

ON LABOR'S RIGHT TO STRIKE

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I. Background and Hypothesis

Labor's right to strike is traditionally viewed as a right which benefits the striking laborers at the expense of the industry hiring them. It must be observed, however, that the bargaining power of labor is severely limited. Industry-wide bargaining with a labor union by all of the firms in an industry was permitted legislatively pari passu with the strong pro-union legislation of the 1930's. This Depression legislation essentially established a bilateral monopoly between organized labor and business.

Following the bargaining theory of Schelling (1963) and Thompson-Faith (1978), one party in a bilateral monopoly obtains essentially all of the surplus, the party which makes the first price commitment. Several reasons exist to support the view that industry typically wins over labor in the competition to make a prior wage commitment. One stems from the fact that the current members of a labor union, in contrast to the current owners of a firm, are unable to capture all of the future returns of a distributional victory over business in a contest to see which is first to establish a viable organizational form capable of making fixed wage commitments. More directly, the democratic organizational structure imposed on the great majority of union negotiators puts them at an extreme disadvantage in dealing with business leaders (who do not have to present union contracts to the stockholders for ratification) in that the union members can easily overturn any attempt at a fixed wage commitment by the union negotiators. (For an elaboration and related application of

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the inability of democracy to effect substantial commitments, see Thompson (1979).)¹ Empirical evidence for the conclusion that management usually wins is provided by the studies of union influence in the classic book of H. Gregg Lewis (1963). Finally, a striking bit of recent evidence is found in the U.S. coal industry, commonly acknowledged to face one of the strongest unions in the Country (Lewis' estimates have it the most effective union of those studied). In 1974-75, after the producers' average price of coal had just jumped, apparently permanently, by at least 300%, coal miners won (with lengthy negotiation and a prolonged strike) less than a 17% wage increase for the succeeding year, whereas the wage increase which would have been achieved if the coal miners had a textbook labor monopoly would have exceeded 300%! Indeed, total coal mining profit had jumped by over 500% from its average '72-'73 level to fiscal year 1976.²

A question then arises as to why strikes by labor have persisted over the last several decades in most of the free world. The answer proposed here is that strikes persist primarily for the benefit of the unionized industry. The industry, by initially offering sufficiently low wages, induces a strike decision by a union. The lower level of industry output during the strike may easily induce a greater industry capital value through higher prices of the outputs produced in non-strike locations or time periods.

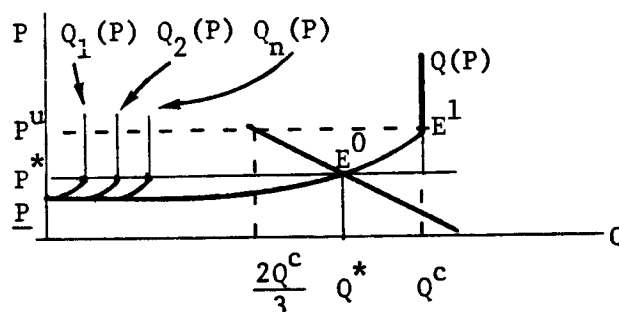
¹The case of unions selling labor to government agencies or heavily regulated industries appears to be particularly complex. Here, there is no longer a good reason to believe that workers will lose the bargaining game to their employers. For the sensitivity of public employers to both the interests of the laborers (Rees, 1977, Ch. 12) and to democratic forces substantially reduces their abilities to make fixed wage commitments unfavorable to the laborers. Perhaps this is why strikes against public agencies are often prohibited by law.

²Industry profits were estimated by taking the total earnings of the top eight coal producers having more than 60% of their 1975 earnings coming from coal sales. The source was Standard and Poor's (1976), and the exact percentage increase in earnings was 569%.

