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Article abstract

Using a large data set of large and small bargaining units, this paper examines the implications for collective bargaining disputes of the evolution toward small bargaining units and the move to nontraditional forms of representation. It is found that smaller bargaining units, as well as independent unions in both the public and private sectors, are less likely to reach an impasse. This finding supported those hypothesizing the cooperative nature of these organizations. These two sets of results suggest that the movement to smaller bargaining units, and towards more independent representation, will result in a higher proportion of directly negotiated settlements in the future. However, a reduced incidence of impasse does not necessarily mean a reduction in industrial conflict. We found evidence of a shift away from a collective expression of conflict such as strikes, to more individual expressions. Thus, in the future, there may be a greater need for internal conflict resolution Systems.

Implications of Small Bargaining Units and Enterprise Unions on Bargaining Disputes

A Look into the Future?

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Using a large data set of large and small bargaining units, this paper examines the implications for collective bargaining disputes of the evolution toward small bargaining units and the move to non-traditional forms of representation. It is found that smaller bargaining units, as well as independent unions in both the public and private sectors, are less likely to reach an impasse. This finding supported those hypothesizing the cooperative nature of these organizations. These two sets of results suggest that the movement to smaller bargaining units, and towards more independent representation, will result in a higher proportion of directly negotiated settlements in the future. However, a reduced incidence of impasse does not necessarily mean a reduction in industrial conflict. We found evidence of a shift away from a collective expression of conflict such as strikes, to more individual expressions. Thus, in the future, there may be a greater need for internal conflict resolution systems.

The Wagner Act, upon which most labour legislation in North America is still based, dates back to an industrial relations environment characterized

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by large bargaining units of predominantly male, full-time workers engaged in standardized mass production with fixed, narrow work rules and rigid boundaries between management and workers (Warrian 1995). In an environment of limited foreign competition and steady economic growth, workers typically joined locals of larger national and international unions, even at the loss of some local autonomy, in order to eliminate regional disparities and to otherwise "take wages out of competition." More recently, in addition to shrinking in relation to the non-union sector, the employment relationships governed by Wagner-style legislation have changed, and continue to change dramatically. An issue of central importance for the industrial relations actors and for researchers is the likely impact of these changes on the resolution of collective bargaining disputes.

One such noteworthy change on the industrial relations scene has been the evolution (virtually worldwide) toward smaller negotiating units (O'Grady 1994; Katz 1993). In Ontario, for example, newly organized units averaged only 46 employees over the 1984–85 period compared with the Ontario average in our sample of 138 employees (Annual Report 1984–85; Forrest 1986). Although this trend is occurring for a variety of reasons, three structural factors have had a discernible impact. First, industrial relations systems are decentralizing in Britain, Europe, Australia, New Zealand and North America, which is leading to smaller negotiating units (Katz 1993). Second, plant sizes are diminishing as new technology replaces many production workers and as work is contracted out to non-union firms. Third, unions, particularly those in the public sector, are increasingly forced to organize in smaller units as saturation points are reached in such sectors as education, health care, and local government (O'Grady 1994).

Due to data limitations, little is known about collective bargaining in the context of small bargaining units (Cutcher-Gershenfeld, McHugh and Carter 1996). For example, studies of contract settlement stages in the United States have typically utilized data sets restricted to bargaining units of 1,000 or more workers (see, for example, Gramm 1987 and McConnell 1987). Previous studies using Canadian data have generally been restricted to bargaining units of 500 or more employees (e.g., Currie and McConnell 1991), or units with 200 or more employees (e.g., Gunderson, Kervin and Reid 1986). The data set we have assembled for this paper includes bargaining units of all sizes in the province of Ontario. It shows that excluding bargaining units of fewer than 200 employees would result in the loss of information on 87 percent of collective agreements (covering 27 percent of all bargaining unit members). In the absence of information on settlement patterns among smaller bargaining units, conjecture about the future incidence of impasse and use of third-party assistance could at best be only partially informed.

A second nascent trend in industrial relations is the move away from bargaining relationships between companies and “big unions” toward more “cooperative” forms of representation, such as joint health and safety committees, enterprise unions and plant-level works councils (Jacoby and Verma 1992; EU Works Councils Directive 1994; Kochan 1995). Our data set also permits an examination of settlement patterns among unaffiliated or independent local unions. On the spectrum of workplace participation schemes, independent unions fall between no representation and full unionization and collective bargaining, and may therefore provide insights into the future direction of contract disputes for other intermediate forms of worker organizations.

This paper examines the implications for collective bargaining disputes of these two trends in industrial relations — the evolution toward small bargaining units and the move to non-traditional forms of representation. Our analysis utilizes a unique data set, constructed by the authors, which merges information from a number of sources.

We begin with a review of the conflict literature for small bargaining units and independent local unions, and then examine some theoretical implications of our study and describe the data set used. Next, some preliminary findings are discussed, following which we estimate a model of collective bargaining settlement stages and discuss the results. The paper concludes with some summary comments.

LITERATURE REVIEW

Bargaining Unit Size

Most studies of large bargaining units have found a positive relationship between bargaining unit size and strikes (e.g., Currie and McConnell 1991; Gunderson, Kervin and Reid 1986; Gramm 1987), with the strike rate in large bargaining units ranging in the order of 10 to 15 percent (Card 1990). There are competing behavioural explanations for this observed link between firm size and strike activity (Kervin 1988). Marxist scholars attribute this phenomenon to the alienation caused by the division of labour and job fragmentation in larger organizations. Alternatively, psychology theorists argue that workers with lower levels of need satisfaction self-select large firms so that the relationship between size and strike activity is largely spurious (Kervin 1988; Allen and Stephenson 1983; Ingham 1970). In a review of research on the effects of size on bargaining behaviour, Marginson (1984) found that size acted as a proxy for some other phenomena, notably bureaucratization and technology. According to Marginson, as organizations grow, direct personal forms of management are replaced by hierarchical systems. As procedures

become both standardized and formalized, managerial roles become more specialized as a response to the increasing complexity of the organization. Relations between workers and managers are rendered increasingly impersonal. As hierarchy grows and communication becomes longer, the scope for systematic distortion of information passed through the hierarchy increases along with the probability of friction. Another view seeks to demonstrate that workers in large plants have a highly instrumental orientation to their work in economic terms, in contrast to small plants where the commitment is a moral one (Ingham 1970). Finally, studies by Eisele (1974) of manufacturing firms found an inverted U-shaped relationship between strikes and company size, which he explained in terms of two processes working in opposite directions: small plants have more personalized relationships, but larger ones are more likely to have personnel more sophisticated in dealing with labour disputes.

