coal have been mined and sold in the US. Steam coal used as boiler fuel in electricity generation has been the largest domestic market segment. Metallurgical (met) coal used to produce coke for the steel industry has been the other significant but much smaller segment. The nature of demand and supply in the two segments has differed to the extent that they often have been considered separate product markets (US Department of Energy, 1987). Historically, independent and captive producers in northern and central Appalachia dominated soft coal mining, especially in met coal (Craypo, 1986). Integrated steelmakers operated the latter to secure reliable supplies of met coal, but by the early 1970s a few utilities also owned mines (Perry, 1984). Eventually, the majority of purchases occurred under the terms of long-run contracts for specific tonnage at a negotiated price to guarantee buyers reliable supplies. Minimum purchases were guaranteed for as many as 20 years (Noyes, 1978; Perry, 1984; Harvey, 1986). The rest was sold in the spot market. Major operators preferred contracts because they usually included price premiums to cover the opportunity cost of selling on more favourable terms in the spot market and escalator clauses to adjust prices when production costs rose (Hannah and Magnum, 1985).[2] Rising labour costs could then be passed along to consumers within specified limits. Contracts also enabled most producers to 'secure favorable financing, purchase necessary capital equipment and bargain for attractive rail transportation rates' (Harvey, 1986, p. 84). Spot market sales involved immediate purchases at going market prices and were most prevalent among small Appalachian producers who produced 30% of national output and were willing to cut prices to increase sales (Baratz, 1955; US Department of Energy, 1987). Utilities bought small amounts of steam coal in the spot market for inventory flexibility. Although major exporters sold high-quality met coal under 5–30 year contracts (Noyes, 1978), spot market sales frequently included exports.

Most coal demand was based on a 'delivered' price that included transportation costs ranging from 20% to 80% of the price. Met coal prices were relatively high because of its quality and relative scarcity. Although its sales volume was much lower, its prices affected steam coal prices (Spindler, 1985). Strong met coal

[1] This was especially true after a protective wage clause, which dictated that no UMW agreements could be concluded outside the NBCWA, was included in the 1958 agreement.

[2] Contracts were usually negotiated between closely tied parties such as a utility and its captive mines. Contracts with base price plus escalators were the most common and featured a fixed dollar profit margin with escalators tied to labour and materials costs (Mann and Heller, 1979).

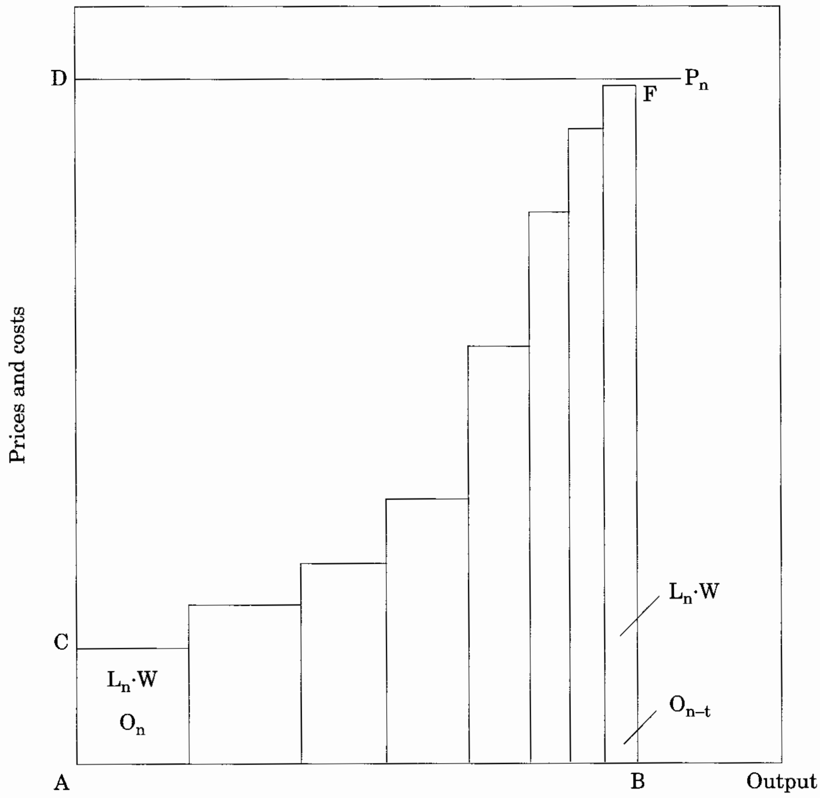

Fig. 1.

demand and prices attracted low-sulphur steam coal away from its market segment and inflated its price (Harvey, 1986). Weak demand led producers to dump excess met coal in steam coal markets, which depressed prices there. Average coal prices followed but remained below oil prices. Short-run steam coal demand was relatively price-inelastic because it was very costly for utilities to substitute oil or gas when coal prices rose. Long-term changes in relative prices, however, increased the price elasticity of demand.

1.3. A theoretical model of major operators' behaviour in the industrial environment

Salter's (1960) theoretical work was used previously as the basis for a model that explains the interaction of economic, political and social forces underlying firms' market and labour relations strategies and their outcomes (Birecree, 1991). A modified version of the model is used here to analyse major coal operators' strategic behaviour. Figure 1 presents Salter's original theoretical model of technological change and replacement investment under perfect competition. It represents a cross-section of the operating costs of plants of varying vintages in a hypothetical industry. Plants constructed most recently, O_n, embody the latest best-practice technique of production and realise the lowest possible operating costs, AC, which include among others labour costs (unit labour requirements, L_n, multiplied by the

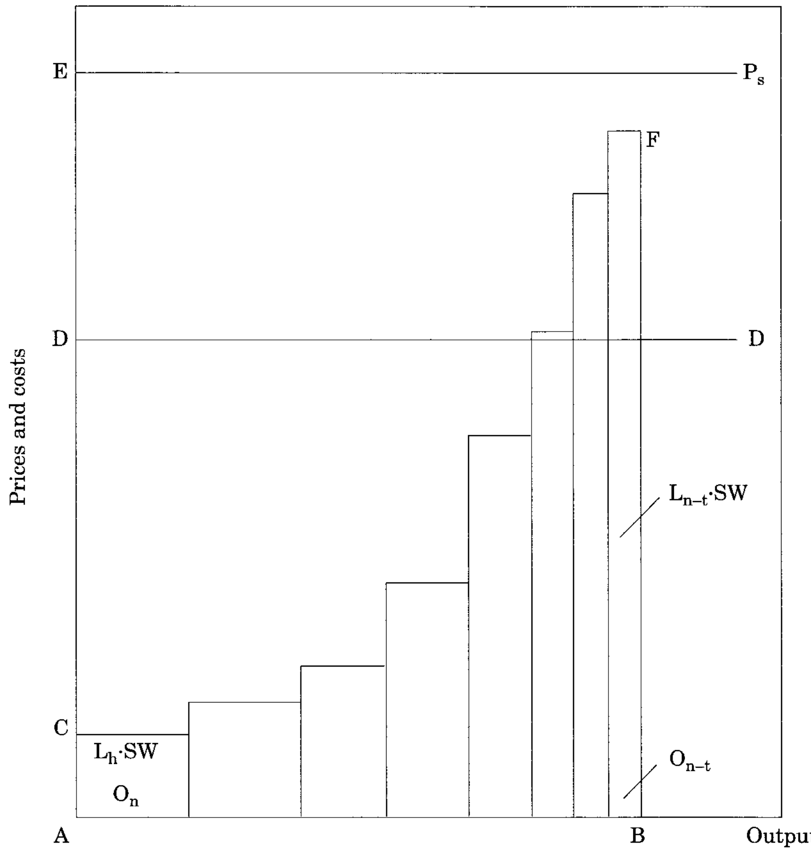

Fig. 2.

wage, W). Best-practice total costs, AD, include operating costs, AC, plus capital costs (including normal profits), CD, and determine the current market price for the product, P_n. The oldest plants, O_{n-t}, embody the most outmoded production technique. Their operating costs, BF, approach the market price, P_n. Once these exceed P_n, these plants will be replaced by entirely new facilities or their existing equipment will be scrapped and replaced with new capital stock. The extent and speed of capital reorganisation depends upon movements in relative factor prices and the overall age of the capital stock. Restructuring often occurs because the price of labour rises relative to the price of capital, which puts upward pressure on the operating costs of older plant and equipment, renders them obsolete and encourages their replacement with the latest best-practice technique.

