Globalizing Quiescence: Globalization, Union Density and Strikes in 15 Industrialized Countries

James A. Piazza
University of North Carolina at Charlotte

This study examines the role played by globalization in the decline of strike rates in industrialized countries after the 1980s. Using a pooled, time-series multiple regression analysis of 15 advanced capitalist countries in North America, Western Europe and East Asia from 1952 to 2001, the author finds a relationship between globalization – measured in terms of international trade, investment and loosened international capital controls – and declining strike rates, but finds that the relationship is non-monotonic and that the level and change of union density plays an intermediary role between globalization and labor quiescence. The findings empirically validate earlier work by Tsebelis and Lunge and Shalev, who also demonstrated a non-monotonic relationship between macroeconomic phenomena, labor strength and strikes.

Keywords: globalization, investment, strikes, trade unions

Introduction

Historians of industrial relations in the 1970s, in observing a marked increase in industrial militancy in advanced capitalist countries, speculated that the increasing frequency and intensity of industrial conflict was either a cyclical ‘uptick’ spurred by stagflation that would revert back to the ‘regular’ level of strikes seen in the 1950s and 1960s or that the political and social turmoil of the decade had permanently changed industrial relations, and that the turbulent 1970s were a harbinger of things to come (Brecher, 1972). Neither was to be the case. The militant 1970s were followed by the quiescent 1980s and 1990s. Strike rates, measured as the number of working...
days lost due to industrial conflicts per worker, fell in every industrialized country and remained lower than not only the level of the 1970s but also of the 1960s and 1950s in most countries until the beginning of the 21st century. This ominous quiescence seemed to defy the tempo of the business cycle or short-term macroeconomic disruptions. Table 1 illustrates this strange decline of strike activity.

Looking at the average strike rates in the bottom row of Table 1, it is clear that strike rate levels remained fairly constant throughout the 1950s and 1960s and after increasing during the militant 1970s, they began to decline in the 1980s, dipping below the ‘mode’ set between 1950 and 1969. This decline continued even more precipitously during the 1990s, setting a new level of quiescence, 59.6 percent lower than the previous decade and roughly 61 percent lower than the strike rates of the 1950s and 1960s. Looking at individual countries, the picture becomes more complex and a few patterns emerge. The largest group of countries, Australia, Austria, Belgium, Canada, France, Germany, Italy, Japan, Netherlands, Switzerland and the UK, seem to roughly adhere to the pattern established by

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Australia</td>
<td>2426</td>
<td>2034</td>
<td>4264</td>
<td>591</td>
<td>964</td>
</tr>
<tr>
<td>Austria</td>
<td>251</td>
<td>506</td>
<td>88</td>
<td>20</td>
<td>42</td>
</tr>
<tr>
<td>Belgium</td>
<td>2606</td>
<td>n/a</td>
<td>1376</td>
<td>1452</td>
<td>338</td>
</tr>
<tr>
<td>Canada</td>
<td>2826</td>
<td>4245</td>
<td>8074</td>
<td>4876</td>
<td>2051</td>
</tr>
<tr>
<td>Denmark</td>
<td>783</td>
<td>1457</td>
<td>2111</td>
<td>1536</td>
<td>1642</td>
</tr>
<tr>
<td>Finland</td>
<td>4256</td>
<td>1180</td>
<td>4872</td>
<td>3379</td>
<td>1629</td>
</tr>
<tr>
<td>France</td>
<td>2807</td>
<td>1723</td>
<td>1272</td>
<td>797</td>
<td>249</td>
</tr>
<tr>
<td>Germany</td>
<td>461</td>
<td>122</td>
<td>302</td>
<td>244</td>
<td>98</td>
</tr>
<tr>
<td>Italy</td>
<td>2212</td>
<td>8207</td>
<td>9434</td>
<td>5650</td>
<td>1164</td>
</tr>
<tr>
<td>Japan</td>
<td>1171</td>
<td>834</td>
<td>853</td>
<td>73</td>
<td>19</td>
</tr>
<tr>
<td>Netherlands</td>
<td>333</td>
<td>61</td>
<td>360</td>
<td>130</td>
<td>216</td>
</tr>
<tr>
<td>Norway</td>
<td>1475</td>
<td>554</td>
<td>381</td>
<td>850</td>
<td>733</td>
</tr>
<tr>
<td>Sweden</td>
<td>n/a</td>
<td>132</td>
<td>243</td>
<td>1799</td>
<td>445</td>
</tr>
<tr>
<td>Switzerland</td>
<td>n/a</td>
<td>77</td>
<td>19</td>
<td>3</td>
<td>14</td>
</tr>
<tr>
<td>UK</td>
<td>1203</td>
<td>1845</td>
<td>5145</td>
<td>3074</td>
<td>261</td>
</tr>
<tr>
<td>Average</td>
<td>1754.6</td>
<td>1641.2</td>
<td>2586.3</td>
<td>1631.6</td>
<td>657.7</td>
</tr>
</tbody>
</table>

the average for the entire set of 15 countries tallied in the bottom row in that strike rates after 1980 were significantly (at least 30 percent) lower than those prior to 1980. However, a smaller group, Denmark, Finland, Sweden and Norway, either had strike rates in the 1980s and 1990s that were higher (up to five times higher in the case of Sweden) or not significantly lower than those witnessed prior to 1980.