Some studies, on the other hand, call into question these bureaucratization hypotheses. For example, Curran and Stanworth (1981) find that there is no pronounced tendency for workers in small firms to see worker-management relations in terms of teamwork rather than conflict. Marginson (1984) also found that bureaucratization is not a homogeneous phenomena and that its various aspects do not have a uniform relationship with size. Further, he argues that management exercises a strategic choice over the degree to which organizations are bureaucratized, and that there is empirical evidence that casts doubt as to whether larger organizations are more conflict prone. Child (1976) argues that it is complexity rather than size that directly influences overall standardization.

Another weakness of the bureaucratization hypothesis is that it does not appear to hold in the case of such other forms of industrial conflict as quits and absenteeism (Marginson 1984). Hebdon and Stern (1998) discovered higher rates of grievance arbitration in Ontario's no-strike sector. This raises the question of a possible trade-off in small units between lower strike rates and higher individual conflict rates. In short, the evidence on bureaucratization as an explanation for higher rates of conflict in large organizations, or its absence in accounting for good industrial relations in small firms, is highly inconclusive.

To summarize, the available theory and empirical evidence neither confirms nor denies that large organizations are more prone to conflict or that the absence of bureaucratization in small organizations results in good industrial relations.

Independent Unions

The decline in union density in Europe and the U.S. has encouraged widespread interest in alternative forms of representation to unions and full

collective bargaining. For example, the European Community (except Britain) has endorsed mandatory works councils for its members by the year 2000. In the U.S., there are proposals indirectly arising from the Commission on the Future of Worker-Management Relations that call for alternative forms of representation short of formal collective bargaining (see Kochan 1995: 355).

Although there was a spate of studies about independent local unions published in the early 1960s, the issue had virtually disappeared from the industrial relations research agenda until the recent release of the report from the Commission on the Future of Worker-Management Relations. The earlier literature debated whether independent local unions were capable of aggressive bargaining with management. Some argued that independent local unions were sham unions started by employers who wished to keep their labour costs down, giving employees the form but not the substance of unionism (Taft 1956). Others agreed that management preferred these unions to national or affiliated unions because they were more cooperative and struck less often, if at all.

It has also been asserted that not all independent local unions are passive. Some possess significant bargaining power and from time to time will threaten to go on strike or join a national union (e.g., the case studied in Jacoby and Verma 1994). Other scholars have also claimed that independent local unions do not affiliate with national unions because they want to preserve local advantages. Fear that a national union might try to standardize or eliminate this benefit may deter such affiliation (Troy 1960). Sympathy strikes and political strikes are undoubtedly less likely in independent unions. As enterprise-oriented organizations, independent local unions tend to fit with the insular communitarian culture found within those companies where they exist. However, they are unions, with their own officers and funds, and unlike employee involvement plans they are autonomous, possess independent resources, and are capable of providing influence at higher levels than the job or shop floor. In short, there have been a number of alternate hypotheses concerning the behaviour of independent local unions.

THEORY AND DATA

Although our study does not permit a rigorous test of bureaucratization hypotheses (because we lack data on behavioural factors at the plant level), a finding of a positive relationship between bargaining unit size and strikes would nevertheless provide some support. This result would be bolstered by a finding that small units also displayed lower rates of such individual conflict as grievance arbitrations and health and safety conflict. But if such

individual rates of conflict were found to be higher in small units, then our study would cast doubt on bureaucratization orthodoxy.

Lower strikes rates in independent local unions would provide support for the integrative nature of these units. This finding would be reinforced if it held for both strikes and expressions of individual conflict.

The primary data source for our analysis is the Ontario Ministry of Labour's collective bargaining agreement file, which contains information on 42,926 labour-management contracts settled in Ontario between 1984 and 1993. The data cover bargaining units of all sizes, in both the private sector (including construction) and the provincial public sector.¹ The specific pieces of information in this data source include: the stage in negotiations at which the contract was settled; bargaining unit size; union affiliation; the legislation governing the negotiations; an indicator of whether the bargaining unit consisted of full-time, part-time or both full- and part-time workers; contract duration; the occupation and industry with which the bargaining unit is associated; and the dates on which the previous contract expired and the new contract was settled.

Will the emergence of smaller bargaining units and less traditional forms of worker representation signal the end of expressions of workplace conflict, or will these expressions of conflict take other forms? To address this question, we merged information on two other conflict measures for each bargaining unit: the numbers of grievance arbitrations, and of health and safety complaints filed under the Occupational Health and Safety Act. These pieces of information were only available for 1988 and consisted of hard-copy reports, which we converted into machine readable form.

In the next section we summarize our data by examining settlement patterns and bargaining unit characteristics by bargaining unit size. We also distinguish between independent and affiliated unions.

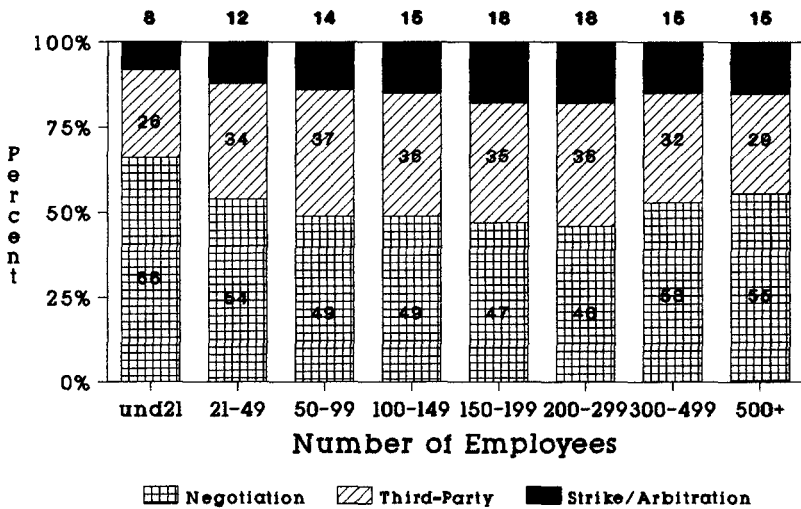
PRELIMINARY FINDINGS — DESCRIPTIVE STATISTICS

Figure 1 shows the settlement stages for our sample of 42,926 Ontario contracts over the period 1984 to 1993, by eight bargaining unit size categories. We define three possible stages at which a collective agreement can be settled: freely negotiated (without direct third-party involvement);² directly