Figure 2 reflects the situation of a representative major BCOA operator. Underground mines constructed or upgraded after 1950, O_n, embodied the latest technology and were expected to realise the lowest possible production costs, AC, when operated at optimum capacity. AC includes labour costs defined as unit labour requirements, L_n, multiplied by the social wage, SW. SW includes multi-employer health and pension benefits along with the hourly wage rate determined through collective bargaining, which partially determines unit labour costs. Older mines using obsolete mining techniques, O_{n-t}, realise operating costs, BF, also determined through bargaining, which approach the contract price of coal, P_s.

Although the US bituminous coal industry has always been considered competitive, long-term contracts allowed major operators to administer prices in a manner similar to that of leading forms in oligopolised markets. Contracts insulated major operators' profits and union labour standards from short-term fluctuations in demand because negotiated increases in the social wage could be passed along to consumers through higher prices. Expected best-practice total costs in Fig. 2, AE, include operating costs, AC, capital costs (including a normal profit), CD, and a target rate of return, DE, embodied in price formulae or escalator clauses, and determine the contract price, P_s. P_s is calculated by multiplying the expected average minimum cost of production (muc) by 1 plus the target rate of return (r): $P_s = \text{muc} \times (1+r)$. The brunt of market fluctuations thus fell on smaller firms selling in the spot market. When demand was strong, they rapidly entered the market and increased supply. When demand declined appreciably, they often failed and disappeared, reducing supply. Unionised producers' contracts protected and institutionalised higher prices. Cost differences affected profit margins (DE in Fig. 2) rather than relative prices. Major operators' ability to eliminate destructive competition and realise desired profit levels allowed capital investment, improved productivity and the long-term viability of the industry.

2. The beginnings of structural change during the 1970s

2.1. Changes in ownership structure, geography of supply and mining technique

Anticipating high returns after the 1973 energy crisis, major oil companies rapidly merged with or acquired independent coal operators and/or bought reserves and opened their own mines (Miernyk, 1976).[1] Electric utilities also purchased reserves, opened new mines, bought existing ones or entered joint ventures to hedge against future inflation (Spindler, 1985; Gordon, 1987). By 1980 15% of their coal came from captive mines and they outranked steel companies in total production from them (Perry, 1984). Major steel, chemical and metal companies also aggressively acquired small coal companies and reserves, and many independent operators reinvested windfall profits in new mines (Miernyk, 1976; Noyes, 1978). Output and employment expanded rapidly in the late 1970s,[2] but traditional operators produced only 12% of output (Perry, 1983; Seltzer, 1985; Harvey, 1986). Only two of the industry's top 15 firms were primarily coal mining companies. Oil companies controlled one third of domestic production and 40% of US reserves, and dominated the National Coal Association (Schnell, 1979; Franklin, 1980).

[1] Oil companies first entered the coal industry in 1955 when Continental acquired American Coal Company. In 1964 Gulf took over Pittsburg and Midway (P&M), after which Continental bought Consolidation Coal (Consol), Occidental acquired Island Creek, SOHIO purchased Old Ben Coal Company, Ashland bought Arch Mineral and Exxon picked up Monteray Coal. In the early 1970s Standard Oil, Diamond Shamrock, Cities Service and Mobil joined the ranks of oil companies that had diversified into coal during the 1950s and 1960s (Seltzer, 1985; Reardon, 1991).

[2] The ease with which marginal suppliers entered the market and large mines opened new sections and scheduled more shifts in anticipation of strong future demand also explains this expansion (Seltzer, 1985).

Before the oil majors entered the industry, the non-union sector was composed primarily of small family firms selling in the spot market (Gordon, 1987). Union/non-union price differentials then reflected differences in sales arrangements more than production costs (Hannah and Magnum, 1985). The oil majors diversified into Appalachia and opened non-union deep mines, and, along with traditional operators and several utilities, they also opened predominantly non-union surface mines in the west (Rodgers, 1986; Gordon, 1987). Between 1970 and 1974 the average output of underground and surface operations nationally was almost equal. By the late 1970s surface production was already one and one half times underground output (US Department of Energy, 1991). Surface mines, two to three times more productive than unionised deep mines, prompted Appalachian operators to invest heavily in strip-mining (Harvey, 1986; Gordon, 1990). At this time, powerful multinational oil and mining companies also began investing heavily in world coal reserves, production, conversion, transportation and trade, and threatened US exporters' traditional dominance in foreign met and steam coal markets (Rodgers, 1986; *World Press Review*, 1986; Gordon, 1987).

2.2. *Market conditions in the late 1970s*

Strong demand and prices for coal during the energy crisis resulted in a 12·1% average return on equity in the industry in 1974 (Rodgers, 1986). Exporters realised profits even greater than those of producers who only sold coal domestically (Hershey, 1982; Rodgers, 1986). Appalachian exporters sold met coal to foreign steelmakers, especially the Japanese.[1] Price rarely influenced export demand because foreign steelmakers were operating at maximum capacity and were willing to pay premium prices for met coal (*Business Week*, 1978). European utilities entered into long-term contracts with US exporters for steam coal to replace high-priced oil.

The coal boom was short-lived. By the decade's end, growing interest in energy conservation, import competition in auto and steel markets, and economic decline in the industrial north depressed domestic demand and perpetuated the long-term decline in met coal demand that had begun in 1970 (Seltzer, 1985; Harvey, 1986). Massive investment in new capacity and lower prices were responsible for a steady decline in the industry's average rate of return on equity to 2·2% by 1979 (Navarro, 1983; Perry, 1984; Harvey, 1986). Rising productivity in underground mining, beginning in 1977, helped larger firms to combat these problems so that the industry's before-tax returns on sales, assets and tangible net worth remained on a par with that for American industry as a whole (Petzinger, 1979; Perry, 1984; Hannah and Magnum, 1985; Harvey, 1986).[2] Weak demand and rapidly expanding supply exacerbated slow price growth and declining profits in the early 1980s. New underground capacity was expensive, and several years were required to realise a return on investment (Harvey, 1986).[3]

[1] Appalachia still supplies 100% of US coal exports (EIA, 1993).

[2] However, returns varied greatly across firms, the smallest displaying minimal profits or losses, the largest doing quite well.

[3] A mine that produced 1 million tons of coal annually cost from $30–40 million to construct and often took 7 years to show a profit.

2.3. Labour relations in the late 1970s

As a result of the industry's changing ownership structure and geography of supply, BCOA coal production accounted for slightly more than 50% of national output by 1979 (Perry, 1984). Many unionised operators were no longer BCOA members. Some had become non-member signatories; others had not. Many non-member producers ran western surface mines where the Western Surface Mine Agreement (WSMA), which historically followed the NBCWA pattern, most often covered their miners.[1] Many BCOA members and non-member signatories also had begun operating non-union mines. Non-union miners were paid wages comparable to or slightly less than the union scale and offered extensive overtime, incentive plans or bonuses to forego unionisation. Their pension and health-care plans, where they existed, were less expensive than the union's multiemployer funds (Perry, 1984; Hannah and Magnum, 1985).

Divisions and conflicts among the BCOA's 141 members intensified in the late 1970s. Tensions between eastern and western, underground and surface, met and steam coal operators, and between oil subsidiaries and independent companies, added to traditional ones between northern and southern operators and captive and independent producers (Perry, 1984; Seltzer, 1985). They produced important differences in operators' strategic preferences in collective bargaining. Captive producers, mostly steelmakers, favoured more aggressive labour relations, old independent companies a more co-operative approach, and oil conglomerates decentralised bargaining and elimination of the union through heightened confrontation (Perry, 1984). Steel, oil and a few large independent operators dominated 1978 NBCWA talks (Schnell, 1979). BCOA negotiators demanded elimination of Sunday and vacation shutdowns and the introduction of swing shifts to allow continuous operation of expensive equipment, mollify steel companies and improve competitiveness with non-union mines. A substantial economic package was offered in return for individual health and pension plans and a long strike promised if these demands were not met (Reardon, 1991).

When no agreement was reached by contract expiration in December 1977, the UMW struck, exacerbating the BCOA's internal tensions. Peabody, the industry's largest producer, favoured a decentralised bargaining structure that reflected the industry's growing diversity, left the BCOA and tried to convince other leading members to do the same (Seltzer, 1985). In February 1978 federal officials intervened and eventually convinced the western operator P&M to accept an independent agreement with the UMW intended to set the pattern for the NBCWA. The tentative P&M contract was concluded by late February. Its most important provision was the right to institute independent health and pension funds.