The Puzzle

What explains the beginning of labor quiescence in 1980, a phenomenon noticed by Perusek and Worcester (1995) and Shalev (1992), and its intensification after the 1980s for the average and largest groups of countries listed in Table 1? Furthermore, what explains the diversity of the group of countries? Why have most countries experienced a resurgence of quiescence while a minority have seen increasing militancy?

Much of the classical literature on strikes is not particularly helpful in answering these questions because it locates the cause of industrial conflict in the fluctuations of the business cycle or the schedule of contract (re)negotiations or changes in the political climate (Budd, 1994; Cameron, 1984; Korpi and Shalev, 1979; Hibbs, 1978; Rees, 1952; Kalecki, 1943). Certainly, business booms, recessions and recoveries do affect strikes and it is intuitive that strikes are more likely in years in which large contract negotiations occur, which may be on a regular basis for countries with peak-level bargaining. Also, changes in political leadership, for example the assumption of power by the Thatcher administration in Britain in 1979, clearly will have implications for industrial action, either negatively or positively. However, most of these phenomena have a short-term impact on labor relations and one would not expect any of these to produce such long-term (20-year!) effects.

The literature on comparative labor market institutions provides important pieces of the puzzle. First, scholarly work on centralized bargaining and the effects of international trade on small advanced capitalist states demonstrates that exposure of unionized workers to pressures from the international market promotes general wage restraint and labor peace in order to maintain national competitiveness in export markets (Garrett and Way, 1995; Iversen, 1996; Katzenstein, 1985; Lange et al., 1995; McKeown, 1999; Swenson,
1991, 1989; Wood, 1994). Second, it has also been convincingly demonstrated that the organizational capacity of workers is an important determinant of collective activities such as strikes and industrial action (Shorter and Tilly, 1974; Tilly, 1978; Snyder, 1975). Shalev (1992) specifically identifies union density – the number of unionized workers as a percentage of the total workforce – as a crucial indicator of workers’ organizational capacity, and as a key determinant of strike activity. Finally, a large body of studies indicates that common macroeconomic features have different effects on unions, labor markets and domestic labor activity depending on the structure of institutional features such as wage bargaining, union density and the status of social-democratic parties (Freeman, 1989; Lange and Scruggs, 1999; Pedersen, 1982; Piazza, 2002; Rothstein, 1989; Visser and Ebbinghaus, 1999; Western, 1997).

Two studies in particular, however, provide a useful framework for explaining the general labor quiescence of the 1980s and 1990s and the renewed labor militancy in four other cases. First, Shalev (1992) observed that patterns of strike activity among industrialized countries vary both by time-period and by country. In his study, he broke his observations of strikes in advanced industrialized countries into three time-periods. In the first period – 1960–7, a period characterized by rapid economic growth and low unemployment – strikes fall into four groups of cases: countries such as Switzerland, Norway, Sweden, Germany and the Netherlands, which exhibit strikes involving few workers for a short duration; countries such as France, Italy and Australia, which have brief strikes but with a mass participation of workers; countries such as the US, Canada and Ireland, which have strikes that are few in number but are long and protracted; and countries such as Japan, Britain, Belgium, New Zealand, Finland, Austria and Denmark, which exhibit strikes of a medium duration and participation rate. The second period, 1968–73, is turbulent and shows some convergence among countries in terms of rates of worker participation in strikes, but with little alternation of the previous patterns of duration. The post-1974 period, a period of stagflation and rising unemployment, witnesses strikes dramatically declining in France, Japan and the US, while dramatically increasing in terms of participation in Sweden and Norway.

Shalev concludes with the observation that the three countries that lead the pack in terms of declining strike activity post-1974, the US, France and Japan, are also the three countries in which
union density decreased the most after 1973. Moreover, of the six countries that experienced a decline in union density, four also exhibited a precipitous decline in the relative involvement of workers in strikes. The two countries that experienced a sharp increase in strike activity, measured in terms of worker participation in strikes, were Sweden and Norway, two of the most heavily unionized countries in the industrialized world. Though it is not the central focus of his study, union density and degree of worker organization is an important component of his observations about deviations in strike patterns. Shalev explains, ‘Workers’ ability to prosecute industrial action is dependent not only on the favourability of market forces but also on their capacity for collective action, particularly the prior extent of labour organization. . . . It might well be the case, therefore, that longer-term shifts in the extent of worker organization have an appreciable effect on strike-proneness’ (Shalev, 1992: 117).

The second study provides more insight into the puzzle of national divergence of strike activity displayed in Table 1. Noting that conventional explanations would predict that strikes in industrialized countries should converge toward a mean, Tsebelis and Lange (1995) take a first cut at trying to combine macroeconomic, political climate and organizational models of how strikes occur in industrialized countries. In doing so, they make an important contribution by considering a non-monotonic relationship between the strength of labor (which they define more broadly than organized labor) and the incidence of strikes. They observe that while OECD countries experienced quite similar macroeconomic challenges in the 1970s and 1980s, among them the challenge of increasing openness to the international economy, unemployment and inflation, levels of strike activity sharply diverged as did the degree of corporatism and the political power of the left.