1. The data set excludes settlements under the federal jurisdiction, and a small number of contracts under Ontario's wage control program.
2. This category may also include settlements that were ultimately settled by the parties, but for which third parties were utilized at some point during the negotiations (an approach consistent with other studies of dispute resolution, e.g., Currie and McConnell 1991). As a result, we may be understating the impact of third-party intervention on settlements, however we have no way of identifying these cases.

following some form of third-party assistance (mediation, conciliation, or fact-finding); or following an impasse (strike, lockout, back-to-work legislation, or interest arbitration). The figure reveals a non-linear relationship between bargaining unit size and freely negotiated settlements. Sixty-six percent of contracts involving bargaining units with fewer than 20 members were settled without the use of third-party assistance and prior to an impasse. Only 46 percent of contracts involving bargaining units of 200–299 members were settled by direct negotiation. Thereafter, the freely negotiated settlement rate rises to 55 percent for bargaining units of 500 or more workers. Figure 1 also reveals a non-linear pattern in impasse rates, with smaller units having the lowest impasse rates, but medium sized units having higher impasse rates than the largest units.

FIGURE 1
Ontario Settlements
By Settlement Stage 1984-93



Not all workers in Ontario have the right to strike. Certain public sector workers who provide “essential services” face legislated restrictions on striking, and are instead required to settle collective bargaining impasses through binding interest arbitration. Figures 2 and 3 show settlement stages, respectively, for bargaining units with the right to strike (which we term the strike sector), and bargaining units which do not have the right to strike (which we term the arbitration sector). Figure 2 reveals that, to the extent

that previous studies of contract settlements have excluded smaller bargaining units, they have likely overstated strike incidence. With the public no-strike (arbitration) sector removed, the non-linear relationship shown in Figure 1 becomes quite linear. The probability of a strike over the sample period is 2.8 percent among bargaining units of 20 and fewer members, increasing to 10.6 percent for bargaining units of 500 or greater. The proportion of negotiations settled directly through third-party assistance displays a non-linear pattern in the strike sector. Some 28.6 percent of contracts negotiated on behalf of the smallest category of bargaining units were settled with third-party assistance, increasing to 41.6 percent of collective agreements for bargaining units of 200–299 workers, and falling to 31.9 percent of contracts for the largest bargaining units. Lower third-party utilization rates in small units could reflect either less need or the allocation of the limited human resources of the government agency to larger units.

Both the magnitude and pattern of arbitration usage as revealed in Figure 3 are noteworthy. Arbitration usage ranges from a low of 28.4 percent in the less than 21 category to a high of 51.4 percent in both the 150–200 and 200–300 bargaining unit size categories. This latter result means that in 808 settlements over this ten-year period the parties used arbitration in an astonishing 413 cases! In contrast with the linear relationship between strikes

FIGURE 2
Ontario Settlements
Strike Sector -1984-93

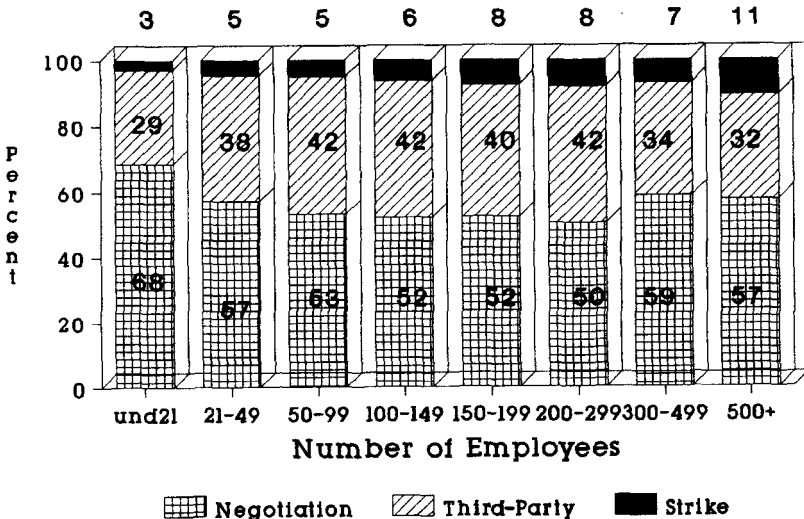
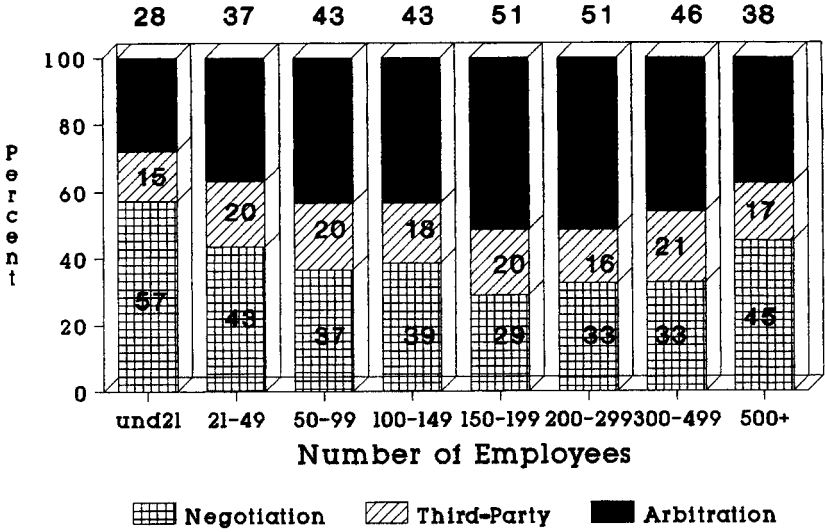


FIGURE 3
 Ontario Settlements
 Arbitration Sector -1984-93



and size of bargaining unit, the association between arbitration and size appears to be non-linear. Bargaining units of less than 150 and those with more than 300 employees have lower usage rates than those in the middle range from 150 to 300. An important explanation for this non-linear relationship may be the predominance of this size of bargaining unit within the health care sector, where the use of arbitration is by far the most common form of dispute settlement. Ninety percent of the 150-199 member bargaining units, and 92.1 percent of the 200-299 member units, in the arbitration sector consist of health care workers. There is no discernible pattern in the use of third-party assistance across bargaining units of different sizes in the no-strike sector. In both the strike and no-strike sectors, there is a non-linear pattern in the likelihood of freely negotiated settlements, with the smallest and largest bargaining units the more likely to settle contracts through direct negotiation.