The UMW offered BCOA members and non-member signatories the same terms. They rejected the P&M pattern, however, after which the most powerful BCOA members were called to Washington to resolve the impasse. They accepted

[1] The WSMA had the same expiration data as the NBCWA as well as the same bargaining schedule. In reality, however, western negotiations usually lagged about a month or two behind BCOA–UMW talks and the Western Agreement was extended until the BCOA contract was settled (Seltzer, 1985).

the P&M terms shortly thereafter.[1] In May 1979 Consol withdrew from the BCOA, reportedly because its voice in the group was not 'commensurate' with its importance as a producer and the concerns of small- to medium-sized producers were paid too much attention (*Coal Age*, 1984a). Shortly thereafter, U.S. Steel and Peabody pressured BCOA members to restructure the association to return its most powerful members to control to lure Consol back (Petzinger and Hymowitz, 1980; Andrews, 1980).[2]

The BCOA represented 130 companies in talks for the 1981 NBCWA, but the agreement was expected to set the pattern for 2000 others (Bureau of National Affairs, 1981a).[3] Its bargaining agenda included: elimination of royalties on non-union coal paid to the multiemployer health and pension funds; substitution of company for industry-wide pension plans; and continuation of the right to sublease mining operations and reserves with no job security provisions for UMW miners. At that time, BCOA members were required to maintain benefit coverage for 'orphan miners', UMW members whose employers had gone bankrupt, which significantly increased costs (Perry, 1984). In western negotiations, employers had won the right to institute company plans, which many insisted made them more successful than their eastern counterparts (Bureau of National Affairs, 1981a). Many independent and/or smaller BCOA members perceived a growing inequity in the BCOA's internal structure and were uncomfortable with the adversarial posture of those controlling negotiations. They feared that a substantial economic package would be offered or a long strike endured to win language changes necessary for continuous operations and Sunday work, and greater leeway in subcontracting and mining non-union coal (Petzinger, 1980; Perry, 1984).

Anticipating deterioration in industry discipline during bargaining, the UMW authorised the use of selective strikes against individual non-member companies (Andrews, 1980). As UMW president Trumka explained in 1984, the industry's changing ownership structure made nationwide strikes ineffective. Parent companies of the largest operators had alternative sources of income to offset the costs of a strike. Selective strikes threatened struck companies' revenues and market shares more effectively because customers could shift to other suppliers (Bureau of National Affairs, 1984a). With 20,000 UMW miners unemployed, the union sought a shorter working week, optional overtime and higher overtime premiums to increase employment for laid-off miners (Andrews, 1980; Petzinger, 1980). The rank-and-file rejected a tentative agreement that removed the royalty on non-union coal and restrictions on subcontracting but continued the multiemployer pension fund. A 72-day strike that put smaller non-member signatories under significant economic pressure ensued. Fifty of them met in Charleston, West Virginia, formed

[1] UMW miners working for both P&M and BCOA operators rejected the contract, however. The President then invoked the emergency provisions of Taft-Hartley and obtained a temporary restraining order against the UMW, which its members ignored. Island Creek and Pittston representatives replaced more aggressive negotiators from Consol and U.S. Steel, and a tentative agreement was reached by the end of March.

[2] After this restructuring, the BCOA's Chief Executive Officer Committee was made up of CEOs from the nine independent or parent companies with the most tonnage under the NBCWA. Only two members of this committee headed companies whose primary product line was in coal.

[3] The exit of many smaller firms from the association between 1978 and 1981 had reduced the number of small operators following the pattern by about 500.

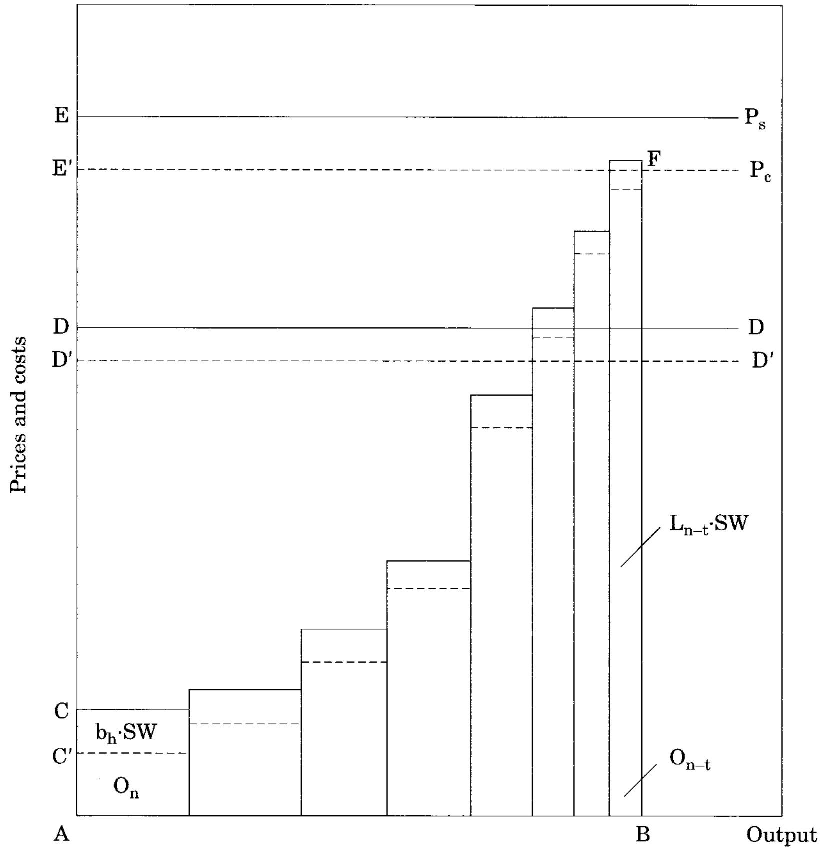

Fig. 3.

the Unionized Coal Employers Association and proposed reinstatement of the royalty payment to end the strike. The UMW refused to recognise them (Bureau of National Affairs, 1981b). The strike ended with an agreement that restricted subcontracting in the event that it caused the lay-off of bargaining unit members. However, operators' rights to contract out maintenance, hauling and construction work were left intact, and the right to schedule production on all holidays, except Christmas Eve and Christmas Day, was secured (Navarro, 1983). The royalty on non-union coal and the multiemployer pension fund were retained. Daily labour costs for skilled work increased only 30% over the contract term, much less than under previous agreements.

2.4. Analysis of the effect of changing market conditions

BCOA operators anticipated rapidly rising demand and prices in the late 1970s. Furthermore, they assumed continued control over prices and sales volume. Referring to Fig. 3, this led them to expect: (1) sales adequate enough to continue to support P_s, (2) mines to be operated at optimum capacity to achieve minimum operating costs, AC, regardless of age; and (3) realisation of expected rates of return on investment in new capacity, DE. By the decade's end, however, slower than anticipated growth in demand, rapidly growing supply, changes in the industry's ownership structure and geography of supply, and the new order of contract settlements had begun to erode their market control. Settlement of western contracts before the NBCWA placed major oil companies in a position to reduce production costs and set the pattern for industry labour standards. Lower costs, AC′, enabled western producers to realise higher returns, D′E′, even in the face of lower prices, P_c in Fig. 3. BCOA members immediately sought to substitute increasing control over production costs, AC, for that lost over prices, P_s, and returns, DE, by aggressively pursuing important changes in the NBCWA's terms to push production costs closer to AC′ to improve their returns.

3. Changing industrial and bargaining structures and market problems in the 1980s

3.1. Shifting ownership patterns

Soft coal's industrial structure became increasingly complex during the 1980s, which posed more problems for US operators. The presence and power of captive steel and independent producers steadily declined. Oil and gas companies accounted for almost half of major producers' output by 1986. Some oil companies had divested their coal holdings, but others continued to dominate western mining and increase their eastern holdings. Some utilities also sold their coal assets. Nonetheless, utilities' presence grew in both the east and west. Throughout the 1980s, underground operations represented two-thirds of domestic capacity. By the late 1980s, however, 60% of US coal output came from strip-mining. In the east, many new mines replaced old ones, while in the west relatively few new mines were opened (US Department of Energy, 1991a). Between 1976 and 1986, the number of mines in the industry actually fell 32%, but average production per mine doubled. The greatest share of production from new mines came from a small number of relatively large mines that industry leaders operated.