To explain this phenomenon, Tsebelis and Lange consider two alternating-offers game theory models. The first sets labor against capital in a negotiation over the division of profits wherein labor may at any stage of the alternating offers choose to pursue an ‘outside option’ by going on strike. The second presents the same sort of game but with incomplete information. Capital does not know the value of labor’s outside option, the ability to go on strike, and so therefore is engaged in bargaining with an adversary that can be either ‘strong’ or ‘weak’. In both games, the authors note, a discount factor makes both players eager to come to resolution.
The outcome of the game predicts a curvilinear model of labor strength and the incidence of strikes. In cases where labor is strong, capital has an immediate incentive to compromise with labor and will conclude negotiations with an eye to avoiding a costly strike. In cases where labor is weak, it is instead labor that has incentives to compromise in order to come to agreement because a strike is too costly for it. In both of these situations, Tsebelis and Lange predict a generally low incidence of strike activity. It is when strong labor becomes weaker and when weak labor becomes stronger that the problem of incomplete information rears its head and strikes are more likely. Employers are likely to become more intransigent when bargaining with labor that was once strong but has become weaker. Though it is losing power, labor may not yet feel compelled to acquiesce; indeed it may feel it unwise to do so during the alternation of offers lest it encourage capital to drive a harder bargain. Conversely, labor that is getting stronger from an earlier position of weakness will hold a stronger line against capital in order to brandish its newly vitalized outside option, while capital may wish to hold onto its previously dominant bargaining position. In either situation, when labor power is growing or shrinking, strikes are more likely. The authors empirically test their predictions by regressing change in strikes with change in labor strength, producing statistically significant results.

Enter Globalization

What explains the timing of the general decline of strike rates in Table 1? The 1980s, when the quiescence (or the militancy for four of the countries) begins, and the 1990s, where it rapidly accelerates, are also the decades that are commonly identified with the beginning and the acceleration of globalization of national economies (Visser, 1994). Economic globalization is defined as the increasing interconnectedness of domestic economies with one another, and is often measured in terms of rising international imports and exports and an acute increase in international investment stocks. Table 2 illustrates the change in these indicators of globalization during the last five decades, averaged for the 15 countries listed in Table 1. Theoretically, there are two ways that globalization might be a contributing factor to the strike phenomena illustrated in Table 1.
First, globalization intensifies pressure on firms, both domestic and multinational, by increasing inter-firm competition as national markets become more integrated. New entrants to the global market intensify the existing competition among multinational corporations. Domestic firms, previously sheltered from international competition, are increasingly exposed to foreign competitors and foreign products. All firms find that global competition is squeezing their profit margins and that they must reduce costs in order to maintain market share. Interestingly, the ‘profit squeeze’ scenario can also apply to governments and workers in the public sector. Globalization increases pressure on governments to attract or retain globally mobile capital investment, an important source of jobs for citizens and public revenues, by tinkering with taxes, interest rates and regulatory policies. The adoption by states of ‘globally capital friendly’ policy, in turn, places wage pressures on domestic public sector employees as government policy-makers hasten to implement fiscal austerity plans. These changes have implications for domestic workers across all sectors should government policy-makers choose to also reform wage-setting and workplace institutions that bolster unionization or high wages in an attempt to provide business-friendly environments for globally footloose capital.  

Second, globalization provides opportunities for profit-squeezed, or profit-maximizing, employers to outsource production abroad where wages and operating costs might be lower. Profit-squeezes lead employers to demand wage and other labor cost concessions from workers at the bargaining table. Outsourcing leads to a
direct reduction in union and/or high-wage employment in the outsourcing company. Both of these processes lead to an erosion of labor power. The pressures of globalization are related to the reduction in union density rates in many countries – in addition to facilitating the outsourcing of union jobs to non-union plants abroad – by altering the bargaining position of unions vis-a-vis employers in a way that reduces the utility of union membership, namely job security and premium wages, to existing and prospective union members. When unions can no longer guarantee high wages and secure employment, workers come to see union membership as a waste of dues, at best, and a liability at worst.

The erosion of union density compromises the ability of workers to engage in collective activities, such as strikes. Again, considering the aforementioned scholarship that demonstrates that common macroeconomic processes have different national effects, because domestic institutions mediate these processes (see especially Wallerstein and Western, 2000; Western, 1997), we could expect globalization and the erosion of union density to have divergent effects on actual strike rates across cases. In the Nordic countries, where strong unions and centralized bargaining ordinarily foster low strike rates, globalization may increase strike activity if it erodes strike-reducing labor market institutions, such as union density and peak-level bargaining. In countries characterized by low levels of unionization and decentralized bargaining, France or Japan for example, globalization could reduce strike activity if it compromised the vehicles workers usually use to launch and coordinate strikes: labor union. Though he does not mention the globalization of national economies among the macroeconomic factors affecting the observed changes in strikes, and the concomitant changes in union density, the question hangs above Shalev’s (1992) analysis due to the timing of the changes. The post-1974 period is one of rapidly increasing globalization of trade and investment and a relaxing of international capital controls, as indicated in Table 2. And the countries that see the most dramatic change in strike activity are those at the top and the bottom of the scale in terms of union density. The notoriously low density countries, France, Japan and the US, which also experienced decreasing unionization rates throughout the 1960–74 timeframe, had the most precipitous declines in strikes while the very high density countries, Norway and Sweden, which had stable and increasing density rates respectively, had an increase in strikes.
Analysis

