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Unionization and Economic Performance: Evidence on Productivity, Profits, Investment, and Growth

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Introduction

Do labour unions advance or hinder the economic performance of firms and the competitiveness of the economy? The answer to this question has significant implications for public policy and the design of labour law. Specifically, the answer to this question provides us with a rationale for either strengthening or weakening labour legislation governing bargaining rights and the organizing of unions. To answer this question, Professor Barry T. Hirsch surveys the evidence from research into the effects of unionization on productivity, profitability, investment, and employment growth.

Professor Hirsch surveys the literature on unionization and economic performance—mostly from the United States but also from Canada, Japan, and Britain—and concludes that, on balance, the effects of unions upon productivity and productivity growth are small; they do not offset the cost increase resulting from higher union wages. The evidence presented in his paper clearly indicates that unionization leads to lower profitability. Indeed, whether one studies the impact of unions on profitability at the level of the industry, the firm, or the line of business, unionized firms have profits that are 10 percent to 20 percent lower than the profits of non-union firms. Further, the evidence from Britain also suggests that closed-shop unions have a stronger negative impact on profitability.

Recent research also shows that union monopolies reduce investment in physical capital and in research and development (R&D) and other forms of innovative activity. In a study conducted by Professor Hirsch of 500 publicly traded American manufacturing firms, the capital investment of an average unionized firm was 6 percent lower than that of a comparable nonunion firm. Hirsch also found that the average unionized firm made 15 percent lower annual expenditure on R&D. A

forthcoming Canadian study using aggregate data also finds that unions reduce investment in physical capital by a significant margin.

It is not surprising, given higher wages and lower levels of profitability and investment in unionized firms, that employment growth is markedly lower as well. Studies from Canada, the United States, and Britain on the effects of unionization upon employment show the negative impact of unionization upon employment growth. In the case of Canada, a study conducted in 1993 by Professor Richard Long confirms the international evidence. This study examined the performance of 510 manufacturing firms during the period from 1980 to 1985 and found that the median growth rate of non-union firms during this period was 27 percent while the growth rate of unionized firms was zero. After making adjustments in his analysis to account for the fact that unionized firms tend to be larger than non-unionized firms and found in declining industries, he concluded that unionized manufacturing firms grew 3.7 percent slower than comparable non-unionized firms; and unionized firms in the non-manufacturing sector grew 3.9 percent slower than their non-union counterparts.

In sum, the evidence from research indicates that unions tend to increase wages but not productivity, reduce profitability, reduce investment in physical capital and R&D, and, most importantly, lower the rate of employment growth.

Professor Hirsch does not specifically address Canadian issues in labour law. Current federal and provincial labour codes in Canada make provision for exclusive representation. In practice, this means that unions with sufficient worker support have a legal monopoly granted to them. In addition, under most provincial labour codes, it is relatively easy to unionize a place of work;

hence there is a higher rate of unionization in Canada than in the United States.

On the basis of the comprehensive evidence presented in this paper, it is imperative that as a matter of public policy we liberalize provincial and federal labour laws so as to lessen the rigidities that characterize the Canadian labour market and cause its negative impact upon economic prosperity. In other words, as the author of this study puts it: "Workplace outcomes would be better determined by market forces and decentralized communications and bargaining in union and non-union workplaces." In the final analysis, reform of the labour market and competitive product markets are critical to neutralizing the adverse effects from union bargaining power. A

higher standard of living for Canadian workers is best achieved by creating a competitive economy and through enhanced productivity growth and not by protecting the monopoly power of labour unions.

Professor Hirsch has worked independently of The Fraser Institute. His conclusions and work do not necessarily reflect the views of The Fraser Institute and its directors. The Institute does, however, welcome his contribution and hopes that it will shed light on this important topic. Public responses to this document should be addressed to Fazil Mihlar at The Fraser Institute.

—*Fazil Mihlar*

Unionization and Economic Performance

Central to policy debate regarding labour law reform and the appropriate role for labour unions in an economy is the effect of unionization on economic performance. There exists widespread support for a legal framework that permits the exercise of a collective voice representing workers. The impact of unions on economic performance, however, bears heavily on the degree to which public policy should facilitate union organizing and bargaining power. There has been extensive study in recent years, particularly in the United States, of the relationship of unionization to productivity, profitability, investment, and employment growth. The broad pattern that emerges from these studies is that unions significantly increase compensation for their members but do not increase productivity sufficiently to offset the cost increases from higher compensation. As a result, unions are associated with lower profitability, decreased investment in physical capital and research and development (R&D), and lower rates of employment and sales growth. As long as unionized companies operate in a competitive environment, weak economic performance in union

firms relative to nonunion firms and sectors implies a continuing decline in membership, in the absence of changes in labour law favourable to union organizing. Yet the deleterious effects of unions on economic performance undermine rather than buttress the case for governmental regulations and policies that promote union strength.

This *Public Policy Source* examines the evidence on unions and economic performance. It presents, first, a simple economic framework for interpreting union effects on performance and examines briefly the difficult issue of measurement. It then examines the empirical evidence: studies of union effects on productivity, profits, investment, and growth. Emphasis is on outcomes in the United States, where this topic has been studied most extensively, although results from Canada, Britain, and elsewhere are briefly mentioned. Following a summary of the empirical evidence, the paper explores implications for public policy and labour law.

A Framework for Analysis

A useful starting point in our assessment of unions and performance is the framework popularized by Freeman and Medoff (1979, 1984), who contrast the “monopoly” and “collective-voice” faces of unionism. Standard economic analysis emphasizes the monopoly face. Unions are viewed as distorting labour (and product) market outcomes by increasing wages above competitive levels. Unions distort relative factor prices and factor usage (producing a deadweight welfare loss), cause losses in output through strikes, and lower productivity by union work

rules and reduced management discretion. More recently, economists have emphasized unions’ role in taxing returns on tangible and intangible capital, and examined empirically union effects on profitability, investment, and growth. It is this latter literature that is emphasized in what follows. In both the “old” and “new” literatures, union bargaining power or ability to extract gains for its members is determined primarily by the degree of competition or, more specifically, the economic constraints facing both the employer and union.

The other, not necessarily incompatible, face of unions is what Freeman and Medoff refer to as “collective voice/institutional response.” This view emphasizes the *potential* role that collective bargaining have in improving the functioning of internal labour markets. Specifically, legally protected unions may more effectively allow workers to express their preferences and exercise “collective voice” in the shaping of internal industrial relations policies. Union bargaining may be more effective than individual bargaining in overcoming workplace public-goods problems and attendant free-rider problems. As the workers’ agent, unions facilitate the exercise of the workers’ right to free speech, acquire information, monitor employer behaviour, and formalize the workplace governance structure in a way that better represents average workers, as opposed to workers who are more skilled and therefore more mobile or hired on contract from the outside the plant. In some settings, the exercise of collective voice should be associated with higher workplace productivity, an outcome dependent not only on effective collective voice but also on a constructive “institutional response” and a cooperative labour-relations environment. The “monopoly” and “collective-voice” faces of unionism operate side-by-side, with the importance of each being very much determined by the legal and economic environment in which unions and firms operate. For these reasons, an assessment of unions’ effects on economic performance hinges on empirical evidence.