II. The Underlying Economic Theory

If the short-run competitive outputs of the firms are sufficiently close to full capacity, and the product has a sufficient degree of intertemporal demand substitutability to its owners, then an industry-wide strike will increase profits. Figure I illustrates an extreme case in which there are (1) perfectly inelastic short-run marginal cost curves for all firms once outputs are sufficiently above the competitive equilibrium outputs and (2) infinitely elastic marginal cost curves at a certain cost, \underline{P} , which is slightly below the competitive equilibrium price.

FIGURE I.



P^* and Q^* are stationary, competitive equilibrium prices and quantities of the product per period, $Q_i(P)$ describes the one-period supply curve of the i th firm, $i=1, \dots, n$, and $Q(P)$ describes the corresponding industry supply curve. The industry's capacity rate of output is Q^c , which we assume to be less than $3Q^*/2$. We also assume that there are three periods in the model. The extreme case of an infinite elasticity of intertemporal substitution implies that if we reduce the quantity supplied in one period at a given price, we will correspondingly add the same absolute change to the sum of the quantities demanded in the other periods. Now consider a reduction to zero in the quantity supplied by the industry in the middle period. At the same set of relative prices, this implies an increase in the sum of the demands in other two periods by an amount equal to Q^* . Since the cumulative demand for the commodity at P^* is still

3Q* while the cumulative supply is now only 2Q*, and since arbitrage will keep the price constant in all three periods, price must rise in all three periods until the sum of the quantities demanded at the new set of relative prices equals the cumulative quantity supplied. On Figure I, this is shown by a decrease in average output per period to $2Q^C/3$ and an increase in price to P^u . The attendant change in total profits is two times the area $P^u P^* E^0 E^1$, minus the smaller area, $P^* \underline{P} E^0$.

The resulting monopoly-type gain that accrues to the industry gives it an incentive to support labor's right to strike and periodically offer initially below-competitive wages at wage-bargaining sessions in order to induce strikes. To the extent that workers suffer net economic losses during the strike periods, the industry must compensate them with above-competitive payments in order to maintain the union. That is, the total surplus received by labor must be at least at a competitive level (which is above the level that would be established by an industry monopoly or monopsony) in that it would otherwise pay the union to disband and allow competition to rule. However, under our above assumption on cost-curves, with labor supply prices built into the curves, this presents no problem.

A similar argument applies to industries which are negotiated with and struck on a firm-by-firm basis. The strike-induced reduction in the output of a single firm in the industry will, when the other firms have sufficiently inelastic short-run supply curves at above-competitive outputs and there is sufficient substitutability in demand between the outputs of the various firms in the industry, raise industry prices to where total industry profits are increased. While the other firms will generally have to compensate the struck firm, say by allowing themselves to be struck in the future, such cooperative behavior is not illegal. In the U.S. airline industry, where such interfirm cooperation appears in an explicit, observable form, the frequency and duration of strikes is highly correlated with the existence of such cooperation

(Hagburg and Levine (1978)). While implicit cooperation may well be suspected in several other industries, like the auto industry, where industry-wide bargaining is not explicit but strikes occur on a revolving firm-by-firm basis, direct empirical analysis is difficult here. Nevertheless, we shall, in the analyses below, find several tests of our general cartelization hypothesis which do not require observations on the nature of interfirm cooperation. Before specifying these tests, it is well to distinguish our theory from an alternative, perhaps more obvious, theory of how an industry might use a union for cartelization purposes.

III. An Alternative Theory of Industrial Cartelization through Unionization

An alternative method of industrial cartelization via a union is to contract to pay significantly above-competitive hourly wage rates but collect correspondingly high lump-sum payments from the workers. It is doubtful, however, following the theory of Stigler (1964), that there is sufficient policing information to enforce significantly above-competitive hourly wage rates. Moreover, if union wages were so set, then we would observe significant lump-sum payments from union workers or unions to industry. But we observe the opposite. Union pension and medical plans and other fringe-benefit payments are typically substantially independent of hours worked. Lump sums go from industry to unions.³ And this is exactly what we would expect if our strike-cartel theory were correct and the negotiated hourly wage