Therefore, the objective of this study is to determine whether globalization is a significant predictor of strike activity in industrialized countries and whether or not labor market institutions, in particular union density, determine how globalization affects strike rates. Of particular interest is how globalization affects strikes in cases characterized by high and low union density and how it affects strikes in cases where union density is increasing or decreasing from a high or low base. Three hypotheses are tested using a pooled time-series multiple regression analysis on a data set composed of 15 advanced, industrialized democracies: Australia, Austria, Belgium, Canada, Denmark, Finland, France, Germany, Italy, Japan, the Netherlands, Sweden, Switzerland and the UK. These hypotheses are:

**Hypothesis 1:** If we at first ignore the role played by domestic institutional features, such as union density, we would expect globalization to be negatively related to strike rates, because globalization improves the relative bargaining position of capital to labor by allowing employers the opportunity to exit abroad or to demand concessions by claiming a ‘profit squeeze’ from increased international competition during negotiations with unions. In this scenario, unions, cognizant of their severely compromised bargaining position, are wary of strikes and opt to concede at the bargaining table in order to preserve domestic employment.

**Hypothesis 2:** However, understanding that country-specific institutional features, such as union density, do play a role in determining how macroeconomic processes affect bargaining and other labor market phenomena, we would expect to find the negative effects of globalization on strikes to be particularly acute in countries where labor movements are weaker and where labor markets are not highly ‘institutionalized’. Countries with strong labor movements would either not display a significant relationship between globalization and strike rates or would display a positive relationship as globalization erodes the institutions that constrain worker militancy.

**Hypothesis 3:** Because Tsebelis and Lange (1995) demonstrate that not only does the level of labor strength matter in determining the behavior of employers and workers, and by extension whether
or not a strike will occur, but also the direction of change of labor strength over time is crucial, we would expect to see a positive relationship between strike rates and globalization in countries where union density is decreasing from an already high level or increasing from a moderate to low level. We would expect to see no relationship or a negative relationship between globalization and strike rates in countries where union density is increasing from a high base or decreasing from a moderate to low base.

The analysis involves observations in all 15 cases for the years 1952–2001, yielding a total number of 669 observations for which complete data are available. The Appendix details the sources and calculation procedures for all data. The core analysis consists of seven regression models, one aggregate and six sorted, and involves the following variables:

Strikerate (strike rate) is the dependent variable of the analysis and is calculated as the annual total number of days, per capita, lost to strikes and lockouts nationwide in a given year from 1952 to 2001 in the 15 countries examined.4

Globalization, the primary independent variable, is operationalized as an index (Globalization) composed of three indicators of economic globalization: a measurement of a country’s international exports and imports as a percentage of gross domestic product; a measurement of the total yearly direct5 and portfolio investment abroad as a percentage of gross domestic product; and Dennis Quinn and Carla Inclan’s 1997 index of financial capital control openness (see Appendix). Given the hypothesized importance of the effects of globalization on union bargaining strength vis-a-vis employers, particularly given that employer profit-squeezes due to increased competition with imports and opportunities for employers to outsource abroad to lower costs often work in tandem, it is useful to consider an indexed measure of globalization that includes trade as well as capital investment. To assess the role played by country-specific labor market institutions or other features that may affect labor’s power, I examine union density levels (Density), the degree of union centralization (Central) and the degree of left party dominance (LeftPart) over parliamentary governing seats and government portfolios in the 15 countries between 1952 and 2001.

The first institutional predictor, union density, is the measurement of the percentage of the national workforce that is unionized as
coded in Golden et al.’s (2002) data set on union centralization as ‘totden’. The second institutional predictor, the degree of union centralization, is a measurement also derived from the Golden et al. data set – coded by the investigators as ‘coninv’ – that rates the level of involvement of union confederations in wage setting using an index between 1 and 11. The third institutional predictor, the degree of left party (LeftPart) dominance over national governments and legislatures, is a measurement of the ‘center of gravity’ in terms of right–left dominance of national governments calculated as the difference between the percentage of cabinet portfolios, governing seats and legislative seats held by ‘left’ and ‘right’ parties in the 15 countries using Swank’s 1999 data set on partisanship, supplemented by recent electoral data (see Appendix).

Expectations about union density and globalization as predictors are covered in the hypotheses. Centralization of wage bargaining is assumed to be a negative predictor of strike rates mainly because peak-level bargaining agents exert significant disciplinary power over local actors and most peak wage pacts have strong labor peace clauses attached to them (Calmfors and Driffill, 1988). Whether or not the degree of left party power is a significant predictor of strike rates, and whether it is a positive or negative predictor, should largely rest on the overall political configuration of distributonal conflicts in a country, and may pattern somewhat the effects of union density on strike rates as indicated previously. Countries with hegemonic left, labor-allied parties that have worked with unions to construct pacted, corporatist bargaining structures, for example, again, the Nordic countries, will likely display a negative relationship between left party power and strike rates (Western, 1997). In these countries, strong left parties have successfully relocated distributonal conflicts from the workplace to the political system and have thereby been able to foster industrial peace. Countries where the political left is not hegemonic, or where it is junior to center or right parties, may either have no significant relationship or a positive relationship with strike rates. In the case of the latter, the assumption of power by a left party might either signal to workers that the time is opportune to strike before the political climate changes or may provide workers the political space to conduct strikes.