An important merger wave between 1983 and 1987 shifted production further away from operators producing less than 3 million tons. Steel companies' interest in divesting their coal holdings and energy conglomerates' desire to expand theirs contributed to this wave.[1] In 1986 nine of the industry's largest firms produced over 20 million tons a year and represented one third of industry capacity. By 1989 large operators' new mines accounted for almost 50% of Appalachian output. More importantly, multinational mining conglomerates were now among the industry's leading producers. Leading US operators also were increasing their operations in Australia, Columbia, China and Venezuela. By the mid-1980s Royal Dutch Shell's subsidiary, Shell Coal International, had substantial investments in South Africa and owned 50% of the Rietspruit mine, which supplied more than 5 million tons of coal to the export market (*United Mine Workers Journal*, 1985a). Occidental

[1] Consol acquired Inland Steel's holdings in 1986 and Westmoreland purchased some of Bethlehem's in 1987. Other significant activity in 1987 included Peabody's takeover of Eastern Associated Coal Company, Arch Mineral's acquisition of some of Diamond Shamrock's mining assets, and Chevron's purchase of P&M from Gulf Oil. A. T. Massey was split between its parents, Royal Dutch Shell and Fluor (US Department of Energy, 1987).

Petroleum was also developing a major surface operation in the Shanxi Province in China (Moore, 1986).

3.2. Intensifying product market problems

The 1981–1982 recession and unabated auto and steel imports further reduced met coal demand (Hershey, 1982; Harvey, 1986). As oil prices dropped, so did demand for steam coal, which grew at a declining rate for the first time in three decades (*U.S. News and World Report*, 1983). Growth in electricity demand was also declining, and some utilities refused to accept contract coal deliveries (Curtis, 1982). They increasingly shifted their purchases from long-term contracts with major operators where prices were locked in, to spot market purchases where prices reflected current market conditions (*Electrical World*, 1986; Morais, 1986). Western non-union surface mines continued to undercut eastern unionised producers' market shares. Their lower prices reflected lower production costs due to labour compensation absent substantial benefits and higher productivity. Record output continued to glut the market and depress prices. Moreover, worldwide recession, weak European steel markets and large coal stockpiles reduced demand for met and steam coal in foreign markets where price competitiveness was increasingly more important than quality and supplier reliability (Brady, 1983; Harvey, 1986). The overvalued dollar and $18–20-a-ton transportation costs inflated US coal prices abroad and eroded exporters' market shares. Only large companies with continuing long-term contracts reported any profits.

Utilities' demand for coal improved slightly in 1984 but declined again in 1985 and prices remained weak (*Pittston Company Annual Stockholder Report*, 1984, 1985). Utilities reduced average inventory levels, negotiated shorter contract terms (3–5 years), added reopener clauses, tied prices to inflation, quality or price indices, continued to increase spot market purchases, and spread contract and spot market purchases among more operators to improve their responsiveness to changing market conditions (Spindler, 1985; *Electrical World*, 1986; Morais, 1986). The spot market was an increasingly reliable source of steam coal at lower prices as rising productivity and expanding capacity generated extra tonnage that many small, independent producers dumped there at cost (Morais, 1986). Spot market prices also declined because both foreign and domestic met coal demand and prices were depressed (Morais, 1986; US Department of Energy, 1987). Although export markets remained weak, the falling value of the dollar helped US coal exporters to retain their 55% share of the EEC import market (Morais, 1986; *Journal of Commerce and Commercial*, 1989). Heightened foreign and domestic competition and low oil prices continued to depress domestic demand and prices in 1986 (Seltzer, 1985; Cook, 1986). Demand and supply for steam coal were balanced in 1987 and European export markets improved slightly (*Roanoke Times and World News*, 1988a). Aggressive cost-reduction programmes improved many operators' profits. Nonetheless, firms diversifying out of coal usually turned in the best performances (Hannon, 1987).

3.3. Operators' responses to market problems

Throughout the 1980s modernisation and a more experienced, mature workforce in underground mines resulted in an impressive growth in productivity and output, so that the gap between union and non-union productivity eventually disappeared (Edwards, 1988; US Department of Energy, 1991a). Nonetheless, unionised operators pursued several strategies to surmount market problems, all of which produced rising unemployment among union miners, especially in eastern deep mines (*New York Times*, 1984). Between 1983 and 1990 US mining employment fell 25%, Appalachian employment dropping at an average rate of about 6% a year (US Department of Energy, 1994). Initially, smaller, less efficient mines were closed permanently (US Department of Energy, 1991) and many major producers upgraded continuous mining systems or shifted to longwall technology to improve productivity and reduce costs (Seltzer, 1985; Schroeder, 1989). Average production per new mine increased over 260% and that for old mines doubled (US Department of Energy, 1991a). Production and employment also continued to shift westwards (US Department of Energy, 1994).

Major operators increasingly used their control of coal reserves to doublebreast their operations and/or contract out all phases of mining to decrease dependence on union labour. Conglomerates, such as Peabody, Pittston and DuPont, purchased reserves from their unionised subsidiaries at prices well below market value and transferred them to newly established entities not subject to the NBCWA (Michael Buckner, Research Director, UMW, personal interview, January 1996). UMW miners eventually were permanently laid off as the reserves at the mines where they worked were reportedly exhausted. Under the auspices of new subsidiaries, non-union operations then were opened up to mine transferred reserves. This strategy removed what many had believed to be the most important obstacle to doublebreasting in Appalachia: an inadequate supply of experienced miners. In the past, major Appalachian operators had periodically used small companies to mine reserves that, for geological reasons, they could not mine economically themselves. During the 1980s, however, they increasingly contracted out their reserves and all aspects of unionised operations possible, and operated more as coal brokers than producers (Gary Fritz, Deputy Director of Organizing, UMW, personal interview, January 1996). This activity not only involved US coal, but coal imported and sold to southern utilities (*United Mine Workers Journal*, 1986c). Contractors, both union and non-union, were small independent businesses with their own equipment, work forces, often laid-off UMW miners, and responsibility for all financial obligations to their workers, including health care, pensions, workers' compensation and occupational safety. Major operators paid a fee for the coal delivered under contracts that often allowed them unilaterally to reduce agreed upon prices or cancel orders with little notice. In these circumstances, unionised contractors often violated contract terms and safety and environmental regulations with little opposition from miners desperate for continued employment. When coal prices declined, major operators cut contractors' prices. The majority went bankrupt, defaulting on financial obligations to their employees.

3.4. Growing pressures on centralised bargaining

Soft coal labour relations were relatively stable after the 1981 strike. The UMW and BCOA collaborated to improve productivity, health and safety, and labour–management relations through programmes such as the Joint UMWA–Industry

Development Committee (Bureau of National Affairs, 1982). However, UMW concern about declining BCOA tonnage as a percentage of total US coal output and rising unemployment persisted. Forty thousand eastern and western UMW members were unemployed when 1984 contract talks began (*Monthly Labor Review*, 1984c).[1] Sixty per cent of the mining workforce was unionised, its strength still in eastern mines. The UMW represented only 10% of western underground miners and an even smaller percentage of surface miners there (Perry, 1984; Hannah and Magnum, 1985). UMW miners earned an average $11.83 per hour, the average union–non-union wage differential being 5% for underground and 26% for surface miners. Believing that public disclosure of its demands gave operators a bargaining edge, the UMW instituted a media blackout until a tentative agreement was reached (Bureau of National Affairs, 1984a). Officials also refused to negotiate with non-member operators until the NBCWA was signed, prohibited locals from bargaining independently with non-members without permission, and promised non-member companies selective strikes if they rejected the NBCWA pattern. Only 32 companies, controlling 66% of union production, were BCOA members (Bureau of National Affairs, 1983; *Monthly Labor Review*, 1984b; *Coal Age*, 1987c). Between 1981 and 1984 some 30 companies, most relatively small operators, had left the BCOA (*Coal Age*, 1984b). Several large operators, Island Creek, Arch Mineral Corp., Drummond Coal Co., Jim Walter Resources, Inc., National Mines Corp., and A. T. Massey, left the BCOA before 1984 NBCWA negotiations and never returned (*Coal Age*, 1987c).[2]

Because of severe market problems and their success in winning concessions from the United Steel Workers, steel companies were the most adversarial during contract talks (*Coal Age*, 1984c). Western operators, many following P&M's lead, settled their contracts before the 1984 NBCWA was concluded. Their demands, especially for less medical coverage, a two-tiered wage system and work rule changes to improve productivity, influenced the BCOA's (*Monthly Labor Review*, 1984a). The UMW sent hundreds of operators a 'Letter of Intent' offering a no-strike pledge in return for advance commitment to the 1984 NBCWA terms ('me-too' agreements), which many signed. The 1984 contract was settled without a strike, its terms barely different from the 1981 NBCWA. Fifty-two companies that employed the majority of UMW members, including non-members covered by 'me-too' agreements, signed it in a 'new spirit of co-operation' intended to enable labour and management to tackle future competitive problems more effectively (*Bureau of National Affairs*, 1984b; *Monthly Labour Review*, 1984b; *Forbes*, 1985; *Coal Age*, 1987c). The UMW won modest economic gains and limited job security provisions, including bidding rights at subleased operations, a guarantee that members would perform all work 'of the type' they had performed customarily and continuation of contract terms after an operation was sold. The $1.10 ton royalty on non-union coal was retained (*Coal Age*, 1987c). Six eastern producers refused to follow its terms, however, and were struck. The most notable was a 15-month-long strike against

[1] The BCOA contract directly covered some 80,000 miners, but 800–900 companies still followed its pattern.