Perhaps the patterns in settlements and impasses by bargaining unit size are explained by other characteristics of large and small bargaining units. Table 1 presents means and standard deviations, again by bargaining unit size, for bargaining unit characteristics. The major differences across bargaining unit size categories are that smaller bargaining units are more likely to consist of white-collar and blue-collar workers than are larger bargaining units. The result that larger bargaining units are more likely to consist

TABLE 1
Select Sample Characteristics by Bargaining Unit Size

<i>Independent variables</i>	<i>Bargaining Unit Size</i>							
	<i>Less than 2</i>	<i>21-49</i>	<i>50-99</i>	<i>100-149</i>	<i>150-199</i>	<i>200-299</i>	<i>300-499</i>	<i>500 or more</i>
<u>Union</u>								
Independent private	0.01 (0.09)	0.01 (0.11)	0.02 (0.13)	0.01 (0.11)	0.01 (0.12)	0.02 (0.14)	0.02 (0.12)	0.01 (0.11)
Independent public	0.01 (0.07)	0.01 (0.09)	0.01 (0.09)	0.01 (0.11)	0.02 (0.12)	0.01 (0.12)	0.01 (0.10)	0.01 (0.09)
Union staff	0.01 (0.09)	0.00 (0.07)	0.00 (0.05)	0.00 (0.04)	0.00 (0.03)	0.00 (0.03)	0.00 (0.00)	0.00 (0.00)
<u>Full/part time b.u.</u>								
Full time b.u.	0.81 (0.39)	0.75 (0.43)	0.74 (0.44)	0.76 (0.43)	0.77 (0.42)	0.78 (0.41)	0.74 (0.44)	0.75 (0.43)
Part time b.u.	0.05 (0.22)	0.06 (0.24)	0.06 (0.24)	0.06 (0.24)	0.08 (0.27)	0.06 (0.24)	0.05 (0.23)	0.02 (0.15)
Full and part time b.u.	0.14 (0.35)	0.19 (0.39)	0.20 (0.40)	0.17 (0.38)	0.15 (0.36)	0.16 (0.37)	0.21 (0.41)	0.22 (0.42)
<u>Contract duration</u>								
One year	0.43 (0.49)	0.37 (0.48)	0.33 (0.47)	0.32 (0.47)	0.29 (0.46)	0.29 (0.46)	0.35 (0.48)	0.37 (0.48)
Two years	0.43 (0.50)	0.47 (0.50)	0.49 (0.50)	0.48 (0.50)	0.47 (0.50)	0.48 (0.50)	0.44 (0.50)	0.46 (0.50)
More than two years	0.14 (0.35)	0.17 (0.37)	0.18 (0.39)	0.20 (0.40)	0.24 (0.43)	0.22 (0.42)	0.21 (0.41)	0.18 (0.38)

TABLE I (Continued)

<i>Independent variables</i>	<i>Bargaining Unit Size</i>							
	<i>Less than 2</i>	<i>21-49</i>	<i>50-99</i>	<i>100-149</i>	<i>150-199</i>	<i>200-299</i>	<i>300-499</i>	<i>500 or more</i>
<u>Legislative regime</u>								
OLRA	0.79 (0.41)	0.75 (0.43)	0.74 (0.44)	0.71 (0.46)	0.70 (0.46)	0.67 (0.47)	0.58 (0.49)	0.55 (0.50)
CCBA	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	0.01 (0.08)
HLDAA	0.13 (0.33)	0.19 (0.39)	0.20 (0.40)	0.19 (0.39)	0.21 (0.41)	0.21 (0.40)	0.16 (0.37)	0.08 (0.27)
CECBA	0.00 (0.01)	0.00 (0.03)	0.00 (0.02)	0.00 (0.02)	0.00 (0.02)	0.00 (0.00)	0.00 (0.07)	0.05 (0.21)
SBTCNA	0.01 (0.11)	0.02 (0.15)	0.03 (0.18)	0.05 (0.21)	0.06 (0.24)	0.09 (0.28)	0.19 (0.39)	0.23 (0.42)
POLICE	0.05 (0.22)	0.02 (0.14)	0.01 (0.11)	0.03 (0.16)	0.00 (0.05)	0.01 (0.11)	0.02 (0.15)	0.03 (0.16)
FIRE	0.01 (0.11)	0.01 (0.09)	0.01 (0.11)	0.02 (0.14)	0.02 (0.13)	0.01 (0.08)	0.02 (0.14)	0.02 (0.12)
CONSTRUCTION	0.01 (0.09)	0.01 (0.08)	0.00 (0.06)	0.01 (0.09)	0.01 (0.11)	0.02 (0.15)	0.02 (0.13)	0.05 (0.21)
<u>Occupation</u>								
Blue collar	0.74 (0.44)	0.75 (0.43)	0.77 (0.42)	0.75 (0.43)	0.77 (0.42)	0.75 (0.44)	0.65 (0.48)	0.59 (0.49)
White collar	0.15 (0.36)	0.13 (0.34)	0.13 (0.33)	0.12 (0.32)	0.08 (0.27)	0.08 (0.28)	0.08 (0.27)	0.09 (0.29)
Professional	0.09 (0.29)	0.10 (0.30)	0.09 (0.29)	0.12 (0.32)	0.14 (0.34)	0.16 (0.37)	0.27 (0.44)	0.30 (0.46)
Technical	0.02 (0.13)	0.02 (0.15)	0.02 (0.13)	0.02 (0.12)	0.02 (0.13)	0.01 (0.09)	0.00 (0.07)	0.01 (0.08)
PUBLIC SECTOR	0.39 (0.49)	0.45 (0.50)	0.46 (0.50)	0.47 (0.50)	0.46 (0.50)	0.49 (0.50)	0.56 (0.50)	0.56 (0.50)

of professional employees, and to be bargaining units of crown (i.e., provincial government) employees and school boards (and not covered by the Ontario Labour Relations Act), indicate the important influence of the public sector on the very largest bargaining unit size categories.

Impasse rates for independent unions are 1.7 percent (for 892 bargaining units), compared to 11.8 percent for bargaining units affiliated with a national or international union (42,033 bargaining units). In the strike sector, independent unions reached an impasse in only 1.6 percent of instances, compared to 4.9 percent for affiliated units. In the arbitration sector, independent bargaining units experienced an arbitration 8.3 percent of the time, compared to 37.1 percent for affiliated bargaining units.