Let us begin with an analysis of unions’ effects on performance when collective bargaining is introduced into what is otherwise a competitive environment. In the long run, profitability among firms in industries characterized by relatively easy entry of firms (e.g., perfect competition or monopolistic competition) tend toward a “normal” rate of return or zero economic profits (i.e., the opportunity costs of resources are just covered). Consider first a single unionized firm in what is otherwise a competitive industry with

nonunion firms. The bargaining power of a union organized at a single firm (or more generally, a small portion of the industry) is severely limited unless it can help create value as well as tax returns. A union wage premium—that is, higher compensation for a union worker than an otherwise identical worker in a nonunion firm—must be offset by a productivity increase in order that costs do not increase and profits decrease. Note that in a competitive setting cost increases cannot be passed forward to consumers in the form of higher prices. So, in the absence of a productivity offset, unions should have little bargaining strength in a highly competitive industry. Substantial union wage increases in a competitive setting will lower profitability, investment, employment, output, and, consequently, union membership.

The situation changes somewhat as we allow a relatively large proportion of an industry to be unionized. In this situation, union wage increases (in the absence of increases in productivity) increase costs among many firms in the industry, so that no individual union firm is at a severe competitive disadvantage. In this case, costs can be more easily passed forward to consumers through price increases. But such a situation is difficult to sustain in the very long run, as long as entry and expansion of nonunion companies is relatively easy or the products produced are tradeable in the world market. In short, it is difficult for a union to acquire and sustain bargaining power and membership in a competitive, open-economy setting, in the absence of positive effects upon productivity that offset increases in compensation.

Unions have considerably greater ability to organize and to acquire and maintain wage gains and membership in less competitive economic settings. Such settings include oligopolistic industries in which entry is difficult owing to economies of scale or limited international competition, or regulated industries in which en-

try and rate competition is legally restricted. An example of the former includes the American motor vehicle industry prior to the influx of European and Japanese imports (and, more recently, of foreign-owned nonunion assembly plants in the United States). Examples of the latter include the American motor carrier and airline industries prior to deregulation, as well as the current United States Postal Service (Hirsch 1993; Hirsch and Macpherson forthcoming; Hirsch and Macpherson 1996; Hirsch, Wachter, and Gillula 1997).

If there is no offsetting productivity effect, a crucial question becomes the source from which union wage gains derive. Were it entirely a tax on monopoly profits, union rent-seeking might be relatively benign. But in most economic settings, monopoly profits are relatively small or short-lived. What appear to be abnormally high profits often represent the reward to firms for developing new products or for introducing cost-reducing production processes, or simply the quasi-rents that represent the normal returns to prior investment in long-lived physical and R&D capital. These profits serve an important economic role, providing incentive for investment and attracting resources into those economic activities most highly valued. To the extent that unions tax the quasi-rents from long-lived capital, union wage increases can be viewed as a tax on capital that lowers the net rate of return on investment. In response, union firms reduce investment in physical and innovative capital, leading to slower growth in sales and employment and a shrinkage of the union sector (see Baldwin 1983; Grout 1984; Hirsch and Prasad 1995; Addison and Chilton 1996).

Although greatly over-simplified, the discussion above provides a reasonable framework for viewing the effect of unions on economic performance. Ultimately, empirical evidence is required to assess the relative importance of the monopoly and collective-voice faces of unionism. It is worth not-

ing two points at the outset, however. First, the effects of unions upon productivity and other aspects of performance may differ substantially across industries, time, and countries. This is hardly surprising given that both the collective-voice and monopoly activities of unions depend crucially on the labour relations and economic environment in which management and labour operate. Second, union effects are typically measured by differences in performance between union and nonunion firms or sectors. Such differences do not measure the effects of unions on aggregate or economy-wide economic performance as long as resources are free to move across sectors. For example, evidence presented below indicates that union companies in the United States have performed poorly relative to nonunion companies. To the extent that output and resources can shift between sectors, poor union performance has led to a shift of production and employment away from unionized industries, firms, and plants and into the nonunion sector. Overall effects on economy-wide performance have been relatively minor. Most visible, of course, has been the rather precipitous decline in private sector unionism.

What has been true for the United States since the 1980s, however, largely reflects the high degree of competitiveness in the American economy, with the increasing importance of trade, deregulation of important industries, technological change that has reduced the use of production labour, relatively flexible labour market norms, and an economic and legal environment not overly amenable to union organizing and bargaining. The recent experience in the United States was not always the case, nor need it represent the current experience in other countries. The important point here is that the role of unions in society and the effects of unions upon performance are very much driven by the competitiveness of the environment in which firms and unions must operate. An obvious policy implication is that those concerned with economic

performance should focus on policies affecting economic competitiveness and resource mobil-

ity in general and not only on the structure of labour law in which unions operate.

Measurement

The measurement of union effects on economic performance is not straightforward. Union effects on economic performance must be estimated using imperfect data and statistical models and techniques that permit alternative interpretations of the evidence. Because of these limitations, one must carefully assess both individual studies and the cumulative evidence before drawing strong inferences regarding unions' causal impact on economic performance.

Most studies utilize cross-sectional data (at single or multiple points in time), measuring differences in outcomes (e.g., productivity) across firms or industries with different levels of union density (i.e., the proportion of unionized workers in the sample being considered). Estimates are based on regression analysis, which controls or accounts for other measurable determinants of performance. The key question is whether, after accounting for other determinants, one can conclude that the estimated difference in performance associated with differences in union density truly represents the causal effect of unions.

There are (at least) three important reasons why one must exhibit caution in drawing inferences from such statistical analysis. First, there are numerous other factors correlated with performance besides unionization. If one fails to control for an important productivity determinant *and* that factor is correlated with union density, then one obtains a biased estimate of the causal effect of unionism on performance. For example, older plants tend to have lower productivity, and union density is higher in older

plants. If a study were to estimate the union impact on productivity among plants, the inability to measure and control for plant age (or its correlates, such as age of capital) would mean that part of the effect of plant age on productivity would be included in the (biased) estimate of the effect of unions upon productivity.

A second reason for caution is that unionization is not distributed randomly across firms or industries or may be determined simultaneously with the performance variable under study; that is, causality may run from performance to unionization as well from unionism to performance. For example, unions may be most likely to organize and survive in firms that are most profitable and, in this case, standard estimates of union effects on profitability (which are almost universally negative) tend to understate the deleterious effects of unions on profits, since unions form where profits (prior to the union tax) tend to be higher.

A third reason for caution in making inferences is that even where one has obtained reliable estimates of union effects for the population being studied (e.g., a particular industry, time period, or country), it is not clear to what extent these results can be generalized outside that population. For example, the most reliable estimates of the effects of unions upon productivity are based on specific industries (e.g., cement, sawmills) where output is homogeneous and can be measured in physical units rather than by value added. Yet, it is not clear to what extent the results in, say, the western sawmill industry can be generalized to the economy as a whole. Indeed, the economic

framework outlined previously suggests strongly that union effects should differ across time, establishment, industry, and country.¹

A number of studies combine cross-sectional and longitudinal (i.e., time-series) analysis, typically examining changes in performance over time owing to levels in union density or changes in union status. Recent studies, for example, have examined changes in firm market value (measured by stock price changes), investment, or employment following the announcement of union representation elections. A limited number of studies have examined changes in productivity or other performance measures following unionization of a plant. The advantage of longitudinal analysis is that each individual firm (or plant) forms the basis for comparison—that is, a firm’s performance once unionized is compared to that same firm prior to unionization. In this way, unmeasured, firm-specific, attributes that are fixed over time are controlled for in estimating the causal effect of unionization. Despite this considerable advan-

tage, longitudinal analysis can have severe shortcomings since it assumes that changes in union status are not determined by changes in the performance measure under examination, and the period of change under study must correspond closely to the period over which a union impact occurs. For example, “events” studies examining the effect of certification elections on a firm’s market value must be careful to compare market value from a period prior to the expectation of a union election with a period in which the full effects of the election on value have been anticipated (i.e., reflected in the stock price).