[2] In the past, operators had often defected from the BCOA just before contract talks, but they usually returned once the contract was settled (*Coal Age*, 1984a).

A. T. Massey, the eighth largest US coal producer, that involved 1200 miners and 26 mines in West Virginia and Kentucky (Bureau of National Affairs, 1985). The UMW ultimately lost the dispute, and fewer than half of the strikers were recalled, many union leaders being among those out of work.

It was apparent at the UMW's 1986 Annual Convention that its members' chief concern was unionised operators' growing tendency to doublebreast operations and/or to subcontract and lease their property to non-union companies. Officials threatened selective strikes against the worst offenders (Bureau of National Affairs, 1986b; *Coal Age*, 1986). In February 1987, one of them, Island Creek, signed an Employment and Economic Security Pact (EESP) with the UMW that guaranteed its members job preference at all of its operations, including lessees and subcontractors, and coverage under the 1988 NBCWA's terms (*Coal Age*, 1987a).[1] In exchange, the UMW gave Island Creek a no-strike guarantee and agreed to reduce its contribution to the 1950 Pension Fund 77% once it was fully funded in May 1987. The EESP was to remain in effect for up to one year after the 1984 NBCWA expired. Both parties considered the EESP 'a model for the kind of cooperation that [could] exist between the coal industry and the union' (*Coal Age*, 1987a, p. 18). In March, four operators managed by Pickands-Mather and Company signed similar pacts. BCOA members decried these agreements, claiming they would do little to improve union operators' competitiveness (*Coal Age*, 1987b).

Only 14 companies remained in the BCOA by the time of 1988 NBCWA negotiations. At least ten more major operators, including U.S. Steel Mining, Pittston, Beth-Elkhorn Corp., Dusquesne Light Company, Enoxy Coal, Midland Coal, Old Ben Coal and Omar Mining, defected before negotiations. The explanation most frequently offered for their decisions was relative union/non-union production costs, especially the high cost of multiemployer health and pension programmes (*Coal Age*, 1987c; Wartzman, 1987b). Pittston claimed that it needed increased flexibility to meet foreign competition and argued that the NBCWA imposed labour costs that prevented it from matching the prices of lower cost producers in foreign markets (*Coal Age*, 1987e; *The Economist*, 1989; Edwards, 1989). Officials stated that they would never accept the 1988 NBCWA's terms.

Both sides anticipated a strike in 1988. Royalty payments to the multiemployer health and pension funds continued to inflate labour costs as BCOA members paid for orphan miners' benefits (*Coal Age*, 1987d). Western labour standards, especially for benefit programmes, and work rules changes to improve flexibility continued to influence the BCOA. To reduce labour costs that averaged \$28–30 an hour, its negotiators demanded the right to schedule work on Sunday and to abandon seniority and bidding systems (*Coal Age*, 1987b). UMW members also were extremely frustrated. Despite 6% average annual productivity increases, their jobs were increasingly insecure (Swoboda, 1987). Between 1977 and 1987 UMW membership had declined from 250,000 to 85,000, falling by one-third alone between 1984 and 1987 (*Business Week*, 1987).

The union's strategy with non-BCOA operators was to reach individual agreements with weak companies first and offer more formidable foes similar terms or a

[1] The UMW had already failed to win similar job security provisions in the 1988 WSMA but did gain some job security language tailored to western mining conditions (*Coal Age*, 1987d).

selective strike (Thompson, 1987). After the BCOA announced that Consol, Peabody and Amax would negotiate the 1988 NBCWA, U.S. Steel, Bethlehem Steel, Island Creek and Drummond signed 'me-too' agreements in which they agreed to match the NBCWA's economic package in exchange for a no-strike guarantee (*Monthly Labor Review*, 1987; Thompson, 1987). The union concluded 'me-too' agreements with other non-member operators, but only Island Creek and Drummond signed EESPs (*Coal Age*, 1987c, 1987d). Surprisingly, a new 5-year contract that guaranteed laid-off UMW miners jobs at members' operations, regardless of location, the first three of every five openings at non-union mines, and all jobs at leased or subcontracted operations, was signed without a strike (Bureau of National Affairs, 1988a).[1] It included modest annual wage and pension increases and the option to renegotiate them in the third and fourth years.

Pittston refused to follow the NBCWA pattern and insisted on work rule changes to allow continuous operations and independent health and pension programmes. After contract expiration, Pittston miners worked without a contract whereupon Pittston cut off all health benefits to retirees, their spouses, widows and the disabled. In April 1989 the UMW began what became a 10-month, often violent, strike, despite the union's commitment to non-violent civil disobedience, the worst dispute in the eastern coal fields since the 1930s. The federal government intervened, and a federally appointed mediator engineered a tentative agreement by February 1990. It allowed Pittston to schedule continuous operations and modify its participation in the multiemployer health and pension plans in exchange for job security provisions for UMW miners.[2]

3.5. Analysis of developments in the 1980s

Several forces converged in the 1980s to intensify competitive pressures in both domestic and foreign coal markets, which depressed prices (P_c' in Fig. 4), and revenues for both grades further in the 1980s. Overcapacity and excess supplies of met and steam coal in domestic and foreign markets continued while demand for both grades stagnated. Steelmakers operating captive mines felt these pressures as well as pressure from growing competition in domestic steel markets, which prevented them from passing along cost increases in the form of higher steel prices. Others who bought met coal from independent producers also sought lower prices. Oil companies and utilities that had invested in coal experienced earnings and returns on investments well below expectations, DE′. Low oil prices, partially responsible for weak coal demand and prices, affected oil companies' revenues from both oil and coal.

Falling spot market prices put unionised steam coal suppliers' contract relationships and prices under pressure. Rising price elasticity of domestic coal demand from major unionised operators further diminished their ability to control prices and profits through contract sales by passing along rising costs. The pressure of falling prices on returns, DE, especially given rapidly rising benefit costs that inflated the social wage, SW′, and thus unit production costs for unionised operators, AC′,

[1] BCOA members, however, failed to observe the job security language, claiming that they had not agreed to extend job rights to newly established operations (Buckner interview).

[2] For a detailed discussion of the Pittston strike see Birecree (1992).