Table 2 compares some "properties" of independent bargaining units with affiliated units separately for the public and private sectors. The average private sector independent bargaining unit about 10 employees less than the average affiliated unit, while public sector independents have twenty-two fewer members than their affiliated counterparts. Both public and private sector independents are more likely to sign one-year agreements than their respective affiliated bargaining units. Public sector independent units are considerably more likely to consist of white-collar workers, and considerably less likely to consist of blue-collar, professional and part-time workers than are affiliated public sector units.

MULTINOMIAL LOGIT ESTIMATES OF SETTLEMENT STAGE

In order to determine whether the relationships between bargaining unit size, independent unions and contract settlement stages revealed by the tabular data are robust to a myriad of other factors that can influence bargaining, we estimate a multinomial logit settlement stage model. The dependent variable in our analysis is trichotomous, taking a value of 1 if the collective agreement was negotiated without an impasse or third-party assistance; 2 if the agreement was reached following an impasse (strike or interest arbitration); or 3 if the contract was settled with the assistance of a third party (e.g., after mediation, conciliation, and/or fact-finding). The model provides estimates of the marginal impacts of the independent variables on the probabilities of experiencing an impasse or use of third-party assistance, relative to the reference outcome of settlement through direct negotiation.

We include seven bargaining unit size dummy variables in the model, indicating units with memberships of 20 or fewer, 21 to 49; 50 to 99, 100 to 149, 150 to 199, 200 to 299, and 300 to 499. The omitted reference category denotes bargaining units of 500 or more members. In addition to dummy variables that identify independent private sector unions and independent public sector unions, we also create 12 other union dummy variables which

TABLE 2
 Select Sample Characteristics by Union Affiliation

<i>Independent variables</i>	<i>Union Affiliation</i>			
	<i>Independent Private</i>	<i>Other Private</i>	<i>Independent Public</i>	<i>Other Public</i>
Bargaining unit size	111.09 (187.07)	121.74 (685.33)	136.53 (439.95)	158.53 (716.74)
<u>Full/part time b.u.</u>				
Full time b.u.	0.95 (0.22)	0.88 (0.32)	0.67 (0.47)	0.63 (0.48)
Part time b.u.	0.01 (0.10)	0.02 (0.13)	0.03 (0.17)	0.11 (0.31)
Full and part time b.u.	0.04 (0.20)	0.10 (0.30)	0.30 (0.46)	0.26 (0.44)
<u>Contract duration</u>				
One year	0.42 (0.49)	0.23 (0.42)	0.69 (0.46)	0.54 (0.50)
Two years	0.39 (0.49)	0.52 (0.50)	0.28 (0.45)	0.39 (0.49)
More than two years	0.19 (0.39)	0.25 (0.43)	0.03 (0.17)	0.07 (0.26)
<u>Legislative regime</u>				
OLRA	0.99 (0.10)	0.98 (0.13)	0.93 (0.25)	0.42 (0.49)
CCBA	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	0.00 (0.02)
HLDAA	0.00 (0.00)	0.00 (0.00)	0.06 (0.23)	0.38 (0.48)
CECBA	0.00 (0.00)	0.00 (0.02)	0.00 (0.00)	0.01 (0.08)
SBTCNA	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	0.10 (0.30)
POLICE	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	0.07 (0.26)
FIRE	0.00 (0.00)	0.00 (0.00)	0.01 (0.11)	0.03 (0.17)
CONSTRUCTION	0.01 (0.10)	0.02 (0.13)	0.00 (0.00)	0.00 (0.00)
<u>Occupation</u>				
Blue collar	0.93 (0.26)	0.87 (0.34)	0.46 (0.50)	0.58 (0.49)
White collar	0.06 (0.24)	0.12 (0.32)	0.39 (0.49)	0.14 (0.35)
Professional	0.00 (0.00)	0.01 (0.10)	0.15 (0.36)	0.25 (0.43)
Technical	0.01 (0.12)	0.01 (0.08)	0.00 (0.05)	0.03 (0.17)

distinguish the larger private and public sector unions in Ontario, as well as unions comprised of union staff (which are also typically independent unions). The omitted reference category is all other unions.

We distinguish bargaining units which consists of part-time, or both full- and part-time workers from those consisting exclusively of full-time workers (the omitted reference category). The duration of the previous contract was identified in the model using dummy variables for each of one- and two-year contracts. Bargaining units for which the previous contract was greater than two years constitute the omitted reference category.

The economic and legal environments are represented in the model by variables measuring growth in real domestic product for each 3-digit industry, in the current year, the previous year and two years prior to the agreement date. Dummy variables were also created to reflect the various collective bargaining legislative regimes that apply to collective bargaining in Ontario. The omitted reference category is the Ontario Labour Relations Act (OLRA), excluding construction. The other categories of legislation include: The Fire-fighters Act (FIRE); The Police Act (POLICE); The Colleges Collective Bargaining Act (CCBA); The Hospital Labour Disputes Arbitration Act (HLDAA); The Crown Employees Collective Bargaining Act (CECBA); The School Boards and Teachers Collective Negotiations Act (SBTCNA), and the sections of the Ontario Labour Relations Act governing industrial relations in the construction industry (CONSTRUCTION).

Parameter estimates for the multinomial logit settlement stage model are shown in Table 3. The first three columns of figures relate to the probability of impasse, while the last three columns are relevant to the probability of third-party use. The first column under each of these outcomes gives the logit parameter estimates and the second shows the standard error of the coefficient. The third column converts the multinomial logit coefficient, which shows the change in the log of the odds of the outcome, relative to the reference outcome (i.e., negotiated settlement) given a one unit change in the independent variable, into the more readily interpretable measure of the change in the relative probability of the outcome.