Evidence on effects of unions on economic performance is analyzed below. Because of inherent evidential and methodological limitations of individual studies, strong conclusions are drawn only where there exists a study of unusually high quality, where there exists a clear correspondence between theory and evidence, or where there are a relatively large number of studies providing similar results.

Evidence: Unions’ Effects on Productivity, Profits, Investment, and Growth

Productivity and productivity growth

Critical to the assessment of labour unions, performance, and labour law is an understanding of unions’ effects on productivity.² If collective bargaining in the workplace were systematically to increase productivity and to do

so to such an extent that it fully offset compensation increases, then a strong argument could be made for policies that facilitate union organizing. A pathbreaking empirical study by Brown and Medoff (1978), followed by a body of evidence summarized in Freeman and Medoff’s widely read *What Do Unions Do?* (1984), made what at the time appeared to be a persuasive case that collec-

1 The statistical issues discussed above are more formally known as omitted variable bias, selection and simultaneity bias, and external validity.

2 For purposes here, productivity simply means output for given levels of inputs. A firm that is more productive than another can produce more output using the same combination of inputs or, equivalently, produce the same output using fewer inputs. When we refer to an increase in productivity attributable to unions, we mean a real shift in the marginal product schedule, and not just a movement up the labour demand curve (implying a higher capital-labour ratio) in response to a higher wage. On this issue, see Reynolds 1986; Addison and Hirsch 1989; Addison and Chilton 1993.

tive bargaining in the United States is, on average, associated with substantial improvements in productivity. Productivity increases, it was argued, are effected through the exercise of collective voice coupled with an appropriate institutional response from management. According to this view, unions lower turnover and establish in workplaces more efficient governance structures that are characterized by public goods, complementarities in production, and long-term contractual relations.

The thesis that unions significantly increase productivity has not held up well. Subsequent studies were as likely to find that unions had negative as opposed to positive effects upon productivity. A large enhancement of productivity because of unionization is inconsistent with evidence on profitability and employment. And, increasingly, attention has focused on the dynamic effect of unionization and the apparently negative effects of unions on growth in productivity, sales, and employment.

A typical union productivity study estimates Cobb-Douglas or (rather less restrictive) translog production functions in which measured outputs are related to inputs. To fix the discussion, below is a variant of the Cobb-Douglas production function developed by Brown and Medoff (1978):

$$(1) \quad Q = AK^\alpha (L_u + cL_n)^{1-\alpha},$$

where Q is output, K is capital, L_u and L_n are union and nonunion labour respectively, A is a constant of proportionality, and α and $1-\alpha$ are the output elasticities with respect to capital and labour. The parameter c reflects productivity differences between union and nonunion labour. If $c > 1$, then union labour is more productive, in line with the collective-voice model; if $c < 1$, then union labour is less productive, in line with conventional arguments concerning the deleterious impact of such things as union work rules and constraints on merit-based wage dispersion. Manipulation of

equation (1) yields the estimating equation:

$$(2) \quad \ln(Q/L) \approx \ln A + \alpha \ln(K/L) + (1-\alpha)(c-1)P,$$

where P represents proportion unionized (L_u/L) in a firm or industry or the presence or absence of a union at the plant or firm level (a zero/one categorical variable). Equation (2) assumes constant returns to scale, an assumption relaxed by including a $\ln L$ variable as a measure of establishment size. The coefficient on P measures the logarithmic productivity differential of unionized establishments. If it is assumed that the unions' effect upon productivity solely reflects the differential efficiency of labour inputs, the effect of union labour upon productivity is calculated by dividing the coefficient on P by $(1-\alpha)$.

Limitations attach to the production function test. As Brown and Medoff note, the use of value added as an output measure confounds price and quantity effects, since part of the measured union productivity differential may result from higher prices in the unionized sector. Not surprisingly, estimated effects of unions upon productivity tend to be lower when price adjustments are made (e.g., Allen 1986b; Mitchell and Stone 1992) and are rarely large in studies where Q is measured explicitly in physical units. Union firms can more easily pass through higher costs when they operate in product markets sheltered from non-union and foreign competition. Use of value-added, therefore, is most likely to confound price and output effects in aggregate analyses relating industry value-added to industry union density. It is less of a concern in firm-level analyses that measure firms' union status and industry union density (Clark 1984; Hirsch 1991a). Not surprisingly, these studies find small, generally negative, effects of unions upon productivity.

One issue discussed in this literature concerns the fact that firms facing higher wages must be more productive if they are to survive in the very long run. Hence, the unions' effect upon productivity

is not being measured across a representative sample of firms since union firms failing to increase productivity and survive are least likely to be observed. Measurement of union productivity differentials from among a sample of surviving firms may therefore overstate the effect of unions upon the productivity of a representative firm. In fact, union firms are less likely to fail than non-union firms, although this is because such firms are older and larger and not due to their union status. Once one controls for age and size, union status appears to have surprisingly little effect on firm failure rates, although unionization is associated with slower employment growth (Freeman and Kleiner 1994; Dunne and Macpherson 1994). The suggestion here is that unions will push firms to the brink of failure but will not shove them over the cliff.

The (rightfully) influential Brown and Medoff (1978) paper is the unavoidable starting point for any summary of the evidence about the effect of unions upon productivity. The assertion that unions in general raise productivity rests almost exclusively on the results of their study. Using aggregate two-digit manufacturing industry data cross-classified by state groups for 1972, Brown and Medoff obtain coefficients on union density of from .22 to .24, implying values (obtained by dividing the union coefficient by $1-\alpha$) for $c-1$ of from .30 to .31. In short, they conclude that unions increase total factor productivity by more than 20 percent.

The potential measurement problems previously discussed apply with some force to the Brown-Medoff study. Despite the care with which their paper is executed, subsequent re-

search has proven their results to be neither plausible nor consistent with other evidence. As argued by Addison and Hirsch (1989), parameter estimates from Brown and Medoff would most likely imply an increase in profitability associated with unionism, contrary to the rather unambiguous evidence of lower firm and industry profitability resulting from unionization. Wessels (1985) casts further doubt on the plausibility of high estimates of productivity increases due to unionization by showing that it is difficult to reconcile the productivity and wage evidence in Brown and Medoff with evidence on employment. Offsetting increases in productivity due to unionization and relative labour costs should imply substantial decreases in union employment (holding output constant) as firms shift toward labour-saving capital. Yet unions appear to have little effect on capital-labour ratios (Clark 1984).³

There are surprisingly few manufacturing-wide or economy-wide productivity studies and, except for Brown and Medoff, none reports consistent evidence of an overall positive effect of unions upon productivity.⁴ Clark (1984) provides one of the better broad-based studies. He uses data for 902 manufacturing lines-of-business from 1970 to 1980 to estimate, among other things, value-added (and sales) productivity equations. He obtains marginally significant coefficients on the union variable of from $-.02$ to $-.03$, in sharp contrast to the results in Brown and Medoff. The Clark study has the advantage of a large sample size over multiple years, business-specific information on union coverage, and a detailed set of control variables (although the union coefficient is little affected by inclusion of the latter). In Clark's separate two-digit industry regressions,

3 Hirsch and Prasad (1995) show that if a union tax on the return to capital provides the source for wage gains, unions have an indeterminate effect on the capital-labour ratio.