The remaining variables are all independent macroeconomic control variables. *IndEmpl*, or change in the percentage of the
active workforce employed in manufacturing, measures the rate of deindustrialization in the countries examined. This variable is considered to test the thesis put forth by Piven (1992) that the decline of industrial employment, or ‘deproletarianization’, is the cause for the decline of the postwar hegemony of social democracy, the core of which is the provision of ‘social peace’ and a moderation of industrial conflict in exchange for collective bargaining rights for workers and state-provided social welfare. However, the relationship between deindustrialization and strike rates is likely to be ambiguous. While a declining manufacturing workforce may result in low unionization rates (Visser, 1991; Troy, 1990; Bell, 1973), as mentioned previously this could reduce strike rates in countries with already low union density or it could increase strike rates in countries where high union density fosters labor peace. Also, deindustrialization is related to sectoral employment changes, and this could wash out any effects on strike rates if the concentration of jobs in an economy moves from the private manufacturing sector to, for example, the public sector, which may itself be even more strike-prone.

Previous empirical studies seeking to explain the diversity of strike activity among industrialized countries undertaken by Cameron (1984), Korpi and Shalev (1979, 1980) and Hibbs (1978) consider several contributory factors related to welfare states, wages and labor market policy. The overall results yielded by these studies is that in countries that exhibit substantial public investment in social resources, strike activity will be shorter and less frequent. I therefore consider welfare state and wage factors in my analysis by using two dependent control variables: \textit{StateGDP} and \textit{RealWages}. The first of these measures the percentage of gross domestic product comprised by government social spending per year to determine the effects of government social spending on strike rates. The second measures the annual percentage increase in mean real wages to determine whether rising (or stagnating) real wages are related to decreased (or increased) strike activity. Given that rising real wages and state intervention in the economy are factors likely to protect workers’ real material resources, both are likely to foster labor quiescence and to be negative predictors of strike rates.

My analysis includes three additional macroeconomic control variables: \textit{Unemployment}, or the national unemployment rate; \textit{GDPGrowth}, or the annual growth rate for gross domestic product; and \textit{Inflation}, or the annual inflation rate. All three of these variables...
are linked by scholars to strike activity and all three have been demonstrated by other scholars to be positive predictors of strike activity (Ingram et al., 1993; Kalecki, 1943; Rees, 1952).  

**Results**

The results of the seven regression models are displayed in Tables 3 through 5. Model 1 is displayed in Table 3, and it provides evidence supporting the first hypothesis, that globalization is negatively related to strike rates in the aggregate. In Model 1, the independent variable Globalization is a significant negative predictor of strike rates and indeed has the largest coefficient out of any of the variables in the model, significant or not. Union centralization is also a significant negative predictor of strike rates, as expected given the literature on centralization and wage restraint (Calmfors and Drifill, 1988).

<table>
<thead>
<tr>
<th>DV: Strikerate</th>
<th>1</th>
<th>(SE)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Globalization</td>
<td>-44.876*</td>
<td>(20.125)</td>
</tr>
<tr>
<td>Density</td>
<td>.049</td>
<td>.803</td>
</tr>
<tr>
<td>LeftPart</td>
<td>-.405</td>
<td>(11.316)</td>
</tr>
<tr>
<td>Central</td>
<td>-13.409*</td>
<td>(4.363)</td>
</tr>
<tr>
<td>IndEmpl</td>
<td>-7.284*</td>
<td>(3.690)</td>
</tr>
<tr>
<td>StateGDP</td>
<td>-2.226*</td>
<td>(1.096)</td>
</tr>
<tr>
<td>RealWages</td>
<td>-15.079*</td>
<td>(3.062)</td>
</tr>
<tr>
<td>Unemployment</td>
<td>10.404*</td>
<td>(4.492)</td>
</tr>
<tr>
<td>GDPGrowth</td>
<td>2.902</td>
<td>(4.472)</td>
</tr>
<tr>
<td>Inflation</td>
<td>26.743*</td>
<td>(3.076)</td>
</tr>
<tr>
<td>Lagged DV</td>
<td>13.889</td>
<td>(32.983)</td>
</tr>
</tbody>
</table>

| N                     | 669   |
| R^2                   | .172  |

All coefficients are unstandardized B measurements; standard errors given in parentheses.  
* indicates significance at the p = .05 level or below.  
Collinearity statistics indicate tolerance levels above .10 and VIF statistics below 10.
All of the macroeconomic independent variables, except GDPGrowth, are also significant predictors of strike rates in the expected manner. In the aggregate, IndEmpl is a significant negative predictor, thus not eliminating the hypothesis that deindustrialization erodes the collective action power of workers posited by Visser (1991), Troy (1990) and Bell (1973). The degree of left party dominance (LeftPart), however, is not significant.

In Model 1 union density itself is not significant. This result suggests that the mechanism by which globalization is linked to labor quiescence, put forth in the first hypothesis, is dependent on institutional configurations that are not addressed in the aggregate model. The possibility that the relationship between globalization, union density and strike rates is non-monotonic, rather than linear, in the manner presented by Tsebelis and Lange (1995) and Shalev (1992) is still intact and is addressed in Models 2 through 7 through the process of splitting the file to expose how the level of union density and change in union density might mediate the way in which globalization affects strikes.