The regression results confirm that bargaining units with fewer than 500 members are significantly less likely to reach a collective bargaining impasse than are bargaining units of 500 or more. The smallest bargaining units (20 and fewer workers) are the least likely to reach an impasse, other factors constant, with the likelihood of impasse increasing steadily with bargaining unit size. Bargaining units of twenty and fewer workers are 8.8 percentage points less likely, and bargaining units of between 21 and 49 members are 7.3 percentage points less likely, to reach an impasse than the largest bargaining units. This implies that 21–49 member bargaining units are 1.5 percentage points more likely to reach an impasse than bargaining units of

TABLE 3
Multinomial Logit Estimates of Bargaining Outcomes

<i>Independent variables</i>	<i>Impasse</i>			<i>Third-Party Assistance</i>		
	<i>Coefficient</i>	<i>t- statistic</i>	<i>Adjusted Coefficient</i>	<i>Coefficient</i>	<i>t- statistic</i>	<i>Adjusted Coefficient</i>
<u>Bargaining Unit Size</u>						
[500 or more]						
Less than 21	-1.525	-17.05	-0.088	-0.784	-12.52	-0.141
21 to 49	-1.060	-11.65	-0.073	-0.295	-4.61	-0.060
50 to 99	-0.779	-8.41	-0.059	-0.087	-1.33	-0.018
100 to 149	-0.623	-6.20	-0.050	-0.058	-0.82	-0.012
150 to 199	-0.402	-3.52	-0.035	-0.043	-0.53	-0.009
200 to 299	-0.299	-2.70	-0.027	0.062	0.78	0.014
300 to 499	-0.367	-3.18	-0.033	0.004	0.05	0.001
<u>Union</u>						
[All others]						
Independent private	-1.621	-4.49	-0.090	-1.836	-11.92	-0.246
Independent public	-2.332	-4.98	-0.104	-1.932	-11.19	-0.254
Union staff	-0.881	-1.72	-0.064	-0.989	-5.09	-0.169
CAW	0.795	8.36	0.109	-0.884	-12.11	-0.155
USWA	0.752	8.51	0.102	0.508	11.21	0.118
CEP	-0.207	-0.66	-0.020	0.348	2.65	0.079
Teamsters	0.358	3.18	0.042	0.512	10.92	0.119
CUPE	-0.226	-2.90	-0.021	-0.336	-7.28	-0.068
OPSEU	0.329	3.03	0.038	-0.103	-1.48	-0.022
SEIU	0.286	3.67	0.033	-0.114	-1.91	-0.024
CLAC	-1.091	-5.57	-0.074	-0.507	-3.66	-0.098
IWA	0.728	3.90	0.098	0.404	4.06	0.093
UFCW	0.598	5.55	0.077	0.533	9.48	0.124
RWDSU	0.728	5.05	0.098	0.566	8.50	0.132
<u>Full/part time b.u.</u>						
[Full time b.u.]						
Part time b.u.	0.385	5.88	0.046	0.204	3.54	0.046
Full and part time b.u.	-0.123	-2.46	-0.012	-0.168	-5.02	-0.035
<u>Contract duration</u>						
[More than two years]						
One year	-0.053	-0.91	-0.005	-0.070	-2.10	-0.015
Two years	0.180	3.36	0.020	-0.032	-1.03	-0.007
<u>Industry RDP</u>						
RDP current year	1.418	3.03	0.235	0.693	2.98	0.164
RDP one year ago	1.746	4.22	0.313	0.334	1.58	0.076
RDP two years ago	1.443	4.20	0.241	0.007	0.04	0.002

TABLE 3 (Continued)

<i>Independent variables</i>	<i>Impasse</i>			<i>Third-Party Assistance</i>		
	<i>Coefficient</i>	<i>t-</i> <i>statistic</i>	<i>Adjusted</i> <i>Coefficient</i>	<i>Coefficient</i>	<i>t-</i> <i>statistic</i>	<i>Adjusted</i> <i>Coefficient</i>
<u>Legislative regime</u>						
[OLRA]						
CCBA	-0.054	-0.064	-0.005	-0.896	-1.25	-0.157
HLDA	2.438	35.68	0.484	-0.261	-5.47	-0.053
CECBA	0.838	3.42	0.117	-1.471	-4.87	-0.219
TCHR	-1.919	-11.17	-0.097	-2.199	-24.54	-0.266
POLICE	1.290	11.36	0.207	-3.032	-16.86	-0.293
FIRE	1.386	10.18	0.228	-5.804	-5.80	-0.314
CONSTRUCTION	-0.729	-2.68	-0.056	-0.733	-6.11	-0.134
<u>Occupation</u>						
[Blue collar]						
White col	-0.268	-4.04	-0.025	-0.004	-0.119	-0.001
Professional	0.503	6.56	0.062	0.383	6.87	0.088
Technical	0.179	1.50	0.020	-0.511	-4.53	-0.099
<u>Industry</u>						
[All other]						
Food	-0.114	-0.81	-0.011	0.221	3.61	0.049
Textiles	-0.267	-1.17	-0.025	0.164	1.82	0.036
Wood	0.090	0.36	0.010	0.151	1.23	0.034
Paper	1.120	4.90	0.171	0.620	4.76	0.146
Printing	-1.423	-3.13	-0.085	0.059	0.61	0.013
Metals	-0.131	-0.726	-0.013	-0.063	-0.62	-0.013
Wholesale	0.225	0.420	0.025	0.732	3.19	0.174
Appliances	0.506	1.589	0.063	0.497	2.47	0.115
Chemical	-0.022	-0.089	-0.002	0.054	0.47	0.012
Transportation	-0.383	-2.12	-0.034	-0.652	-8.03	-0.122
Hotels	-0.411	-2.69	-0.036	0.240	3.99	0.054
Public	0.120	1.37	0.013	0.341	7.98	0.078
<u>Settlement year</u>						
[1985]						
1984	-0.763	-8.84	-0.058	-0.057	-1.31	-0.012
1986	0.281	4.10	0.032	0.026	0.52	0.006
1987	-0.315	-4.00	-0.029	0.053	1.05	0.011
1988	-0.968	-11.66	-0.069	0.166	3.43	0.037
1989	-0.115	-1.52	-0.011	0.219	4.44	0.049
1990	0.090	1.15	0.010	0.096	1.85	0.021
1991	-0.513	-6.28	-0.043	0.394	7.58	0.090
1992	0.045	0.53	0.005	0.175	3.18	0.039
1993	0.332	4.05	0.039	0.251	4.49	0.056

20 and fewer (i.e., $-0.073 - (-0.088) = 1.5$). The probability of an impasse increases steadily with bargaining unit size. While bargaining units with more than 200 members are 2.7 percentage points less likely to reach an impasse than the largest bargaining units, they are 6.1 percentage points more likely to reach an impasse than the smallest units.