4 Morgan (1994) uses aggregate cross-sectional manufacturing data across time. Although she finds estimates highly similar to Brown-Medoff for the years around 1972, the union coefficient declines steadily over time and is negative during the 1980s. It is unlikely that such large changes entirely reflect a true trend in the effect of unions upon productivity. Rather, these results illustrate the difficulty in estimating the productivity effect from aggregate industry data, since unionism is correlated with other industry-level determinants of productivity, some of which show trends over time.

positive effects by unions upon productivity are found only for textiles, furniture, and petroleum. A similar study was conducted by Hirsch (1991a), who used data on over 600 publicly traded manufacturing-sector firms for the years 1968 to 1980. (Union coverage data for 1977 was collected from these companies by the author.) Hirsch finds a strong negative relationship between union coverage and firm productivity when including only firm-level control variables, but the union effect drops sharply after including detailed industry controls. Moreover, the results prove fragile when subjected to econometric probing. Hirsch interprets his results as providing no evidence for a positive economy-wide effect of unions upon productivity, and weak evidence for a negative effect. As in the Clark study, Hirsch finds considerable variability in the union to productivity relationship across industries. Based on the extant evidence to date, a reasonable conclusion is that the average effect of unions upon productivity is small and, if anything, more likely to be negative than positive.⁵

Results from productivity studies based on firms within a single industry produce a rather varied picture. The primary advantage of industry-specific studies is that many of the econometric problems inherent in studies across a whole economy or the whole manufacturing sector are avoided. Output can be measured in physical units rather than value added, information on firm-level union status is more readily available, and more flexible functional forms can be reliably estimated. From a methodological perspective, among the best analyses are Clark's studies of the cement industry (Clark 1980a, 1980b), Allen's analysis of the construction industry (Allen 1986a, 1986b), and Mitchell and Stone's (1992) analysis of western sawmills. These studies are notable for the use of physical output measures, for allowing production-function parameters to

vary between union and nonunion plants, in controlling for firm effects through the study of plants changing from nonunion to union status, in introducing a supervisory labour input measure, and in separating union effects on value-added into its price and output components (not all of the studies do each of these things). Each of the studies provides a wide array of evidence. Clark finds positive, albeit small, effects of unions upon productivity among cement plants. Allen (1986b) finds positive union effects in large office building construction and negative effects in school construction. Similarly, Allen (1986a) finds positive and negative union effects upon productivity, respectively, in privately and publicly owned hospitals and nursing homes. Mitchell and Stone find negative effects of unions upon output in sawmills, following appropriate adjustments for product quality and raw material usage. Although methodological advantages of the industry-specific studies are achieved at the price of a loss in generality, they do increase our understanding of how unions affect the workplace.

Despite substantial diversity in the literature about union productivity, several systematic patterns are revealed (Addison and Hirsch 1989). First, effects upon productivity tend to be largest in industries where the union wage premium is most pronounced. This pattern is what critics of the production function test predict—that union density coefficients in fact reflect a wage rather than a productivity effect. These results also support a “shock effect” interpretation of unionization, whereby management must respond to an increase in labour costs by organizing more efficiently, reducing slack, and increasing measured productivity. Second, positive effects by unions upon productivity are typically largest where competitive pressure exists and these positive effects are largely restricted to the private,

5 An identical conclusion is reached in surveys by Addison and Hirsch (1989) and Booth (1995). Belman (1992) provides a more positive assessment of union effects on productivity.

for-profit, sectors. Notably absent are positive effects of unions upon productivity in public school construction, public libraries, government bureaus, schools, law enforcement (Byrne, Dezhbakhsh, and King 1996), and hospitals.⁶

This interpretation of the productivity studies has an interesting twist: the evidence suggests that a relatively competitive, cost-conscious economic environment is a necessary condition for a positive effect of unions upon productivity, and that the managerial response should be stronger, the larger the union wage premium or the greater the pressure on profits. Yet it is precisely in such competitive environments that there should be relatively little managerial slack and the least scope for union organizing and wage gains. Therefore, the possibility of a sizable effect by unions upon productivity across the whole economy appears rather limited.

Discussion up to this point has been restricted to studies of the United States. Evidence for other countries is far more limited. British studies, although few in number, show a negative relationship between union density and productivity levels (for a summary, see Booth 1995). Evidence for Canada from Maki (1983), based on an aggregate manufacturing time-series data for the period from 1926 to 1978, suggests initially positive union “shock” effects on productivity, although slower productivity growth due to unionization offsets the positive effects within 5 to 8 years. German evidence is particularly difficult to sort out owing to the widespread presence both of unions with national or centralized bargaining and of mandatory works councils in union and (sometimes) in nonunion settings (for a survey, see Addison, Schnabel, and Wagner 1995). Brunello (1992) finds that unions, except those working for small suppliers facing competitive pressure, tend to have negative effects on productivity (and

profits) in Japan. Although international evidence is limited, that which exists is broadly supportive of our interpretation of the American evidence.

Productivity growth

Far less attention has been given to the effects of unions upon productivity *growth*. As shown by Maki (1983), Hirsch and Link (1984), and others, unions’ effects on productivity levels and growth need not be the same. For example, unionization initially could be associated with higher levels of productivity owing to the effect of “shock” or “collective voice,” while at the same time retarding the rate of productivity growth. Of course, in the long run low rates of productivity growth among union firms will lower productivity levels. By productivity growth, we mean the increase in value-added after controlling for changes in factor inputs; Hence, studies examine union effects on growth after controlling for union-nonunion differences in the accumulation of tangible and intangible capital and other measurable factors of production. As emphasized subsequently, it is unions’ effects upon investment and capital accumulation that most affect the sales and employment growth of unionized firms relative to nonunionized firms.

Hirsch (1991a) provides the most comprehensive treatment of unions’ effects on productivity growth, based on a sample of 531 firms and covering the period from 1968 to 1980. Following an accounting for company size and firm-level changes in labour, physical capital, and R&D, union firms are found to have substantially slower productivity growth than nonunion firms. Accounting for industry sales growth, energy usage, and trade, however, cuts the estimate of the union effect by more than half. Addition of industry dummies cuts the estimate further, while the re-

6 See Addison and Hirsch 1989 and Booth 1995 for specific references. For an exception, see the analysis of hospitals in Register 1988.

maintaining effect proves fragile when subjected to econometric probes regarding the error structure. In short, union firms clearly display substantially slower productivity growth than do nonunion firms, but most (if not all) of this difference is associated with effects attributable to industry differences, since union firms are located in industries or sectors with slow growth. As with the evidence on productivity, it is concluded that there exists no strong evidence that unions have a *causal* effect on productivity growth.