It should also be noted that a large number, seven out of 11, independent variables in the model are significant, and that some of them, mainly the macroeconomic variables, could theoretically be predictors of each other. This raises the question of multicollinearity in the model. However, collinearity tests on the model produce tolerance levels above .10 and VIF statistics below 10, above and below the acceptable thresholds. Collinearity statistics are likewise run on the remainder of the models (numbers 2 through 7) and they produce the same results, indicating that multicollinearity is not present.

Table 4 presents the results of Models 2 and 3, which divide the data set into ‘high union density’ and ‘low union density’ sets. These sets are created by sorting the cases into those with union density rates that exceed and those that are below the median (39.1) for the entire data set. In some instances, the 50 observations that comprise an entire country (one observation per year, 1952–2001) were sorted into one set, while in others, country observations were sorted into different sets. The total number of observations is roughly equal between the sets: 321 for high density and 347 for low density. The results do reveal that globalization bears a different relationship to the observations depending on the set: it is a significant, negative predictor with a rather large coefficient in the low density set while it is not significant though positive in the high
density set. In the high density set, furthermore, union centralization is a negative predictor of strike rates while it is not significant in the low density set. The macroeconomic control variables also have different relationships to strike rates in the two sets, with the exceptions of growth of real wages and inflation, which are consistent across the two sets: negative in the case of real wage growth and positive for inflation. While both IndEmpl and StateGDP are significant negative predictors in the low density set, they are neither significant nor do they have negative coefficients in the high density set. While unemployment is a significant positive predictor in the high density set, it is not significant in the low density set.

Models 4 through 7, displayed in Table 5, build off of the results of Models 2 and 3 and try to capture the non-monadic structure predicted by Tsebelis and Lange (1995).

The aggregate data set is now sorted into countries, rather than by case, based on the average level of union density as compared to the

### TABLE 4
Regression Models 2 and 3, Globalization and Strike Rates in High and Low Density Cases

<table>
<thead>
<tr>
<th>DV: Strikerate</th>
<th>2 High Density</th>
<th>3 Low Density</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B (SE)</td>
<td>B (SE)</td>
</tr>
<tr>
<td>Globalization</td>
<td>34.683 (46.477)</td>
<td>-65.967* (27.244)</td>
</tr>
<tr>
<td>LeftPart</td>
<td>-25.142 (16.697)</td>
<td>26.380 (15.405)</td>
</tr>
<tr>
<td>Central</td>
<td>-13.664* (5.725)</td>
<td>-7.630 (7.090)</td>
</tr>
<tr>
<td>IndEmpl</td>
<td>7.126 (5.312)</td>
<td>-20.034* (6.033)</td>
</tr>
<tr>
<td>StateGDP</td>
<td>.127 (1.481)</td>
<td>-4.706* (2.092)</td>
</tr>
<tr>
<td>Unemployment</td>
<td>13.329* (6.233)</td>
<td>6.525 (7.660)</td>
</tr>
<tr>
<td>GDPGrowth</td>
<td>.855 (7.069)</td>
<td>1.295 (5.999)</td>
</tr>
<tr>
<td>Inflation</td>
<td>26.906* (3.900)</td>
<td>30.862* (5.105)</td>
</tr>
<tr>
<td>Lagged DV</td>
<td>-18.997 (43.650)</td>
<td>59.130 (48.925)</td>
</tr>
</tbody>
</table>

N 321 347
R² .182 .233

All coefficients are unstandardized B measurements; standard errors given in parentheses.
*p indicates significance at the \( p = .05 \) level or below.
Collinearity statistics indicate tolerance levels above .10 and VIF statistics below 10.
### TABLE 5
Regression Models 4 through 7, Globalization and Strike Rates and Change in High and Low Density Countries

**DV: Strikerate**

<table>
<thead>
<tr>
<th></th>
<th>4 High-Increase B (SE)</th>
<th>5 High-Decrease B (SE)</th>
<th>6 Low-Increase B (SE)</th>
<th>7 Low-Decrease B (SE)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Globalization</td>
<td>32.146 (42.762)</td>
<td>278.695* (63.085)</td>
<td>-201.318* (99.565)</td>
<td>-32.535* (10.834)</td>
</tr>
<tr>
<td>LeftPart</td>
<td>20.888 (26.272)</td>
<td>-29.397 (16.747)</td>
<td>69.879 (54.597)</td>
<td>7.383 (5.925)</td>
</tr>
<tr>
<td>IndEmpl</td>
<td>23.743* (10.499)</td>
<td>18.871* (8.774)</td>
<td>-51.852* (25.993)</td>
<td>-5.066* (2.349)</td>
</tr>
<tr>
<td>StateGDP</td>
<td>-2.909 (3.648)</td>
<td>.924 (1.143)</td>
<td>-2.734 (7.216)</td>
<td>.741 (.919)</td>
</tr>
<tr>
<td>RealWages</td>
<td>2.328 (5.477)</td>
<td>-16.182 (8.669)</td>
<td>98.583* (26.371)</td>
<td>-10.786* (1.656)</td>
</tr>
<tr>
<td>Inflation</td>
<td>5.184 (5.279)</td>
<td>34.829* (6.129)</td>
<td>16.677 (14.069)</td>
<td>6.067* (1.987)</td>
</tr>
<tr>
<td>Lagged DV</td>
<td>-29.777 (43.010)</td>
<td>199.580* (98.324)</td>
<td>117.707 (106.411)</td>
<td>-5.852 (21.502)</td>
</tr>
</tbody>
</table>

\[ N = 191 \]

\[ R^2 = .084 \]