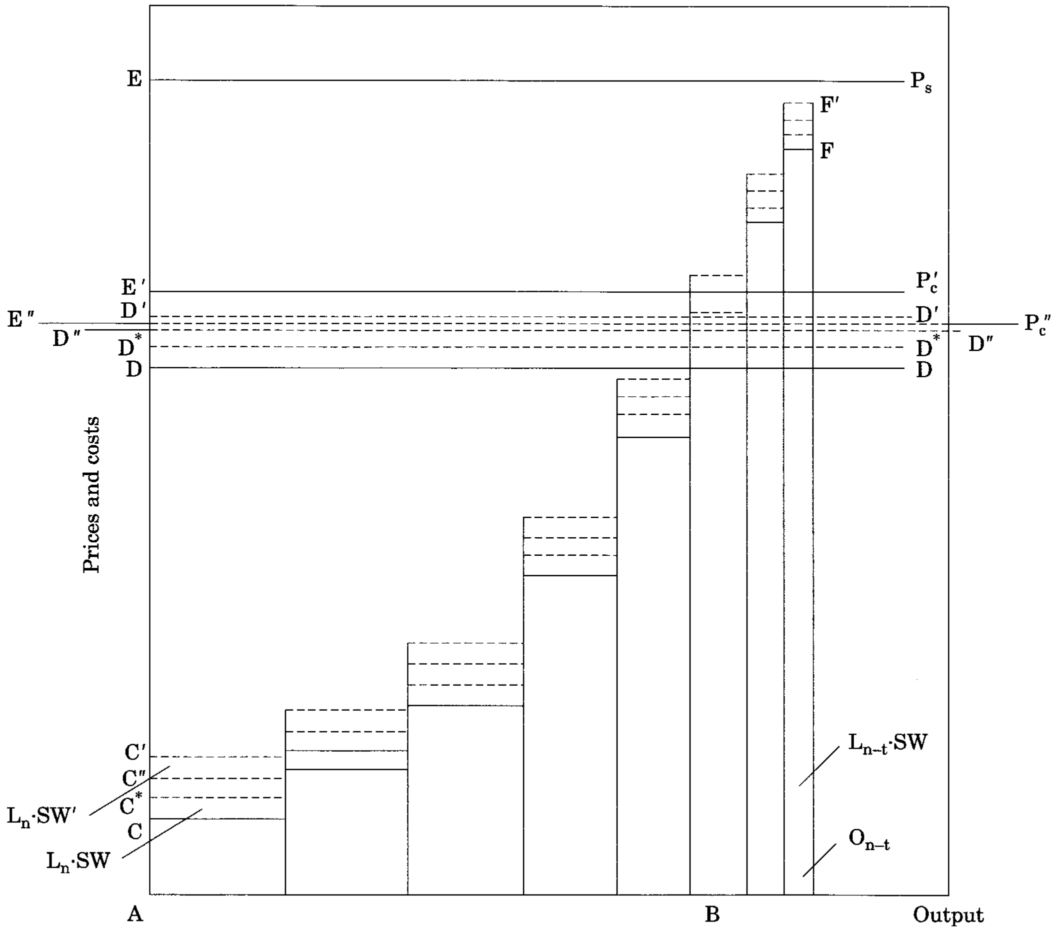

Fig. 4.

despite productivity improvements, led to lower than expected rates of return on investment, D′E′, and losses in the case of older mines, E′F′. The original pricing formula, $P_s = \text{muc} \times (1+r)$, can be rearranged to reflect the nature of these product market problems: $(1+r) = 1/\text{muc} \times p$. It reveals that falling prices automatically mean lower returns on investment unless unit production costs fall even faster.

When the market control that allowed unionised firms to set prices, P_s, was lost, some firms perceived that forcing unit operating costs, AC′, lower, mainly by reducing labour costs, was the only way to improve returns on investment, D′E′. For the most powerful operators, the character of labour as a productive input—the ease with which labour costs can be reduced in the short term through forced reductions in compensation or the size of the workforce compared to inputs such as machinery and materials—made labour costs seem easier to adjust. Local labour market conditions, consistently high and growing unemployment levels among miners and the dearth of alternative employment opportunities encouraged such an approach. These conditions, along with declining union coverage, 43% by 1988, put the

UMW under pressure to co-operate with efforts to reduce costs to improve job security for those who remained employed and future employment opportunities for the unemployed.

The severity of market problems and the nature of operators' strategic responses, especially their abandonment of the BCOA, increasingly reflected ownership status, relative size, product mix, production technique and geographic distribution of mines. Most important, the majority were primarily medium-sized producers who operated on the east and mid-west, and were major coal exporters. Varying strategic responses exacerbated and added new dimensions to differences and divisions that already existed among BCOA members and produced increasing fragmentation in bargaining, and persistent instability in the industry and its labour relations. Continued investment in labour-saving technology contributed to growing output in markets glutted with product. As costs for union operators fell, AC″ in Fig. 4, prices fell even faster, P_c'', which kept returns, D″E″, under constant pressure and operators scrambling to keep costs sufficiently below prices to protect rates of return. The expense of investment in new mines, labour-saving technology, and mergers and acquisitions explains the growing dominance of large firms in the industry by the mid-1980s and their attempts to increase control over industry labour standards. Rising productivity and falling unit costs (AC″) at larger, often new, mines, and deteriorating spot market prices (P_c''), intensified competitive pressures on smaller, less efficient operators who could not afford the capital investment to improve productive efficiency, and thus went bankrupt and/or were absorbed by industry leaders (US Department of Energy, 1987). More importantly, major eastern rather than western operators in eastern coal fields intensified the pressure of non-union mines on unionised operations when they shifted from investments in expensive technology to doublebreasting operations, subcontracting out their operations and reserves, and brokering coal. This enabled them to: (1) pass labour costs and obligations to union miners on to other operators, reducing unit production costs further to AC*; (2) insulate returns (D*E″) from falling coal prices (P_c''); and (3) reduce spending on substantial capital investments (*United Mine Workers Journal*, 1994d[1]).

These developments also explain the significant decline in BCOA membership between 1981 and 1988. The majority of firms that defected in the early 1980s were relatively small. The loss of some of them was the result of failure and/or acquisition. Others suffered significant economic distress and could no longer afford the price of affiliation. They had to protect themselves from the costs of lengthy impasses over issues that were of much greater benefit to larger members, especially demands for work rule changes and continuous operations to support new technology. A less aggressive, more co-operative approach to bargaining reduced the probability of lengthy impasses, which were potentially more costly than rising union labour costs. Those who defected from the BCOA increasingly came from the ranks of the major operators. Patterns in the types of operator leaving and their strategic preferences thereafter are not as clear. Ownership status alone did not determine the choice to stay or leave, nor the approaches afterwards adopted. The oil industry's preference

[1] Information in this article was taken from Paul Nyden's feature series on contracting out in November and December 1993 issues of the *Charleston Gazette*.

for decentralised bargaining, as well as its well known anti-union philosophy, explains why subsidiaries of some oil companies left, even though their conglomerate parents could afford the costs of the BCOA's aggressive concession bargaining. Since the majority of their holdings were in western, often non-union, surface mines and many of their eastern operations also were non-union, they suffered less from the pressure of escalating costs, AC′, on their returns, DE′ in Fig. 4. Contracts at their western unionised operations also increasingly put downward pressure on industry labour standards. By the late 1980s oil companies had already achieved concessions in contracts that covered their western miners that BCOA members sought in NBCWA negotiations. Thus, they did not have the same bargaining agenda as BCOA members. They most probably believed they had enough bargaining power to win future concessions on their own. When those still operating in the industry finally abandoned the BCOA, they displayed extremes in their strategic approaches to labour relations. Massey followed an extremely adversarial approach, but Island Creek's EESP was a relatively revolutionary model of co-operation.[1] Others, like Old Ben Coal, opted for moderation—the 'me-too' agreement.

For operators who originally had formed the heart of the BCOA, independent and captive producers, especially those heavily involved in met coal, persistent market pressures inflated the costs of a lengthy impasse. Many who left the BCOA were no longer among the industry's leaders as they had previously been. They were now medium-sized operators whose influence in the BCOA had waned, and its bargaining agenda no longer reflected their interests. Steel companies, once responsible for the BCOA's relatively adversarial stance, had either divested themselves of their coal holdings or concluded 'me-too' agreements. Independent operators displayed strategic extremes. Pittston adopted an extremely aggressive approach, while others extended co-operation to a level previously unattained.

The UMW's strategic response to problems that the industry's changing structure created were also important to operators' labour relations strategies. In 1950 major operators had believed that an industry-wide employers' organisation was necessary to counterbalance the centralised power of the UMW as well as to control industry supply and prices. Union coverage had declined to such an extent by the late 1980s that some operators believed affiliation to be no longer necessary to their relative power in dealing with the UMW. Operators whose market positions, relative sizes and performance had changed significantly, however, may have been more concerned about the BCOA's ability to obtain desired concessions and the costs necessary to do so. Despite declining union coverage, concessions first placed on the table in the late 1970s were still there during 1988 negotiations. The UMW's selective strike strategy and 'me-too' agreements allowed the union to use divisions between major producers that structural changes engendered to its advantage to set a pattern for industry labour standards it wished to achieve. It also played to many operators' growing discontent with centralised bargaining and unrelenting product

[1] Island Creek remains somewhat of an anomaly. The company was historically relatively less aggressive than other BCOA members. On the other hand, its willingness to enter into an EESP with the UMW may have reflected the extent to which the majority of its operations were already non-union and thus realised lower costs. The UMW cited Island Creek as one of the worst offenders when it came to doublebreasting operations during the 1980s. Thus, the costs of adversity may have outweighed the gains, given the extent of the company's non-union operations.

market pressures. Selective strikes held the promise of increasing production costs further (beyond AC′ in Fig. 4) and eroding market shares, and thus returns, DE′. 'Me-too' agreements allowed those entering into them to continue operating at the expense of remaining BCOA members.