Maki (1973), using aggregate Canadian data, concludes that the shock effects of unionization initially increase productivity levels but that unionism is associated with slower productivity growth. Interestingly, British evidence for differences in productivity growth between unionized and nonunionized firms (Nickell, Wadhvani, and Wall 1992, Gregg, Machin, and Metcalf 1993) suggest that unions have either a negative effect or no effect on productivity growth during the early years of their analysis but positive effects during the 1980s. The interpretation of these studies is that a sharp recession during the period 1979 to 1981 and antiunion legislation during the Thatcher period shocked inefficient union plants into operating more efficiently—that is, more rapid productivity growth was precipitated by competitive pressures operating upon a legacy of burdensome union work rules and substantial inefficiency.

Despite the furor and contentiousness surrounding the effects of labour unions on productivity and productivity growth, the most comprehensive studies tend to find little causal effect due to unions. Four points surrounding this conclusion are worth emphasizing. First, a small overall impact does not mean that unions do not matter but, rather, that the net outcome of the positive and negative effects of unions on productivity roughly offset each other. Second, economy-wide studies measure the average effects of unions. Not surprisingly, there appears to be consider-

able diversity in outcomes across firms and industries, consistent with the considerable emphasis given to the importance of the economic and labour-relations environments. Third, the absence of a large positive effect upon productivity implies that union compensation gains are not offset, implying lower profitability and (typically) lower investment. That is, the important point to bring away from the productivity evidence is the absence of a large positive effect due to unions. Finally, studies of productivity and productivity growth control for differences in factor-input usage and growth. As will be seen subsequently, unionization is associated with significantly lower rates of investment and accumulation of physical and innovative capital. It is primarily through this route, rather than by direct effects on productivity, that we obtain slower growth in sales and employment in the union sectors of the economy and a concomitant decline in union membership.

Profitability

Union wage gains lower firm profitability unless offset by productivity enhancements in the workplace or higher prices in the product market. The evidence on productivity reviewed above indicates that unionization does not typically offset compensation increases. A rise in the price of the product sufficient to prevent a loss in profitability is possible only in a regulated industry where firms are “guaranteed” a competitive rate of return. In more competitive settings, where unionized firms compete with nonunion domestic companies and traded goods, there is little if any possibility of passing along increased cost via a rise in prices. Lower profitability will be reflected in decreased current earnings and measured rates of return on capital, and in a lower market valuation of the firm’s assets. *Ex-ante* returns on *equity* (risk-adjusted) should not differ between union and nonunion companies, since stock prices adjust to reflect expected earnings (Hirsch and Morgan 1994).

Profit-maximizing responses by firms to cost differentials should limit the magnitude of differences in profitability between union and non-union companies in the very long run. Differences in profits will be mitigated through the movement of resources out of union into non-union sectors—that is, investment in and by union operations will decrease until post-tax (i.e., post-union) rates of return are equivalent to non-union rates of return or, stated alternatively, union coverage will be restricted to economic sectors realizing above-normal, pre-union rates of returns. Because the quasi-rents accruing to long-lived capital may provide a principal source for union gains and complete long-run adjustments occur slowly, however, we are likely to observe differences in profitability as these adjustments take place.

Empirical evidence shows unambiguously that unionization leads to lower profitability, although studies differ to some degree in their conclusions regarding the magnitude and source of union gains.⁷ Lower profits are found using alternative measures of profitability. Studies using aggregate industry data typically employ as their dependent variable the industry price-cost margin (PCM) defined by $(\text{Total Revenue} - \text{Variable Costs}) / \text{Total Revenue}$ —and typically measured by $(\text{Value Added} - \text{Payroll} - \text{Advertising}) / \text{Shipments}$. Line-of-business studies and some firm-level studies have used accounting profit-rate measures: the rate of return on sales, measured by earnings divided by sales, and the rate of return on capital, measured by earnings divided by the value of the capital stock.

Firm-level analyses of publicly traded firms (e.g., Salinger 1984; Hirsch 1991a, 1991b) have used market-value measures of profitability, a common measure being Tobin's q , defined as a firm's market value divided by the replacement cost of

assets. Finally, there have been several “events” studies in which changes in market value attributable to votes for union representation or to unanticipated changes in collective bargaining agreements have been examined (e.g., Ruback and Zimmerman 1984; Bronars and Deere 1990; Abowd 1989; Olson and Becker 1990; Becker and Olson 1992).

The conclusion that unionization is associated with lower profitability is not only invariant to the profit measure used but also holds for studies using industries, firms, or lines-of-business as the unit of observation. The conclusion also holds regardless of the time period under study and, although there is diversity in results, most studies obtain estimates suggesting that unionized firms have profits that are 10 percent to 20 percent lower than the profits of nonunion firms.

Economists are understandably sceptical that large profit differentials could survive in a competitive economy, notwithstanding the sizable profit differences between unionized firms and nonunionized firms found in the empirical literature. Yet there are two potentially important econometric biases causing effects of unionization to be understated. First, profit functions are estimated only for *surviving* firms, since those for which the effects of unionization are most deleterious may be less likely to remain in the sample. Second, unions are more likely to be organized where potential profits are higher; hence, the negative effect of unions on profits may be underestimated in empirical work where union density is treated as exogenous. In fact, those studies that attempt to account for the simultaneous determination of union status and profitability obtain larger estimates of unions' effects upon profits (see Voos and Mishel 1986; Hirsch 1991a). That being said, the exact magnitude of the estimated profit differential between unionized firms and

7 Becker and Olson (1987), Addison and Hirsch (1989), and Hirsch (1991a) provide surveys and analyses of the profit and market-value studies.

nonunionized firms can be sensitive to specification. Omission of factors positively correlated with union coverage and negatively correlated with profitability will cause an overstatement of the union profit effect.

More recently, attention has turned to the sources from which unions appropriate rents (see Addison and Hirsch 1989). Influential early studies concluded that unions reduce profits primarily in highly concentrated industries and that monopoly power provides the primary source for union compensation gains (e.g., Salinger 1984; Karier 1985). But that conclusion has not survived further analysis. Clark (1984) obtained the (surprising) finding that unions reduce profits only among businesses with low market shares. Hirsch and Connolly (1987) examine this issue directly. They find no evidence from their study of product markets or of labour markets to support the hypothesis that profits associated with industry concentration provide a source for union rents. Rather, they argue that returns from a firm's market share, R&D capital, and weak foreign competition are more likely sources for union gains. Hirsch (1990), using a data-set with a firm-specific union coverage measure, even more clearly rejects the hypothesis that concentration-related profits provide a source for union rents. Note that these studies do not conclude that monopoly rents are not a source for union bargaining power and wage gains. Rather, they find that profits accruing from product-market concentration do not provide such a major source, in part because of the rather tenuous relationship between profitability and concentration (e.g., Ravenscraft 1983). There is no suggestion that unions cannot and do not capture rents; they clearly do so, as can be seen from the close relationship between the unions' wage gains and regulatory rents in the trucking industry, the airlines, and the United States Postal Service.

What recent studies of profitability do suggest is that many of the gains by unions come from what

would otherwise be normal returns to long-lived investments. This has important implications for the effects of labour unions on investment behaviour and long-term growth, as seen in subsequent sections. For example, Hirsch (1991a) strongly rejects the hypothesis that monopoly profits associated with industry concentration provide a primary source for union gains. He provides evidence suggesting that unions capture current earnings associated with limited foreign competition, both current and future earnings associated with disequilibrium or growing demand in the firm and industry (sales growth), future earnings emanating from R&D capital, and current and future quasi-rents emanating from long-lived physical capital (for related evidence, see Cavanaugh 1996).