All coefficients are unstandardized B measurements; standard errors given in parentheses. * indicates significance at the \( p = .05 \) level or below. Collinearity statistics indicate tolerance levels above .10 and VIF statistics below 10.
median and the direction of change, increasing or decreasing, of union density experienced by the country. For the latter distinction, the sorting is completed by subtracting the average union density level for the years 1980–2001 from the average union density level for the years 1952–1979 for each country. The purpose of this is to capture the change of union density levels before and after the onset of globalization. For the purposes of my analysis, I use Visser’s (1994) estimate of 1980 as the starting point of globalization, as 1980 marks the year by which most industrialized countries completely liberalized their national capital accounts and foreign investment policies. Also, by 1980 the full impact of the collapse of the Bretton-Woods fixed exchange rate system was felt by most industrialized countries and the rate of both international trade and investment began to rapidly increase. The results of the sort are presented in Figure 1.

Models 4 through 7 empirically test the hypothetical non-monotonic relationship between ‘labor strength’ and strike activity employed by Tsebelis and Lange (1995) and Shalev (1992), and the results seem to partially validate their hypotheses. In countries where union density is high and increases from the pre- to the post-globalization period, globalization is not a significant predictor

FIGURE 1
Sorting Countries by Level of and Change in Union Density

Change in Union Density
(average density 1980–2001) – (average density 1952–80)

<table>
<thead>
<tr>
<th>Union Density</th>
<th>Increase</th>
<th>Decrease</th>
</tr>
</thead>
<tbody>
<tr>
<td>High</td>
<td>Belgium</td>
<td>Australia</td>
</tr>
<tr>
<td></td>
<td>Denmark</td>
<td>Austria</td>
</tr>
<tr>
<td></td>
<td>Finland</td>
<td>United Kingdom</td>
</tr>
<tr>
<td></td>
<td>Norway</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Sweden (191)</td>
<td>(131)</td>
</tr>
<tr>
<td>Low</td>
<td>Canada</td>
<td>France</td>
</tr>
<tr>
<td></td>
<td>Italy</td>
<td>Germany</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Japan</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Netherlands</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Switzerland (235)</td>
</tr>
</tbody>
</table>

Note: Number of observations per set is given in parentheses.
of strike rate. Instead, only IndEmpl is, and it is a positive predictor. In countries where union density is high but decreases in the post-globalization era, globalization is a significant but positive predictor of strike rates, with an extremely large coefficient. IndEmpl is a positive predictor of strike rates as is inflation. For countries qualified by low density rates, but where union density increases from the pre- to the post-globalization time-period, globalization is a significant negative predictor of strike rates, as is IndEmpl. However, growth of real wages is a significant positive predictor. Finally, in countries with low average union density rates that decrease from the pre- to the post-globalization period, globalization is also a significant negative predictor. Union centralization is as well, along with a host of macroeconomic control variables: IndEmpl, growth of real wages, unemployment, growth of GDP. Inflation is also significant for this group, but it is positive.

Conclusion

Models 4 through 7 present the most comprehensive picture of how globalization affects strikes in the 15 countries in the analysis and with Models 1 through 3, some significant conclusions can be yielded.

First, in the aggregate, globalization (measured in terms of international trade, investment and liberalization of financial controls) is negatively related to union militancy, but is joined by a large number of other macroeconomic variables also related to strikes. But it is generally accepted that macroeconomic factors affect unions and workers differently in different countries due to domestic-level labor market institutions, and the aggregate model does not adequately capture this.

Second, where labor is ‘strong’, using union density as the primary measurement of union strength, globalization is not a significant factor in determining strikes. However, where union density is low, globalization is a significant contributor to labor quiescence. These findings are consistent with Shalev’s (1992). Other macroeconomic variables that might affect strike activity are significant in both high and low density countries, while one institutional variable, degree of union centralization, reduces labor militancy in countries with high levels of union density.
Finally, considering both the strength of labor and change in labor strength, strikes are almost wholly unaffected by macroeconomic forces in countries where unions are strong and have grown despite globalization. Where union density is on average high but has decreased during globalization, globalization is a highly significant contributor to union militancy, as are two other macroeconomic variables, growth of industrial employment and inflation to a much lesser extent. This finding is most consistent with the result found by Tsebelis and Lange (1995): that strikes increase in countries in which labor is ordinarily a strong player, but is becoming less powerful.

However, the results deviate from Tsebelis and Lange’s findings in the case of countries where unions are not as strong, but have experienced growth in the post-1980 period. For these countries, globalization is a (quite strong) force promoting quiescence rather than militancy. But the curvilinear relationship described by Tsebelis and Lange is borne out again when looking at countries where union density is low and has become lower in the post-globalization era. In these countries, globalization is also related to labor quiescence. But also noteworthy is the sheer number of other macroeconomic variables that also are negatively related to strikes. The latter finding supports previous findings by Wallerstein and Western (2000) and Western (1997), among others, demonstrating that the degree to which macroeconomic forces affect unions and workers is determined by domestic labor market institutions such as the structure of wage bargaining, union density levels, the position of social-democratic parties and the provision and management of public selective benefits such as unemployment insurance.