4. Continuing structural changes in the 1990s

4.1. Globalisation of the productive system

In the 1990s, because coal's persistently low price has not justified new domestic investment, and the external finance capital to support it has steadily declined, major operators have expanded through mergers and acquisitions (*Coal Outlook Supplement*, 1993). Most acquisitions have involved properties in Appalachia and have further increased the largest operators' control of production (Table 1). For example, in May 1993 Amax, predominantly an aluminum producer but the third largest US coal operator, announced a merger with Cyprus Minerals Company that would make it the second largest US producer of both coal and copper (*Roanoke Times and World News*, 1993). Consequently, between 1976 and 1991 conglomerates' share of US coal output rose from 14% to 33% (Table 2).[1] Foreign conglomerates' presence among industry leaders also has increased, most often through joint ventures. Their percentage of US coal output more than quadrupled between 1976 and 1986 and continued to grow into the 1990s. By 1991 they were the industry's leading producers. Foreign firms held a more than 50% interest in eight major US operators, representing 14% of total output (US Department of Energy, 1993). In 1992, Rheinbraun A.G. owned a 50% share of Consol; DuPont controlled the remainder (Johnson, 1993). The UMW reported that Rheinbraun's chief interest in Consol appeared to be a desire to substitute cheap non-union US coal for higher priced coal from unionised German mines. Foreign-affiliated companies, where a direct foreign investor owns at least 10% of the voting securities, controlled 24% of US production. Hanson PLC's acquisition of Peabody Holding Company, the industry's number one producer and parent firm to Peabody and Eastern Associated Coal Companies, was the most significant source of foreign direct investment. In 1989 Newmont Mining Corp., the largest US gold mining firm, and a group of companies that included Boeing Co., Bechtel Investments, Inc., Equitable Life Assurance Society and Eastern Enterprises, jointly owned Peabody Holding Company (Hicks, 1989). Hanson PLC, a London-based multinational mining conglomerate with interests in cement, gold, sand, gravel and brick as well as coal, owned a 49% share of Newmont Mining (Hicks, 1990a, 1990b).[2] In 1990 Hanson purchased Boeing's, Bechtel's, Equitable's and Eastern Enterprises' shares of Peabody to continue 'its rapid transformation into one of the [world's] largest international mining companies' (Lublin, 1990; Smith, 1990; Bradsher, 1990, p. D5). It then successfully outbid Amax for Newmont's 49% share of Peabody.

[1] Important changes not reflected in the tables include Amax's merger with Cyprus Minerals, Consol's acquisition of Island Creek from Occidental Petroleum and Zeigler Coal Company's purchase of Old Ben Coal Company and Shell Mining (*United Mine Workers Journal*, 1994b).

[2] Hanson acquired its Newmont holdings in 1989 as part of its $5·37 billion takeover of Consolidated Gold Fields PLC, the biggest gold mining concern outside South Africa (Horwitz, 1990).

Table 1. *Top ten US coal producers in 1991*

		Controlling company 1976		Controlling company 1991	
Coal company	Rank 1976	Name	Type	Name	Type
Peabody Holding Co.	1	Peabody Holding Co.	Coal	Hanson PLC	Other
Consolidation Coal Co.	2	Continental Oil Co.	Oil/gas	DuPont/Rheinbraun AG	Other
Amax Coal Industries	3	Amax, Inc.	Other	Amax, Inc.	Other
ARCO Coal Co.	—	Atlantic Richfield Co.	Oil/gas	Atlantic Richfield Co.	Oil/gas
Exxon Coal and Minerals Co.	—	Exxon Corp.	Oil/gas	Exxon Corp.	Oil/gas
NERCO Coal Corp.	9	Pacific Power & Light Co.	Utility	PacifiCorp	Utility
Elk River Resources, Inc.	—	—	—	Sun Company, Inc.	Oil/gas
Texas Utilities Mining Co.	20	Texas Utilities, Co.	Utility	Texas Utilities Co.	Utility
North American Coal Corp.	10	Independent	Coal	NACCO Industries, Inc.	Coal
Entech, Inc. (Western Energy Co., Northwestern Resources)	13	Montana Power Co.	Utility	Montana Power Co.	Utility

Source: Energy Information Agency, 1993.

Table 2. *Control of production in the US coal industry, 1976, 1986 and 1991*

Measure of control	1976	1986	1991
Percentage of US production accounted for by:			
Four largest producers	24·6	19·6	21·8
Eight largest producers	33·6	30·3	32·6
Foreign-controlled major coal producers	1·4	6·4	14·3
Percentage of major producers' coal production accounted for by:			
Coal companies	34·7	26·6	17·3
Oil and gas companies	32·2	43·9	31·3
Electric utilities	10·8	14·9	14·5
Steel companies	8·5	4·5	3·4
Other companies	13·8	10·1	33·4

Source: Energy Information Administration, 1993.

Table 3. *Top five holders of US coal reserves, 1990*

Reserve holder	Estimated reserves (billion short tons)
United States Government	155·0
Burlington Resources	14·6
Peabody Holding Company, Inc.	8·0
Exxon Coal and Minerals Co.	6·4
Consolidation Coal Co.	5·0

Source: Energy Information Administration, 1993.

Major US operators also invested heavily in foreign mining operations during this period (*United Mine Workers Journal*, 1993a). Continuing into the early 1990s, Exxon invested in Colombian, Australian, South African, Canadian and Chilean coal mines (*United Mine Workers Journal*, 1985b; Moore, 1986; Johnson, 1992). The growing number of alternative mining sites enabled them to shift production to take advantage of differences in labour costs, taxes and environmental regulations, dominate global energy markets and maximise profits (Moore, 1986).

These structural changes affected the distribution of US coal reserves. Table 3 presents the most current data on the distribution of US reserves, which do not reflect the effects of mergers and acquisitions after 1990. The US government owns about 60% of US coal reserves (US Department of Energy, 1992). Another 20% also comes under its control because certain privately held reserves can only be mined economically together with federal reserves. Federal reserves can only be mined through leasing arrangements. Since 1970 output produced on leased reserves has grown rapidly, its average annual growth rate being 17% compared to 1% annual increases for production from privately held reserves. In 1990 coal mined on federal lands accounted for 27% of US coal output. Wyoming, now the largest coal-producing state, is also the major producer of coal from federal reserves. The state was responsible for 70% of the total output from federal reserves in 1990. This output represented 95% of that state's coal production that year. The royalty on coal mined from federal reserves has been set at 12·5% for surface mined coal and 5% for that mined underground.

4.2. Continuing market problems

During the 1990s market problems were increasingly related to the globalisation of production. Southern utilities substituted cheaper imported for Appalachian steam coal (Perl, 1984). By 1993 US coal exports reached their lowest level since 1979 (US Department of Energy, 1994). Imports, however, mostly shipments to electric utilities from Colombia, Venezuela and Indonesia, grew 92% between 1992 and 1993 alone. Escalating competition between exporters in international met coal markets spawned collusion between the largest consumers who dominated regional market segments to set prices, particularly the Japanese. They agreed on the highest price any would pay for imported coal in Japan and purchased it from operators who accepted their terms (Buckner interview). International prices, thus, were kept artificially low, which further depressed US prices at home and abroad (Johnson, 1992).

4.3. Conclusion of the 1993 NBCWA

Before negotiations for the 1993 NBCWA began in October 1992, Drummond Company, Jim Walter Resources, U.S. Steel Mining and Westmoreland Coal Company formed a new employer association, the Independent Bituminous Coal Bargaining Alliance (IBCBA), which sought 'a more progressive relationship with the union' (Bureau of National Affairs, 1992, p. 2).[1] IBCBA and UMW officials believed that more co-operative labour relations rather than the adversarial approach that characterised BCOA–UMW relations were imperative to their future competitiveness. When bargaining for the 1993 NBCWA began in November 1992, the BCOA represented 12 companies responsible for 30% of US coal production. Three hundred other operators, including non-member and IBCBA signatories and those with 'me-too' agreements, were expected to follow its terms (*New York Times*, 1993a). BCOA negotiators sought work rule changes to improve competitiveness, claiming that they could no longer afford to be locked into 'an antiquated system of seniority and job classifications that restricted [their] ability to hire the best people' (Toner, 1993, p. A16). They also wanted to modify the 1988 NBCWA provision that three of every five newly created jobs go to UMW miners so that it only applied after the first 40% of workers at non-union affiliates were hired. Negotiators argued that nothing prevented the UMW from organising new mines. The central issue for the union was BCOA members' continued doublebreasting (Kilborn, 1993).