³While an agreed-upon under-payment for non-overtime hours of work would represent a possible form of lump-sum payment to industry, such an under-payment, when not entirely subverted by non-pecuniary wage adjustments, could also represent an essentially competitive technique for rewarding unusually productive workers and varying the average money wage rate in response to industrial fluctuations occurring within the contract period. In any case, collectively bargained overtime wage patterns in the U.S. have not substantially deviated from the federal standard of time-and-a-half for overtime beyond forty hours per week set by the Fair Labor Standards Act of 1938 and therefore have left the typical union laborer with a normal marginal nominal wage equal to his non-overtime, intramarginal nominal wage (e.g., Beal and Wickersham, 1963, Rees, 1977, Hagburg and Levine, 1978).

represented an ineffective price control, one whose real effects are insignificant because of competitive quality changes and non-pecuniary payments. For, with hourly union wages representing an ineffective price control, union workers in our strike-cartel theory would have to be compensated for their strike time with lump-sum payments rather than higher hourly wages.

If it is conceded that the union's hourly wage level is an ineffective price-control and also that the union-shop has succeeded in replacing the restrictive, closed shops of the past with an essentially free-entry device, then the hypothesis that unions of non-striking laborers have no independent monopoly influence of any kind must also be immediately conceded. This is because, whatever the contract of the non-striking union laborers, entry into the union shops and nonpecuniary wage variations would always work to assure a free market solution.

IV. Tests and Alternative Hypotheses

If labor's right to strike were the source of indirect cartel benefits to industry which we are hypothesizing, and industry were more aware of this than labor, then the right would be relatively weak when and only when laws against direct cartels were relatively weak.⁴ In fact, strike power to unions in large, oligopolistic industries did not arise in the United States until after the establishment of effective anti-trust laws in the 1910s and 1920s (Thompson-Faith, 1979). That is, large, oligopolistic industries did not concede the right to strike to labor unions (and regulatory power to government bureaucrats) until the 1930s, when anti-trust laws had ruled out what had been, for them, superior forms of cartel organization. In naturally competitive industries -- where firms are too small to make oligopolistic communication practicable even in the absence of statutory anti-trust laws -- the antitrust laws of the early twentieth century had little effect.

⁴We are assuming here, and will assume for the remaining discussion, that business and labor interact politically to evolve laws that are Pareto optimal from the standpoint of their individual preferences, preferences which may well be based on inconsistent or incorrect perceptions of the world. Support for this assumption on the nature of political interaction is found, for example, in Thompson (1979).

If our hypothesis is correct, then some of these naturally competitive industries -- namely those with substantial short-run capital constraints -- would have evolved striking labor unions even before the 1930s. In fact, the successful unions in the private-sector prior to the 1930s were concentrated in notoriously competitive industries (see e.g., Peterson, 1963, or Rees, 1977, Ch. 4). These were the garment, construction, coal, entertainment, and printing industries. Further consideration of the list of industries will reveal them all to be industries with substantial short-run capacity constraints.

Our theory can be similarly used to explain the observation that trade unions in these competitive industries experienced their most rapid growth during the mid-19th century, immediately following the shift away from state-provided mercantile protection (e.g., Macdonald, 1976, Peterson, 1963). This observation would be extremely difficult to explain without our theory because the intellectual justification for the rejection of mercantilism was, as we all know, a rejection of all concentrations of economic power and thus of labor unions and the trade associations that immediately arose to "meet the challenge" of the new unions (Macdonald). Moreover, the acknowledged leader in the move toward laissez faire thought and policy, England, was also the leader in pro-union legislation (Macdonald).