The poor profit performance of unionized companies during the 1970s may provide an important explanation for the marked decline in union membership during the 1980s. As noted by Linneman, Wachter, and Carter (1990) and others, employment declines have been concentrated in the unionized sectors of the economy; non-union employment has expanded even in highly unionized industries. Although important, shifts in industry demand are an insufficient explanation for the marked decline in private sector unionism. The evidence presented here supports the thesis that declines in union membership and coverage in no small part have been a response to the continuing poor profit performance of unionized companies throughout this period. The conclusion that large profitability differences between unionized and nonunionized firms help to explain declining unionization is complementary to the conclusion reached by Freeman (1988), Linneman, Wachter, and Carter (1990), and others that high union wage premiums have accelerated unionism's decline.

Evidence from Britain strongly suggests that union recognition and the closed shop have a negative effect upon profitability (e.g., Machin and

Stewart 1990; see Booth 1995 for a summary). That being said, most of the firm-level studies lack good measures of profitability and instead rely on a subjective managerial evaluation of profit performance. Given that British unions raise wages but do not appear to improve productivity, it would be surprising if the evidence relating unions to profitability indicated anything other than a negative relationship. A recent study by Machin and Stewart (1996), however, finds that the effects of unions upon profits are only half as large in 1990 as in 1984, and that negative effects are most pronounced in the relatively small number of establishments with both a closed shop and restrictions on managerial freedom owing to union work rules.

Union rent seeking and investment in R&D and physical capital

The area of theoretical and empirical research that has received the most attention in recent years has been the impact of unionization on investments in tangible and intangible capital. The theoretical origins for this literature can be seen in articles by Baldwin (1983) and Grout (1984); the earliest empirical article in this literature is by Connolly, Hirsch, and Hirschey (1986). Recent rent-seeking models focus on the fact that unions capture some share of the quasi-rents that make up the normal return to investment in long-lived capital and R&D. In response, firms rationally reduce their investment in vulnerable tangible and intangible capital until returns on investment are equalized across the union (taxed) and nonunion (non-taxed) sectors. Contraction of the union sector, it is argued, has resulted in part from the long-run response by firms to such rent seeking.

The union tax or rent-seeking framework stands in marked contrast to the traditional economic model of unions. In the standard model, the union's monopoly power in the labour market is viewed as changing relative factor prices through

its ability to raise union compensation above competitive levels. In response to a higher wage, union firms move up and along their labour-demand curve by decreasing employment, hiring higher-quality workers, and increasing the ratio of capital to labour. Total investment in innovative activity and labour-saving capital can increase or decrease owing to substitution and scale effects that work in opposing directions.

The traditional model is inadequate for at least two reasons. First, settlements off the labour-demand curve, with lower wages and greater employment than would obtain in the on-the-demand-curve model, are preferred by both the union and management. If settlements are not on the labour-demand curve, the effect of unions on factor mix cannot be predicted in straightforward fashion (see Farber 1986 for a review). A second shortcoming is the traditional model's characterization of union wage increases as an independent increase in the cost of labour relative to capital. In the rent-seeking framework, union wage premiums are viewed as levying a tax on firm earnings, much of which is composed of the returns to capital. The union tax in this view is an outcome made possible both by union power in the labour market and the presence of the firm's quasi-rents. Stated alternatively, wage increases to unions are in part a tax on capital and need not lead firms to shift their factor mix away from labour and toward capital (Hirsch and Prasad 1995; Addison and Chilton 1996).

Union rent-seeking may reduce investment not only in physical capital but also in R&D and other forms of innovative activity. The stock of knowledge and improvements in processes and products emanating from R&D are likely to be relatively long-lived and firm specific. To the extent that returns from innovative activity are appropriable, firms will respond to union power by reducing these investments. Collective-bargaining coverage within a company is most likely to reduce investment in product innovations and

relatively factor-neutral process innovations, while having ambiguous effects on innovations in labour-saving processes. Expenditures in R&D also tend to signal—or be statistically prior to—investments in physical capital. Therefore, firms reducing long-range plans for physical capital investment in response to unions' rent-seeking behaviour are likely to reduce investment in R&D.

Patents applied for, or granted, are a measure of innovative output emanating from a company's R&D stock. Patent activity is likely to exhibit a relationship with union coverage in a company largely similar to that exhibited by R&D inputs. Unionized companies, however, may be more likely to patent, given their stock of innovation capital, as a means of reducing union rent appropriation (Connolly, Hirsch, and Hirschey 1986). Although the patent application process is often costly and revealing of trade secrets, patents offer the opportunity for firms to license product and process innovations, and transform what might otherwise be firm-specific innovative capital into general capital, and lessen a union's ability to appropriate the quasi-rents from that capital.⁸

Hirsch (1991a) provides a comprehensive empirical analysis of union effects on investment, both in physical and intangible capital. He is also distinguishes between the "direct" and "indirect" effects of unions on investment. The direct effect, as discussed above, stems from the union tax on the returns to long-lived and relation-specific capital, leading firms to cut back on investment so as to equate the marginal post-tax rate of return with the marginal financing cost. The indirect effect of unions on investment arises from the higher financing costs owing to reduced profits (and, thus, internal funding of investment) among union firms.

Using data for the period from 1968 to 1980 on approximately 500 publicly traded American manufacturing firms and a model with detailed firm and industry controls, including profitability, Hirsch estimates the effect upon investment for a typical unionized firm compared to a nonunion firm. Other things being equal, it is found that the typical unionized firm has 6 percent lower capital investment than its observationally equivalent nonunion counterpart. Allowing for the profit effect increases the estimate to about 13 percent; that is, about half of the overall impact of unions is an indirect effect. Hirsch repeats the exercise for intangible capital (annual investments in R&D), and his findings imply that the average unionized firm has 15 percent lower R&D, holding constant profitability and the other determinants. Allowing for the indirect effects induced by lower profitability only modestly raises the estimate. These deleterious union effects on capital investment have been confirmed in subsequent studies with American data (e.g., Hirsch 1992; Becker and Olson 1992; Bronars and Deere 1993; Bronars, Deere, and Tracy 1994; Cavanaugh 1996). A recent study by Fallick and Hassett (1996) examines changes in firms' capital investment in response to a positive outcome in a certification election. They find a substantial reduction, likening the effects of a vote for certification to the effects of a 30 percentage point increase in the corporate income tax.

International evidence on unions and investment is rather limited. In studies examining effects of unions upon investment in Canada, Betts and Odgers conclude, consistent with the American evidence, that unions significantly reduce investment in physical capital and R&D (Odgers and Betts, forthcoming; Betts and Odgers 1997). Although their use of aggregated industry data (rather than firm data) make it difficult to distin-

8 Using firm level data from Compustat and union density data collected by Hirsch (1991a), Cavanaugh (1996) shows that deleterious union effects on market value and investment are directly related to the ease with which quasi-rents can be appropriated.

guish between union and industry effects, Betts and Odgers make a convincing case that they have measured a true effect of unions. Evidence from Britain is rather more limited and results are anything but clear. Machin and Wadhvani (1991) conclude that unions have a positive but insignificant impact on investment in micro-electronic equipment during the early 1980s. Denny and Nickell (1992) in a study based on aggregate industry data conclude that unions decrease capital investment. In a particularly careful study examining the effects of unions on R&D in Britain, Menezes-Filho and van Reenen (1996) conclude that while unionized establishments invest less in R&D, in the United Kingdom this is primarily an effect of the industry location and not of unions. They subject firm-level data from the United States (provided by Hirsch) to the same battery of econometric tests to which they subject the British data. They conclude that, unlike the British evidence, the American evidence of a deleterious effect of unionization on R&D investment is robust. Whereas the union tax model applies well to the United States, the authors speculate that British unions have fewer deleterious effects on research and development than do American unions owing to more explicit bargaining over employment levels and a preference for longer contracts.