* * *

These results underscore the argument that institutional configurations of labor markets matter. They play a role in determining how broad macroeconomic forces affect domestic actors in the wage bargaining process, of which strikes are an important component. The results also facilitate the argument that change – of institutional features and the position of actors in political economies such as labor unions – is also critical. Without consideration of both static institutional configurations and dynamic actors within those configurations, much of the non-linear effects of economic processes on economies can be missed.
Data Appendix: Variables

**Strikerate** = (days lost to strikes and lockouts in all industries)/(total working population)

*Source:* International Labor Organization (various years) *Yearbook of Labour Statistics.*

**Globalization** = [(exports + imports)/GDP] + [(direct investment abroad + portfolio investment abroad + foreign direct investment)/GDP] + [(Quinn and Inclan index)/14]

*Sources:* International Monetary Fund (various years) *International Financial Statistics Yearbook*; Dennis Quinn and Carla Inclan’s ‘Measuring Financial Openness’ database provided by Quinn to author.

**Density** = (unionized workers)/(total workers)


**LeftPart** = [(percent of portfolios held by left parties) + (percent of governing seats held by left parties) + (percent of total seats in national legislatures held by left parties)] – [(percent of portfolios held by left parties) + (percent of governing seats held by left parties) + (percent of total seats in national legislatures held by left parties)]

*Sources:*
held by right parties) + (percent of governing seats held by right parties) + (percent of total seats in national legislatures held by right parties)]


Note: For more information on the use of the partisan variables see Swank (1998).

Central = Index measurement, labeled by principal investigators as ‘CONINV’, between 1 and 11, where 1 indicates the lowest level of centralization (union confederation completely uninvolved in wage setting) and 11 indicates the highest level of centralization (union confederation negotiates national wage agreements with limits on supplemental bargaining).


IndEmpl = (workers employed in manufacturing)/(total workforce)


StateGDP = (total spent by state on social welfare)/GDP


RealWages = annual growth of real wages for all workers

Source: International Labor Organization (various years) Yearbook of Labour Statistics.

Unemployment = national unemployment rate

Source: International Labor Organization (various years) Yearbook of Labour Statistics.

GDPGrowth = annual growth of national gross domestic product

Source: International Monetary Fund (various years) International Financial Statistics Yearbook.
Inflation = national inflation rate


Notes

The author would like to thank several people for their help on this article. The first is Ms Lyda Fontes, who served as the research assistant and helped in data collection. The author is also indebted to Marcus Crepaz and Andy Martin, both of whom served as discussants on panels where the study was presented as a paper and provided useful feedback, as well as Michael Shalev who provided valuable feedback and advice on a later iteration of the article.

1. Brecher concludes his exhaustive historical study of industrial protest in the US with a quote by former United Auto Workers’ president Walter Reuther, ‘There is a new breed of workers in the plant who is less willing to accept corporate decisions that pre-empt his own decisions’ (Brecher, 1972: 264). Brecher goes on to quote several other sources that indicate that the ‘new’ generation of workers in American industry are far more willing than previous generations to use strikes to voice disagreement with management, to facilitate wage and other workplace demands and to communicate political messages to society at large. Brecher extensively documents the intensification of industrial conflict – both through authorized and illegal strike activity – against employers in all sectors of the economy; and also to an extent against the union establishment itself.

2. Though Taylor Dark’s (1999) innovative work The Unions and the Democrats: An Enduring Alliance points out that during the 1993 NAFTA debate in the US opposition to the trade agreement was divided between workers in exposed and private sectors and workers in non-tradable public and service sectors. Dark is correct to stress that sectoral distinctions are important in determining the reactions of organized labor to globalization, however several examples indicate that traditionally unexposed sectors are likewise susceptible to the pressures of globalization. For example, during the 1995–6 General Strike in France, the public transportation workers’ union led the popular opposition against fiscal austerity measures instituted by the Chirac government. In the conflict, international economic forces were a key component alongside austerity. The striking union and its allies argued that a host of regional and global pressures, from France’s plan to join the European Monetary Union to increased relocation of French industry abroad in search of cheaper labor costs, had prompted the budget cuts to social services and public sector wages and came to regard globalization as an integral component of the threat to the French welfare and wage system.


4. For a full discussion of the various measurements of strike activity used by scholars who study industrial conflict, consult Korpi and Shalev (1980). The measurement used in this study, referred to by Shalev (1992) as ‘relative volume’, is best suited for aggregate analysis of strikes because it combines the most important measurements of strike activity: frequency, size and duration.
5. For the purposes of this study, I employ a definition of direct investment abroad that corresponds with that of the US Department of Commerce: the ownership or control by a country’s resident of at least 10 percent of the voting securities of an incorporated foreign business enterprise; see Malatoni (1997).

6. Though Wallerstein and Western (2000) note that under centralized bargaining systems, repudiation of peak agreements by locals or groups of workers is a possible outcome.

7. However, in their empirical study of the incidence of strikes in British manufacturing, Ingram et al. (1993) uncovered a counter-cyclical relationship between unemployment and unions’ willingness to strike. As unemployment worsened, so did strike activity in contrast to theoretical expectations and some empirical studies of strike activity in the US.

8. Denis Quinn and Carla Inclan’s data set ‘Measuring Financial Openness’ also validates 1980 as a threshold year for the liberalization of international capital markets.

References


James A. Piazza