As indicated above, if our hypothesis is true, we would expect observed strikes to be concentrated in industries in which there is (1) either a high intertemporal rate of substitution for the products of the industry or a high interfirm rate of substitution along with firm-by-firm strikes and (2) a normal rate of plant operation which is close to the maximum possible rate. The classic study of Kerr and Siegel, 1954, of 1919-1950 data showed that the industries with the highest propensities to strike were in mining, shipbuilding, longshoring, lumber, and textiles,

while the industries with the lowest strike propensities were found in regulated industries, agriculture, and hotel and restaurant service industries. It is quite apparent that there were very high degrees of intertemporal demand substitutabilities and substantial capacity limitations in the high-strike industries. Also, the low degrees of intertemporal substitutabilities in the agriculture and hotel and restaurant service industries, together with the impracticality of firm-by-firm strikes in these industries due to their large numbers of firms, allows us to explain the infrequencies of strikes in these industries. The historic infrequency of strikes in regulated industries can be explained by the historic ability of these industries to use regulation to achieve closer to a first-best monopoly solution. The sharp upturn in strikes in U.S. regulated industries during the 1970s can easily be explained with our theory given the trend away from cartelizing regulation during this period.

The pattern of striking and non-striking industries appears to have remained the same since 1950. Modern day durable-goods industries normally produce near what is commonly measured as "full capacity," e.g., the auto, rubber, coal, and construction industries, and normally have very strong, frequently striking unions. Private service industries in which demand "pents up" and there is a fixed capital equipment limitation on the short-run supply of the services, e.g., private transportation and cosmetic services, also seem to contain exceptionally strong labor organizations. Indeed, it is difficult to find any regularly striking union in the United States whose product does not have these characteristics. As Professor Rees points out (1977, p. 32), almost all modern-day strikes in the private sector occur where substitutes to the lost output during the strike are readily available either from inventories or non-struck plants. Conversely, our theory easily explains the relative weakness of modern unions in the wholesale and retail trades by the fact

that these industries rarely operate at anything close to full capacity and so gain relatively little from a concentration of demand.

A straightforward implication of our theory is that state-owned enterprises, which must share their profits with the public at large, would have relatively little to gain from strikes. Hence, our theory goes a long way toward explaining the relative infrequency of observed strikes in relatively socialistic countries. For example, the study of Ross and Hartman reveals a dramatic post WWII reduction in the extent of strikes in Britain, Germany, and the Scandinavian countries.

Our theory can also be used to explain why parts of the agricultural industry have recently been developing strong unions. Owing to recent cost reductions in refrigerated transportation units, the cumulative demand for certain farm products over an entire production season or longer, has come to replace the weekly demand as the relevant determinant of farm prices. Thus, an agricultural strike in one week of the season will reduce the season's cumulative supply without altering its cumulative demand and significantly raise agricultural prices to the benefit of the farmers.

Another implication of our hypothesis is that strikes would be more likely in times when industry generally is relatively close to full capacity. Thus, if our theory is correct, strikes -- and even the success of unions -- would be procyclical. This observation is borne out in reality, as indicated, for example, in the studies of Rees, 1952, and Ashenfelter-Johnson, 1969. Plausible alternative hypothesis do not appear to exist. The standard argument by the authors of these studies, that labor's bargaining power increases with the demand for labor in an upturn, implies only higher money wages, not a higher frequency of strikes. Indeed, applying the standard theory of unemployment, workers in a boom, believing that slightly above-normal increases in money wages mean above-normal increases in real wages, consider competitive wage offers in a boom to be particularly attractive and should therefore, absent our theory, strike with abnormally low frequency during booms.

Ashenfelter and Johnson have also found that relatively high past growth rates of aggregate real wages reduce the aggregate frequency of strikes in current labor negotiations. They attempt to rationalize this result by arguing that laborers who have recently achieved relatively large wage increases pare down their otherwise unrealistic wage demands, such demands being the sole cause of strikes. But the opposite expectational hypothesis appears to be at least as plausible an assumption. Why shouldn't past successes breed expectations of future successes? Perhaps the most satisfying assumption would be the rational expectations assumption that the extent of worker overvaluation of employer demand prices for labor is invariant to the past rate of growth of real wages. For rational workers, aware of the actual correlation between past and future growth rates of real wages, would not allow a mere increase in the historical growth rates of real wages to mislead them into making systematically erroneous wage demands. For example, the higher inflation rates of recent years has not created a systematic underestimate of current inflation rates. Under either of these latter two expectations assumptions, there would not be a negative correlation between current strike frequencies and past growth rates of real wages given the Hicks-type hypothesis of Ashenfelter and Johnson that strikes are based on the overoptimism of the striking workers. An alternative rationalization of this negative relationship is provided by our theory: A weakening in the employers' ability to collectively bargain with labor, signified by an increase in the growth of aggregate real wages (see section V), will indeed decrease the frequency of strikes under our theory.