Bargaining units of less than 50 workers are also significantly less likely to settle contracts with the assistance of third parties. Bargaining units of 20 and fewer workers are 14.1 percentage points, and units of 21–49 members 6.0 percentage points, less likely to use third-party assistance than are bargaining units of 500 members or larger. Bargaining units of between 50 and 499 workers are statistically as likely as the largest bargaining units to settle with third-party assistance. Taken together, the increased likelihood, by bargaining unit size, of negotiated settlements (i.e., without impasse or the use of third-party assistance), relative to bargaining units of 500 or more, is (bargaining unit size in brackets): 22.9 percent (20 and under); 13.3 percent (21 to 49); 7.7 percent (50–99); 6.2 percent (100 to 149); 4.4 percent (150–199); 1.3 percent (200 to 299); 3.1 percent (300–499).

The multivariate analysis also confirms that independent unions, both public and private, are less likely to reach a collective bargaining impasse than any of the unions specifically identified in the regression, as well as the amalgam of all other unions. Independent private sector unions are, for example, 19.9 percent ($-0.090 - 0.109 = -0.199$) less likely than the Canadian Auto Workers (CAW) and 19.2 percent less likely than the United Steel Workers of America (USWA) to reach a bargaining impasse. The CAW and the USWA are two of the largest national and international, largely private sector, unions in Ontario. Compared to other large national and provincial public sector unions, independent public sector union are 8.3 percent less likely to reach an impasse than bargaining units of the Canadian Union of Public Employees, and 14.2 percent less likely to reach impasses than otherwise similar units of the Ontario Public Service Employees Union (OPSEU).

Independent private and public sector unions are also less likely than are bargaining units of provincial national and international unions to use third-party assistance. Avoidance of third parties may reflect the integrative character of these organizations. Taken together with the lower likelihood of impasse, negotiated settlement probabilities are higher for independent unions than for other union affiliates, other factors constant.

A number of the other variables in the model are worthy of discussion. Unions of union staff are less likely than other unions, but more likely than both independent private and public sector unions, to experience and impasse and to use third-party assistance to reach a contract. Staff union independents may reflect the adversarial culture of the employer unions.

As such they may be atypical examples of independent local unions. Bargaining units consisting entirely of part-time workers are significantly less likely to settle through direct negotiation than are units comprised entirely of full-time workers. Part-time units are 4.6 percent more likely to reach impasse and 4.6 percent more likely to use third-parties, compared to full-time units. However, bargaining units which include both full-time and part-time workers are 1.2 percent less likely to reach impasse and 3.5 percent less likely to use third parties than are units of exclusively full-time workers. Recent labour law reforms in Ontario which eased the "community of interest" test for merging full- and part-time bargaining units may be expected to result in a greater probability of directly negotiated contracts for the merged unit.³

Where the previous contract was of two years duration, bargaining units were significantly more likely to reach an impasse than where the previous contract was of longer than two years. Where the previous contract covered one year, the use of third-party assistance was 1.5 percent less likely than when the previous agreement lasted for more than two years.

A one percentage point increase in industry Real Domestic Product (RDP) in the year in which the contract was settled is associated with a 23.5 percentage point increase in the likelihood of an impasse and a 6.5 percentage point increase in the likelihood of third-party assistance to settle the contract. Each percentage point increase in the previous year's industry RDP raises the probability of an impasse by 31.3 percentage points, while a similar increase in RDP two years before increases the probability of impasse by 24.1 percentage points, other factors constant. This finding seems to lend support to previous studies that found strikes to be pro-cyclical (Card 1990).

Bargaining relationships governed by the SBTCNA legislation are significantly less likely to reach impasse and use third-party assistance than are OLRA-covered bargaining units. Bargaining units covered by HLDAA, CECBA, POLICE and FIRE legislation are significantly more likely to reach an impasse, and significantly less likely to use third-party assistance than OLRA bargaining units. There are lower rates of both impasse and use of third-party assistance among construction bargaining units governed by a separate section of the Ontario Labour Relations Act, compared to private sector bargaining relationships governed by the OLRA. The construction-specific sections of the OLRA requires a common expiry date for all agreements and also requires that all unions bargain on a province-wide basis with a respective council of employers. Further, the construction sector has a strong tradition of pattern bargaining.

3. This reform was recently rolled back by the current Conservative Government in Ontario.

To reiterate, we have found support for bureaucratization hypotheses because larger units have higher strike rates. The lower strike rates in independent local unions support the cooperative character of these organizations.

To test for possible trade-offs between strikes and individual conflict expressions, Table 4 provides a size breakdown of 1988 grievance arbitrations and anonymous health and safety complaints, all expressed as rates per 1000 employees. While the cross-sectional nature of these data limits the generalizability of the results, a number of observations can nonetheless be made which provide support for a trade-off hypothesis between strikes and individual conflict forms. Particularly noteworthy are the findings that employees in the smallest bargaining units filed more health and safety complaints and grievance arbitrations than in any of the larger bargaining units. In fact, the relationship is almost an inverse one between size and rate of usage. This suggests that while strike and arbitration activity may be reduced, conflict may be expressed in other forms. The results weaken the support for bureaucratization hypotheses found above on strikes.

TABLE 4
Grievance Arbitration and Health and Safety Complaint Rates,
By Bargaining Unit Size, 1988

<i>Bargaining Unit Size</i>	<i>Number per 1,000 Bargaining Unit Members</i>	
	<i>Grievance Arbitrations</i>	<i>Health and Safety Complaints</i>
Less than 21	2.23	1.12
21-50	2.50	1.04
51-100	1.97	0.91
101-150	1.74	0.70
151-200	1.78	0.61
201-300	1.50	0.45
301-500	1.47	0.52
Over 500	0.88	0.19

Sources: Ontario Ministry of Labour and calculations by the authors.

We note, however, that conflict trade-offs were not found among independent unions. Compared to all other unions, independents experienced both lower health and safety complaint rates (0.17 compared to 0.58 per 1,000 workers) and lower grievance arbitration rates (1.25 compared to 1.55 per 1,000 workers) (not shown). This suggests that conflict, even more broadly defined, is less likely among independent unions and bolsters the main finding about the cooperative culture in these organizations.

SUMMARY COMMENTS

This paper examined the impact of bargaining unit size and independent unions on the incidence of freely negotiated settlements, the use of third-party assistance and impasses. These factors are important because they represent potentially significant trends in the industrial relations environment toward smaller negotiation units and more cooperative forms of representation, such as enterprise unions. The results of this study permit "a look into the future" of collective bargaining resolution in North America as these trends develop.

Many other recent studies of collective bargaining settlement stages have been unable to address these questions due to data limitations. The most important of these is the lack of information on bargaining units with under 500 members. Our data set from the province of Ontario includes bargaining units of all sizes. In addition, our data set allows us to distinguish independent public and private sector unions from affiliated unions.