No settlement was reached by contract expiration on 1 February 1993 because BCOA negotiators 'refused to respond to [the union's] most simple information requests' (*New York Times*, 1993d, p. A11). Trumka contended that the industry's structural changes made it difficult, if not impossible, to evaluate major operators'

[1] Other producers would be included in the group only with the mutual consent of its founding members and the UMW.

performance because data on subsidiaries' earnings, operating costs and profits were unavailable. He wanted to negotiate with the heads of *parent* companies, rather than their subsidiaries, for provisions to prevent future doublebreasting. The UMW offered a 60-day contract extension in exchange for information about members' ownership structures. All BCOA negotiating committee members, except Peabody, accepted the offer (Kilborn, 1993). The UMW began a selective strike that involved 7000 miners at 22 mines in Indiana, Illinois, Kentucky and West Virginia belonging to Peabody's subsidiary, Eastern Associated Coal. After 1700 miners from Consol joined the strike on 1 March and the UMW threatened to call out 50,000 more, the parties agreed to a 60-day cooling off period and miners returned to work (National Public Radio, 1993).

Contract talks resumed in early May but remained deadlocked. Negotiators were now at odds over doublebreasting. The UMW called 2000 miners off the job at BCOA members' mines, including Amax, in Indiana and Illinois, and 2000 more from West Virginia had struck by mid-May (*New York Times*, 1993b, 1993c). After announcing its impending merger with Cyprus, Amax left the BCOA to bargain independently with the UMW and signed an interim agreement that bound it to the terms of the 1993 NBCWA if the merger failed. In early July, the IBCBA and UMW signed a 1-year interim agreement including language to promote job security and co-operative labour relations to improve working conditions and productivity, and an option to incorporate the 1993 NBCWA's terms once it was concluded (*Roanoke Times and World News*, 1993b). By this time, 16,000 miners in seven states were on selective strike at mines of six of the 44 companies that the BCOA represented (DLR, No. 240, p. AA-1). The strike continued until, in December 1993, 65% of the UMW membership ratified a 5-year contract covering 60,000 members.

The settlement included a \$1.30-an-hour raise over a 3-year period, \$500 back-to-work bonuses for strikers, an immediate 50 cents-per-hour raise retroactive to 1 February for non-strikers, and a \$1000 annual bonus for medical deductibles, although miners had to choose between approved health-care providers or make higher co-payments. It also included a memorandum of understanding (MOU) that gave UMW miners bidding rights at signatory companies' non-union mines, which entitled laid-off UMW members to 60% of all new jobs created at an operator's existing, new or newly acquired operations. These terms applied to the parent company *and all* of its subsidiaries and affiliates. The first three of five new openings had to be filled with laid-off union miners who bid for positions based on seniority. At least one in three applicants had to have performed the job bid for within the last 3 years. Finally, the contract called for institution of a Labour Management Positive Change Program to improve industry labour relations that would establish a jointly administered fund to support research to improve workplace harmony and industry competitiveness.

4.4. Implications of developments in the early 1990s

Multinational conglomerates' increasing control over both the domestic and international soft coal supply in the 1990s intensified the market pressures that had plagued the US industry in the 1980s. Growing output from conglomerates' new mines abroad, where miners worked in unsafe conditions for substantially lower wages and no benefits, kept prices in domestic and foreign markets low, and unionised, less diversified US operators under constant pressure to further reduce costs to protect returns on investment. Rising soft coal output in the global productive system in the face of limited demand, especially for met coal, also enabled major international consumers to begin to set prices for the first time, which created more downward pressure on coal's domestic and international price. These market conditions, however, were less problematic for the multinational conglomerates that helped to create them than for small- to medium-sized US operators without substantial operations abroad. Growing sales and revenues from foreign mines and domestic non-union operations allowed conglomerates to offset lower sales and revenues from their unionised US operations and thus maintain or even increase their returns overall.

In industry labour relations, the result was even greater fragmentation in the bargaining structure as the BCOA, now completely dominated by multinational conglomerates, battled with the UMW and medium-sized US operators for control over industry labour standards. Those operators still vulnerable because of continuing structural change and the specific nature of persistent market problems viewed co-operative labour relations as the least costly (and perhaps least risky) solution to competitive problems. Benefits to be gained from a prolonged impasse only outweighed costs for large multinational conglomerates. Only they were able to underwrite the costs of lengthy impasses over desired concessions, often with returns from relatively new overseas operations where production costs were substantially lower. The final settlement of the 1993 NBCWA after 10 months of selective strikes, however, indicates how important the UMW's bargaining strategy has been to enhancing its relative power and thus its ability to protect its members' labour standards, especially given declining union coverage in the industry. Selective strikes increased the costs of adversarial labour relations to BCOA members beyond what they were willing and/or able to pay. They agreed to contract terms that the union hoped would begin to diminish some of the forces bearing down so heavily on its members—doublebreasting, subcontracting and the growing economic insecurity that they created. It also appears that even the BCOA's most aggressive and powerful operators had begun to consider that more co-operative labour relations might benefit their future market performance more, the costs of co-operation being less than those of continued adversarial relations.

Conclusions

In the 1950s and 1960s industrial consolidation, significant union bargaining power and co-operation between the BCOA's leading operators and the UMW, often characterised and legally challenged as collusive, stabilised labour relations in soft coal and enabled the industry's major producers to overcome market problems during a period of long-term decline (Seltzer, 1985). These forces also produced a centralised bargaining structure that endured until the most recent period of formidable market problems that began in the late 1970s and still continues. During this period, major BCOA operators attempted to regain control over the coal supply through consolidation, most recently on a global scale. However, rather than use this control to enforce union labour standards industry-wide to renew their control over prices, the strategy has been to substitute greater control over production costs for that lost over market prices. Control over supply is now used to undermine union labour standards to increase returns in the face of persistently low coal prices over which major operators increasingly have less control.

By the late 1980s major BCOA operators, powerful multinational mining conglomerates, purposely undercut the competitiveness of their own unionised operations through increased doublebreasting, subcontracting, coal brokering and expanded operations overseas where labour standards were significantly lower. These strategic initiatives contributed to important ongoing changes in the industry's domestic structure, including firms' ownership status, relative sizes, market positions, product mixes and geographic distribution of mines. They also engendered rising unemployment and economic insecurity in local labour markets in coal-producing regions that made such a strategy all the more attractive. At the same time, however, they created divergent interests among major operators as well as between them and the UMW, which influenced their labour relations strategies and relative power. Past sources of cohesion between the major operators dissipated seriously during the 1980s and early 1990s, in many cases moving their interests further and further apart. Consequently, centralised bargaining has steadily disintegrated.

Moreover, the UMW's own strategic responses to these changes designed to protect its members' as well as the industry's labour standards from unrelenting decline—selective strikes, 'me-too' agreements and EESPs—also reflected variations in operators' strategic choices during the period and added to the pressures bearing down on individual firms. These variations fragmented bargaining still further. The UMW's strategic initiatives have also been important to its ability to retain its relative power in negotiations with the BCOA's most powerful members. The union has used growing fragmentation in industry bargaining successfully to increase its leverage with major operators and win contract terms intended to check BCOA members' ability to reduce future union labour standards.

The relative success of the UMW's bargaining strategy in recent years has come in part from its leadership's understanding of changing industrial structure and market conditions and their implications. The UMW has recognised that the scope of union coverage in mining must match that of the scope of production. Union leaders also recognise that the most effective means for protecting the competitiveness of domestic operations and employment security is not reducing union labour standards but improving labour standards globally.[1] Job security provisions in the 1993 NBCWA should improve the UMW's ability to organise new non-union mines and increase union coverage, and thus its ability to set the pattern for industry labour standards domestically. The union also has been very aggressive in organising overseas, which should eventually give it more leverage in setting international labour standards as well. Eliminating the option of improving competitiveness through lower labour standards is expected to put major operators under pressure to explore strategic alternatives such as organisational restructuring to introduce

[1] For a discussion of the union's initiatives in expanding union coverage at home and abroad, see Birecree (1997).

more co-operative social relations of production. Such relations feature employee involvement in decision-making and democratic processes, buttressed by genuine job security. They enhance productive efficiency, price competitiveness and firm performance through real rather than artificial means. The most significant difference between the two approaches is that the former simply maintains or improves returns without any positive change in the technical and social relations of production to enable the firm to respond effectively to continually changing market conditions. The latter involves organisational change that improves operational efficiency and price competitiveness without transferring income away from either workers or consumers. The terms of the 1993 NBCWA indicate that the BCOA's operators may be coming to realise that more co-operative technical and social relations will produce a more favourable benefit-to-cost ratio than continued adversarial relations. It remains to be seen how the agreement affects employment for laid-off miners, the scope of union coverage and the industry's future labour standards. That depends upon how well operators follow contract terms. In the past, they have agreed to terms and then violated or reinterpreted them during the contract term.

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