Employment growth

The effects of unions upon growth in employment has received less attention than their effects upon productivity, profits, and investment. It would be surprising were decreased profits and lower rates of investment not accompanied by slower employment growth and this is precisely what the evidence indicates. Dunne and Macpherson (1994) utilize longitudinal plant-level data to show that there are more employment contractions, fewer expansions, and fewer plant "births" in more highly unionized industries. They find that unions have no effect upon plant "deaths," even after controlling for plant size (larger plants are less likely to fail but

more likely to be unionized). Linneman, Wachter, and Carter (1990) show that much of what is represented as a "de-industrialization" of America is in fact *de-unionization*. Using Current Population Survey data for the 1980s, they show that within narrowly defined manufacturing industries, most displayed increases in nonunion employment while at the same time witnessing substantial decreases in union employment. Moreover, the rate of decline in union employment is directly related to the magnitude of the union wage premium. In one of the few studies to examine firm-level employment growth directly, Leonard (1992) finds that unionized California companies grew at significantly slower rates than did nonunion companies. And in a recent study using longitudinal plant-level data, LaLonde, Marschke, and Troske (1996) show that employment (and output) decrease following a vote in favour of union certification.

Studies for Canada and Britain reinforce findings from the United States. Long (1993) utilizes data from a survey of 510 Canadian business establishments in the manufacturing and non-manufacturing sectors. Union establishments (i.e., establishments with employees covered by collective bargaining agreements) had considerably slower employment growth between 1980 and 1985, although in manufacturing roughly half of the slower growth resulted not from unionization *per se* but from location in industries showing slower growth (industry effects were not important in the non-manufacturing sector). After accounting for industry controls, firm size, and firm age, union establishments in the manufacturing sector grew 3.7 percent per year more slowly than nonunion establishments; in non-manufacturing sectors, union establishments grew 3.9 percent per year more slowly than nonunion establishments. British evidence is similar. Blanchflower, Millward, and Oswald (1991) provide evidence that unionized plants have slower employment growth. Blanchflower and Burgess (1996) show that destruction of jobs (i.e., permanent job loss)

and net job loss have been higher among union than nonunion establishments, although differences have declined over time.

Interpretation and implications for policy

Knowledge about how unions affect economic performance is a prerequisite for intelligent debate about the appropriate role for labour law and for understanding the transformation taking place in the workplace and in relations between labour and management. For example, Weiler (1990) and others have argued that changes in National Labor Relations Board's interpretation of American labour law, the increased number of unfair labour practices filed and certified, and strategies adopted by management to avoid union organizing have seriously eroded workers' right to organize. Implicit (and sometimes explicit) in this analysis is the belief that the effects of unions in the workplace are largely benign. An alternative interpretation (see Flanagan 1987; Freeman and Kleiner 1990) is that increased resistance to unions by management and the increase in labour litigation reflect profit-maximizing on the part of the employers and are due in no small part to high wage premiums gained by unions rather than to changes in labour law or in their interpretation and enforcement.

The evidence evaluated in this paper lends credence to the latter interpretation. Despite the very real benefits of collective voice for workers, the positive effects of unions have been overshadowed by union rent-seeking behaviour. Productivity is not higher, on average, in union workplaces. The failure of collective bargaining to enhance productivity significantly results in substantially lower profitability among unionized companies. Because unions appropriate not only a portion of monopoly-related profits but also the quasi-rents that make up the normal return to long-lived capital, unionized companies reduce investment in vul-

nerable forms of physical and innovative capital. Investment is further reduced since lower profits reduce the size of the internal pool from which investments are partly financed. Slower growth in capital is mirrored by slower growth in sales and employment (and, thus, union membership). The relatively poor performance of union companies gives credence to the proposition that the restructuring in industrial relations and increased resistance to union organizing have been predictable responses on the part of businesses to increased domestic and foreign competition. In the absence of a narrowing in the performance differences between unionized and nonunionized companies, modifications in labour law that substantially enhance union organizing and bargaining strength are likely to reduce economic competitiveness.

Although the evidence indicates clearly that collective bargaining has led to a poor performance in unionized sectors of the economy relative to nonunionized sectors, it is far more difficult to draw inferences about the effects of unions upon economy-wide performance. In fact, a highly competitive economy limits the costs unions can impose since resources flow to those sectors where they obtain the highest return. For example, lower capital investment or employment among unionized firms is in part offset by higher usage elsewhere in the economy. If resources could flow costlessly to alternative uses and if social rates of return were equivalent in nonunion sectors, unions would have little effect on economy-wide efficiency. Increases in unions' power and rent-seeking would simply cause the relative size of the union sector to shrink. However, because unions have some degree of monopoly bargaining power, because the shifting of resources from union to nonunion environments occurs slowly, and because social rates of return differ across investment paths, union distortions at the firm level necessarily translate into some degree of inefficiency economy-wide.

Policy implications derive from the fact that an economy's competitiveness limits unions' bargaining power and the economy-wide costs of unionism. Changes in labour law that severely restrict the rights and ability of unions to organize limit not only the monopoly power of unions but also reduce the benefits provided by a union's collective voice. If an economy or particular sector of an economy is sufficiently competitive, unionism's monopoly face is constrained. At the same time unions, if they are to prosper, must provide economic value added through an enhancement of worker voice and an improved labour relations environment. Those concerned about the economic costs associated with unions should lose sight neither of the potential benefits associated with the provision of an effective collective voice for workers nor the importance of policies that allow a high degree of domestic and international competition. Private sector unions that do not provide net benefits will not flourish in a competitive environment. The dramatic decline in private sector unionism in the United States as well as less rapid declines in Canada and Britain, can be interpreted in this light.

It is important to note that the arguments above have rather less force in the public sector or in publicly financed private sectors (e.g., health care in Canada). Here, competitive pressures play a far weaker role in limiting the unions' monopoly power. In the absence of competitive limitations on union power, labour law in such sectors must be designed not only to facilitate the exercise of collective voice, but also to limit unions' monopoly power.

Ultimately, an evaluation of labour law and employment policies requires that we compare the current system to viable alternatives. In the United States, the decline in private sector unionism to ap-

proximately 10 percent of wage and salary employees (Hirsch and Macpherson 1997) has taken place within a labour relations system that all sides agree is overly contentious and marked by tremendous conflict. Indeed, there is no small degree of support both from labour and from management that the current legal structure surrounding collective bargaining, which dates back to the National Labor Relations Act of 1935, is outmoded and in many ways inappropriate to the workplace of the 1990s. At the same time, nonunion labour relations has become overly litigious and, not surprisingly, subject to detailed regulation (e.g., laws against discrimination on the basis of age and disability, regulations governing workplace safety, and rules about pensions and benefits). Workers want both an effective collective voice in the workplace and a cooperative relationship with employers.⁹ Yet this combination of collective voice and cooperation has not been realized in many, if not most, union and nonunion workplaces.