Another manifestation of our implication that strikes are more likely when the industry is close to full capacity is found in the fact that contract expirations concentrate during busy seasons of the year. This standard observation is also consistent with the above-criticized labor monopoly hypothesis, the strike being a more "potent weapon" during the busy seasons according to this theory, but inconsistent with the

general Hicksian hypothesis (1966) that strikes are based on the misperceptions of the bargainers, the latter theory suggesting that the bargainers would agree to concentrate their costly bargaining errors into periods of slack demand. But actually neither of these two alternative theories really implies the existence of strikes in the first place. We shall digress a bit in order to expose this weakness in the popular alternative explanations of strikes as bargaining weapons.

If labor had to occasionally "punish" industry in order to ferret out an above-competitive price, there is little reason to believe that the punishment would take the form of a self-denying withholding labor services. On-the-job shirking or semi-legal theft or sabotage is probably a cheaper and more effective punishment. Legal harassment by the union would also not involve forgoing current wage income. Nor would threats of personal violence against industry negotiators, the availability of such violence to labor evinced by its observed use against uncooperative fellow workers. If the strike is a simple demonstration of resolve not to tolerate the current wage, union retraining of its most qualified workers for other, competing occupations would be more convincing and would also not involve the wholesale loss of wages involved in a strike. All of the above threats and demonstrations of resolve are observed in non-union bargaining situations. Why would labor unions concentrate on the dubious technique of withholding its labor services? Other bilateral monopolies, say those which arise when equipment and office leases expire or when a professional athlete's contract expires, have the input owners normally maintain the supplies of their services while bargaining proceeds and other, more efficient punishment and communication devices are employed.

Additional evidence against the standard theory of unions as labor monopolies, is that there are numerous, nonunionized occupations which we would expect to be heavily unionized according to this view of unions. These are occupations with

highly inelastic short-run demands and supplies -- including engineers, draftsmen, secretaries, and so, we like to think, professors.

The low ratio (approximately 1/100)⁵ of striking relative to working hours in U.S. unions overall indicates that our model does not provide a general theory of unions as organizers of laborers. Labor unions are known to provide substantial legal and informational services to their workers and substantial information to industry regarding worker quality. Unions also help to enforce wage scales in an industry and thus help reduce the otherwise significant bilateral monopoly bargaining costs resulting from the firm-specific training of workers and the absence of long-term labor contracts. Nevertheless, the relatively high ratio (approximately 1/10)⁶ of striking relative to working days of the striking workers during a typical year does give support to the theory when applied to unions which actually use the strike weapon in any given year.

We have one more test of our theory against Hicksian theories of labor strikes, which allege that strikes are the result of temporary information differences between workers and firms regarding the demand and supply prices of labor or regarding the ability of the union to carry out a strike threat. If a Hicksian theory applied, the frequency of strikes in a stable union environment following a period of rapid unionization would decrease over time as the information gained from earlier strikes would serve to reduce subsequent information differences. In contrast, our theory suggests that strikes are a planned occurrence and will occur even when each of the bargaining parties has accurate information about the other. Hence, our theory suggests no decrease over time in the frequency of strikes in a stable union environment. In fact,

⁵Source: U.S. Department of Commerce.