By finding that the smallest bargaining units are less likely to reach an impasse than are larger bargaining units, holding a number of factors constant, our results add support to bureaucratization hypotheses of conflict.

Independent unions in both the public and private sectors were less likely to reach an impasse. This finding supports hypotheses regarding the cooperative nature of these organizations. These two sets of results suggest that the movement to smaller bargaining units, and the movement towards independent representation and away from affiliation with national and international unions, will result in a higher proportion of directly negotiated settlements in the future.

Our subsidiary analyses, however, sound a cautionary note. A reduced incidence of impasse does not necessarily mean a reduction in industrial conflict. Indeed, it may simply mean a shifting away from collective expressions of conflict, such as strikes, to more individual expressions, such as increased incidence of grievance arbitrations and health and safety disputes. The implications of this shift for the future of dispute resolution are a greater reliance on internal conflict resolution systems such as peer review panels, mediation, labour-management committees or other joint forums and an increased emphasis on conflict resolution, problem solving, and process consultation skills among union and management decision makers.

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RÉSUMÉ

Les implications des plus petites unités de négociation et des syndicats indépendants sur les différends

Comme fondement des codes du travail en Amérique du Nord, la loi Wagner a été pensée et bâtie pour les grandes unités de négociation à prédominance masculine, travaillant à plein temps dans la production de masse. Les changements rapides observés dans les relations d'emploi permettent de questionner la pertinence actuelle de ce modèle pour la résolution des conflits en négociation collective. Par exemple, on sait peu de choses sur la négociation collective dans ce nombre croissant de petites unités de négociation. Les études sur les ententes négociées au Canada et aux États-Unis se réfèrent typiquement à des unités de 1 000, 500 ou occasionnellement 200 travailleurs.

Nous examinons ici la résolution des conflits dans un ensemble rare de données de toutes dimensions en Ontario pour la période 1984–1993. Nous observons que l'exclusion des unités de négociation plus petites que 200 employés entraîne la perte d'information sur 87 % des conventions collectives couvrant 27 % des membres de toutes les unités de négociation. En l'absence d'information sur les tendances d'ententes dans les plus petites unités, nous ne pouvons que spéculer sur l'incidence future des impasses et sur l'utilité de l'assistance de tiers.

Une tendance récente en relations industrielles est ce mouvement vers des formes plus coopératives de représentation, telles les comités paritaires de santé et de sécurité, les syndicats indépendants et les comités d'entreprises. Nous explorons cette tendance en examinant les ententes intervenues avec des syndicats non affiliés ou avec des sections locales indépendantes. Sur le spectre des différentes formes de participation en milieu de travail, les associations indépendantes se situent quelque part entre l'absence de représentation et la complète syndicalisation avec négociation collective. Alors, les sections locales indépendantes fournissent une vision utile de la tendance future des différends pour d'autres formes intermédiaires d'organisations de travailleurs.

Les résultats de régression confirment que les unités de négociation contenant moins de 500 membres ont moins de chance d'en arriver à une impasse en négociation que les unités plus grandes. Les plus petites unités de 20 personnes et moins sont les moins susceptibles d'en arriver à une impasse, toutes autres variables étant constantes. En somme, la probabilité d'impasse croît avec la taille de l'unité de négociation.

Ces unités de 20 travailleurs ou moins ont 8,8 points de pourcentage de probabilité de moins d'en arriver à une impasse que les unités de plus de 500 personnes. Ce pourcentage se situe à 7,3 pour ces unités entre 21 et 49 travailleurs. La probabilité d'impasse croît de façon régulière avec la taille de l'unité de négociation. Alors que les unités de 200 membres et plus ont 2,7 points de pourcentage de moins d'atteindre une impasse que les plus grandes unités, elle ont 6,1 points de pourcentage de plus que les plus petites. En somme, ces unités de 20 travailleurs ou moins ont 14,1 points de pourcentage de moins que les unités de 500 et plus de recourir à l'assistance de tiers. Ce pourcentage est de 6 pour les unités contenant de 21 à 49 membres. Les unités de négociation de 50 à 499 travailleurs ont statistiquement autant de chance de recourir à un tiers que les unités les plus grandes. La probabilité pour les petites unités de négocier une convention collective sans l'aide d'un tiers comparée aux unités de 500 et plus est de 22,9 % (pour les unités de 20 ou moins) de 13,3 % pour les unités de 21 à 49 ; de 7,7 % pour les unités de 50 à 99 ; de 6,2 % pour les unités de 100 à 149 ; de 4,4 % pour les unités de 150 à 199 ; de 1,3 % pour les unités de 200 à 299 et de 3,1 % pour les unités de 300 à 499.

L'analyse de régression confirme que les associations indépendantes, tant publiques que privées, ont moins de chances d'en arriver à une impasse dans leur négociation que tout autre syndicat identifié dans la régression et que l'amalgame de tous ces autres syndicats. Ainsi, par exemple, les syndicats indépendants du secteur privé ont 19,9 % moins de chances que les Travailleurs canadiens de l'automobile et 19,2 % moins de probabilité que les Métallurgistes unis d'Amérique d'en arriver à une impasse dans leur

négociation. Quant au secteur public, ce pourcentage se situe à 8.3 par rapport au Syndicat canadien de la fonction publique et 14.2 par rapport au Syndicat des employés des services publics d'Ontario. Ces syndicats indépendants, tant du secteur public que privé, ont également moins de probabilité de recourir à un tiers.

Quant à la relation d'arbitrage entre les grèves et les différentes formes d'expression de conflit individuel, notons que les employés des plus petites unités ont déposé plus de plaintes en matière de santé et de sécurité et plus de griefs que ceux des grandes unités. En fait, la relation est presque inverse entre la taille de l'unité et le taux de recours à de telles formes d'expression de conflits individuels.

Ces données suggèrent que la tendance vers de plus petites unités de négociation et vers une représentation indépendante va résulter en une plus grande proportion d'ententes directement négociées. Cependant, une plus faible proportion d'impasses ne représente pas une réduction du conflit industriel. En effet, cela signifie simplement une impasse d'une expression collective de conflit vers des formes plus individuelles. Cela implique alors un plus grand recours à des systèmes de résolution de conflits internes, tels les bureaux de révision, la médiation, les comités patronaux-syndicaux et d'autres types de forum paritaire. Cela se traduit aussi par une plus grande emphase à mettre sur la résolution des conflits et sur les habiletés de consultation des décideurs patronaux et syndicaux.