There may be no feasible political route to move from the current labour relations environment to one envisioned either by organized labour, business interests, or industrial relations scholars. Neither the enhancement of traditional collective bargaining nor a massive deregulation of labour markets is likely to be a politically viable or an economically desirable alternative. Were labour legislation reformed primarily to strengthen the ability of unions to organize, the monopoly costs of unionism would be increased in relatively non-competitive sectors. At the same time, union power would remain in check in the most competitive sectors of the economy, leaving most of the private sector workforce uncovered by collective bargaining agreements.

Although critics of current labour law and the legal protection afforded to unions may find the

9 This conclusion is based on results from the *Worker Representation and Participation Survey*, directed by Richard Freeman and Joel Rogers, and conducted by Princeton Survey Research Associates during Fall 1994. This report is summarized in United States Departments of Commerce and Labor 1994: app. A, 63-65.

promise of a deregulated labour law environment attractive, this approach is deficient in two important ways. First, a deregulated labour market will tend not to provide mechanisms for effective collective voice for workers. Second, a decentralized system of collective bargaining (or alternative mechanisms for collective voice for workers) are likely to be replaced not by a largely deregulated labour market but by one characterized by centralized and uniform regulations.

The general case that there will be a lack of participation by workers in firm-level decisions in the absence of legislative mandate has been supplied by Levine and Tyson (1990) and Freeman and Lazear (1995) among others. The logic is based on the thought experiment known as the Prisoner's Dilemma coupled with adverse selection. In these models, works councils or the exercise of a collective voice independent of management increase the joint (shareholder plus worker) surplus for some firms over some range of worker-council power. According to Levine and Tyson, market failure arises because participative firms require, among other things, compressed wage structures to encourage group cohesiveness, and dismissals protection to lengthen the time of employment and attachment of workers as compared to "traditional" nonparticipatory firms. Even though participation by workers will generate a higher joint product, a nonparticipatory equilibrium is likely to result owing to adverse selection. That is, the participatory firm will attract the less motivated workers while losing highly productive workers to traditional firms with a less compressed wage structure. In this way, so the argument runs, the market will be systematically biased against participatory workplaces and the economy will be locked in a suboptimal equilibrium. Although they downplay rent-seeking insider behaviour, Levine and Tyson argue that participation works better in unionized regimes because union workers have greater job security.

Freeman and Lazear (1995), on the other hand, are alert to the rent-seeking problem. Because unions or works councils not only encourage collective voice or participation by workers but also reduce profitability, they are either not established or are given insufficient authority by management. Again, an inefficient and insufficient provision of participation will exist in the absence of employment or labour law that facilitates its development. The sources of improved joint surplus identified by Freeman and Lazear are those emphasized by the collective-voice model, this time underwritten by exchange of high-quality information and the enhanced job security made possible by mandated participation. In recommending that participation be mandated, Freeman and Lazear seek to decouple pay from the non-pay aspects of participation. This explains why they light upon institutions in the German style as a template for participatory mandates.

It is not at all clear, however, that efficient levels of participation can be mandated. Even were it established that a systematic market bias against participation exists, there is scant knowledge of the type of public policies that might encourage effective participation by workers in what is largely a nonunion private sector. Nor is it obvious how to disentangle policies that might enhance participation by workers from the rather contentious debate over the appropriate role for unions and labour law. The National Labour Relations Act has undoubtedly strengthened the bargaining power of organized labour in the private sector, with net effects that may well have hastened union decline. This conclusion is of course quite consistent with the argument that the decline of unions raise legitimate grounds for concern regarding the availability of effective and protective participation and collective voice for workers.¹⁰

There is also a concern that, given a declining union sector, the political demand for regulations

governing the entire labour market is enhanced. While unionism allows workers and firms to negotiate (implicitly or explicitly) the terms of labour contracts, union decline has been accompanied by legislation regulating such things as hours and overtime pay; discrimination on the basis of race, gender, national origin, age, and disabilities; workplace safety and notification of workplace dangers; notification of plant closings; pensions; drug use (for selected occupations); and family leave. Strong arguments can be made in support of many of these laws and there is likely to be substantial political support for uniform government regulation of the workplace as long as decentralized participation and collective voice for workers is limited. It is not at all clear that voluntary and decentralized negotiated workplace policies achieved through unions or mandated works councils are inferior to an increasing reliance on regulation, uniform standards, and litigation.¹¹ Indeed, causation works in both directions. Not only does an absence of effective unionism increase political demand for governmental regulation, the existence of such policies, strongly supported by organized labour, have almost certainly reduced support for unionization by workers since many of the benefits from collective bargaining are now provided to all workers.¹²

Labour unions are at a crucial juncture in their history. Increased foreign competition, deregulation of highly unionized domestic industries, and changes in technology have denied unionized companies access to rents and quasi-rents that

have traditionally been shared by workers and shareholders. The organizing of new unions at the current rate is not sufficient to offset the attrition of existing union jobs, which leads to a continuing decrease in the extent of union coverage in the economy. Faced with new and more severe economic constraints, union leaders and the rank and file have been slow to adjust their expectations, strategies, and wage demands. Stated more bluntly, unions would have had to make large concessions to maintain union coverage at pre-1980 levels. It is not surprising that such substantial changes in union behaviour have been slow in coming, though substantial changes in union behaviour and in the industrial relations may yet emerge. But, given the rather weak relationship between unionization and productivity, combined with strong resistance by management to union organizing, the possibilities for sizable, union-induced improvements in workplace productivity appear meager. It is likely, therefore, that we will see a continued decline in union coverage in the United States and elsewhere until the economy in each finds a new steady state at a lower but sustainable level of union density.

The outline of an ideal system of labour law and regulation lies well beyond the scope of this paper. Such a system, however, would be one that simultaneously offers workers many of the types of organizing rights and legal protections offered by current labour law, while at the same time allowing considerably greater flexibility and enhancing worker participation and cooperation at both union and nonunion workplaces. That being

10 For examples of reforms in labour law that attempt to promote collective voice or “value-added” unionism while limiting monopoly power, see Estreicher 1994, 1996.

11 Levine (1997), among others, proposes a system that would lessen direct regulation while maintaining a minimum set of labour standards for firms that voluntarily adopt alternative regulatory systems with employee oversight and approval. He would maintain the current system of standards for firms not adopting alternative systems. Levine argues that movement in this direction, while weakening workers’ rights *de jure*, would strengthen their rights *de facto* and produce net welfare gains.

12 For a suggestive analysis, see Neumann and Rissman 1984. An explanation for union support of these policies is that such policies are costly, so union firms that provide such “services” in the absence of government mandates would be at a competitive disadvantage relative to nonunion firms.

said, it is difficult to be sanguine that such a system can evolve from current labour law or emerge in the current political and economic environment. The present system serves, on the one hand, as a less than ideal framework for a shrinking and rigid union labour relations system while, on the other hand, either restricting or doing little to facilitate a collective voice for workers in the mostly nonunion private sector. Employment law and regulations should facilitate the de-

velopment of worker participation and collective voice. At the same time, it is important that labour law not be replaced with a plethora of federal mandates dictating specific terms of employment. Workplace outcomes would better be determined by market forces and decentralized communications and bargaining in union and nonunion workplaces.

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