⁶Ibid.

we have had a fairly stable union environment in the past 25 years in the U.S., and the frequency of striking relative to working hours over this period displays no evidence of secular decline.⁷ Furthermore, the relationship holds up extremely well under disaggregation. A perusal of the U.S. Department of Labor's 1978 Handbook of Labor Statistics indicates that the industries with by far the largest ratios of work stoppage hours to total hours of employment in the base years of 1956-1960 (viz., the primary metals, rubber and miscellaneous plastics, machinery, transportation equipment, glass and clay products, petroleum refining, fabricated metals, mining and construction industries) were -- with the exception of primary metals -- virtually identical to the industries with by far the largest ratios in the 1972 to 1976 period, the ratios in the later period typically exceeding those in the earlier period. And even the exception reinforces the theory. The primary metals industry (mainly the steel industry), which struck with much greater magnitude than any other industry in the '56-'60 period, induced a rather unique political response to the corresponding steel price increases, setting up a response mechanism that has continued on to the present. The government responded by threatening to punish the steel industry for price increases, mainly by allowing increased foreign imports or imposing various regulatory punishments. This policy has greatly reduced the cartel profit from steel industry strikes, and, as our theory would predict, a dramatic reduction in steel strikes has ensued.

V Longer Run Allocational and Distributional Issues

The long-run benefits to industry of labor unions as a monopoly device appear to be fairly low, as investment and entry would squeeze out much of the short-run monopoly rents. Even so, the unionized industry's long-run structure, which has the industry producing a lower average output with a greater capital input than would simple competition, would still be permanently altered by the short-run profit opportunity. The long

⁷Ibid. Also see Rees, 1977, p. 31.

term effects of labor's right to strike are, rather than monopoly pricing, equivalent to the effects of a subsidy to excess capacity.

Since laborers are also consumers, the insignificant gains they make by having the right to strike in a particular industry according to the above theory is generally more than offset by their consumer losses through the short-run cartelization (and long-run subsidization) of other industries induced by the general right to strike. Hence, according to the above theory, the right to strike generally redistributes away from labor in the aggregate despite a widespread belief to the contrary. But what accounts for this widespread belief? That is, if the evidence so clearly favors the hypothesis that labor's right to strike benefits industry rather than labor, then why has the hypothesis so long escaped specialists in the field of labor economics?

The popular view that labor's right to strike benefits labor apparently stems in large part from the observation that individual firms strenuously resist the unionization of their shops. However, since individual firms prefer to remain outside a cartel in their industry in order to reap the benefits of the higher prices without sharing in the industry's output cutbacks (Stigler), this observation is also implied by a theory in which unions serve only to create cartel benefits for the industry. Another common observation responsible for the popular view is that industry leaders have always expressed strong political opposition to pro-union legislation in the early stages of observed union movements. However, since a strike hurts the unionized firms when they do not add up to a large part of the industry, this observation is also consistent with our strike-cartel theory. Moreover, our theory can explain why the political resistance of business to pro-union institutions largely dries up once a union matures to where it covers a large part of the unionized industry.

Because of the overvaluation of the right to strike by laborers and their intellectual leaders, our general argument does not imply that business as a political interest group has seen that labor's right to strike generates positive net benefits to the industries being struck. It suffices for our argument that business's expected losses from labor's right to strike are below labor's erroneously expected gains from the right. Since business probably perceives the existence of significantly positive effects of strikes on corresponding output prices more accurately than does labor, business probably does regard the right to strike in industries receiving net cartel benefits from strikes as less harmful to them than labor regards it even when both groups believe that the right transfers the same amount of income from business to labor at given output prices. Nevertheless, the overvaluation of the right to strike by laborers and their intellectual leaders is apparently the raison d'être of the right. If there were sufficiently accurate perceptions of its distributional effects, the right to strike, again combining our strike-cartel model, with a political theory developed elsewhere (Thompson, 1979), would not survive our democratic political process. Hence, labor's right to strike, like depression unemployment, may well be a temporary inefficiency which is eventually corrected by sufficient growth in labor's awareness of the economic realities of the situation.

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