

MODELLING TRADE UNION GROWTH AND DECLINE IN THE REPUBLIC OF IRELAND

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The 1980s proved to be a particularly difficult decade for trade unions in Ireland. Between 1980 and 1987 Irish unions lost some 70,000 members, declining from 55 per cent to 44 per cent of the civilian employee workforce and from 62 per cent to 57 per cent of total employees at work. This represents the most serious, sustained loss of membership since the recession of the 1920s. Fully comparable data are not yet available for the period since 1987. Judging from membership data for unions affiliated to the Irish Congress of Trade Unions, however, it appears that the rate of decline decreased after 1987 and there may even have been a very modest net rise in membership during the early 1990s. Still, by 1987 the membership gains achieved by Irish unions since the early 1970s had been wiped out.

Such serious losses in membership levels and in levels of employment and workforce penetration represent but one aspect - albeit a very fundamental one - of a more general problem that has faced Irish unions. Waning numerical strength has contributed to a growing belief that unions in Ireland, as elsewhere in Western Europe, face increasing marginalisation in the context of the many changes underway in the structure of the workforce and the practice of industrial relations and human resource management. Such a belief stands in stark contrast to one of the central tenets of informed commentary on industrial relations over much of the postwar period: namely, that unions were set to increase their influence over decision-making at workplace, company and even national levels into the foreseeable future. It has to be recognised, at the same time, that recent projections of declining trade union influence are seldom based on any systematic data or analysis of the situation of trade unions. Nonetheless, these projections threaten to compound the difficulties faced by trade unions, through their influence on the confidence of members and potential members in the benefits of unionising.

This paper explores the factors which have contributed to membership growth and decline in Ireland in the context of a discussion of the theory of trade union growth and decline.

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Trade Union Growth and Decline in General

(i) Cyclical Influences

Three sets of factors influence aggregate trade union growth or decline over time. These can be described as *cyclical influences*, *institutional influences* and *structural influences*. Cyclical influences emanate from the business cycle and affect both the inclination and opportunity of people to join trade unions. For example, it is expected, other things being equal, that the greater the rate of increase in wage levels, the greater the inclination of people to join trade unions, or to remain trade union members. This is attributed to the operation of a 'credit effect': the sharper the rate of increase in wage levels, the more unions tend - correctly, or otherwise - to be 'credited' with the capacity to deliver wage rises in collective bargaining. In a similar way, the inclination of people to join, or remain within, trade unions is expected to be positively associated, other things being equal, with the rate of inflation. Inflation may influence unionisation through a so-called 'threat effect': the higher the rate of inflation, the more likely it becomes that people will turn to trade unions for protection from a threatened squeeze on their living standards. Obviously, these influences may interact in various ways (cf. Bain and Elsheikh, 1976: 62-65).

Another cyclical variable that affects unionisation is the degree of tightness in the labour market. The tighter the labour market becomes - whether measured in terms of the rate of unemployment or changes in the level of employment - the greater, on balance, the probability that unions will gain members. A tight labour market reduces the risk of retaliation from employers in the event of employees opting to unionise, and thus reduces the cost of unionisation to employees. Labour market buoyancy might also enhance the bargaining confidence and power of unions, and hence their attractiveness to members and potential members. The degree of labour market tightness also affects the opportunity to unionise in a rather obvious way. When people lose their jobs in a slackening labour market they may lose their incentive, or even their right, to remain trade union members. Other similar cyclical influences may also affect aggregate trade union membership, for example, the rate of change in labour productivity, or the rate of change in money or real profit levels, but these are likely, at best, to be of secondary importance relative to the effects of more immediate labour market forces (cf. Roche and Larragy, 1990). In considering the influence of cyclical factors in accounting for trends in trade union membership, it is worth noting that, almost by definition, these factors can lead to sharp annual fluctuations in the rate of trade union growth. In this important respect cyclical influences contrast with both institutional and structural influences.

(ii) Institutional Influences

Institutional influences arise from the manner in which the institutions regulating the labour market and industrial relations are structured. Of primary importance here are such things as employment and industrial relations legislation, state policies and employer strategies. Laws may be passed which either help or hinder the efforts of trade unions to recruit, organise and represent members. An example of the former is the 1946 Industrial Relations Act which established the Irish Labour Court, and of the latter, is the series of revisions to trade union and industrial relations laws introduced during the Thatcher era in the United Kingdom (cf. Roche and Larragy, 1990; Freeman and Pelletier, 1990). Less direct in influence is the general stance governments adopt towards trade unions. If governments view unions as an inevitable, or even desirable, feature of economic and business life, they may pursue policies which support recruitment activities. For example, the broadly positive approach to unions adopted by successive Irish governments from about the late 1940s resulted in very tangible benefits. The ease with which unions could organise in the public sector is one such benefit, the policy of State agencies such as the IDA of encouraging multinationals to recognise trade unions is another. In like manner, the strategies of employers may exert an important influence on unionisation. Such strategies may influence employer reactions to the short-run changes in labour market conditions, discussed above. But employer strategies are not shaped, in the main, by short-term considerations, but by longer-term ideologies, fashions and projections regarding the 'best' way to manage employees. Views on the advisability of accepting and supporting a union presence in the company represents a critical variable in employer strategies. Where 'doing business with unions' is believed by employers to be the best means - or the only viable means - of managing employees, unions face an easier task in gaining recognition and membership than where they face outright hostility, or more subtle opposition. In contrast with cyclical influences, which may lead to short-run fluctuations in trade union membership, institutional influences more usually shift the rate of growth over longer periods - the scale of such shifts, as well as their direction, depending, of course, on the precise character, or combination, of the influences in question.

Two further institutional influences should also be noted. The political composition of governments may influence trade union growth. Governments of left-wing and social democratic political parties might be expected to adopt a more benign approach to trade unions and their activities than right-wing or liberal governments. The same logic might hold in the case of the political composition of coalition governments. Coalitions in which left-wing, labour or social democratic parties participate are more likely to pursue policies supportive of trade union growth than coalitions in which they are excluded, or play a very marginal role. Finally, the level at which collective bargaining, and, in particular, wage bargaining, is conducted might affect trade union growth. It could be argued that the greater the degree to which bargaining is conducted

at the level of individual companies, the greater the likelihood that unions will routinely bring pressure to bear on employees to join the union, or, if already in membership, not to drop out through apathy or a belief that it is possible to 'free ride' on whatever benefits unions deliver through their wage bargaining activities.

(iii) Structural Influences

The final set of influences on trade union growth and decline comprises the changing structure of the workforce and changes in the wider social and political structure of a society. It is well established that unions find it easier to penetrate some industrial sectors than others. The traditional heartlands of trade union movements have been in working-class communities in such industries as mining, dockworking, manufacturing, utilities and transport. Unions internationally have also generally found it easier to recruit and retain members in the public sector than in private business. Gender and occupational differences in propensity and opportunity to unionise have also been established. Men, for example, have shown a higher inclination, or have enjoyed a greater opportunity, to unionise than women. Part-time workers and other workers on 'non-typical' employment contracts have tended to be characterised by lower rates of unionisation than workers on conventional full-time, permanent contracts. The scale of the enterprises in which people work have also been shown to be an important influence on the probability that they will be union members. Higher levels of unionisation are more likely in large-scale enterprises than in small.

The significance for the trend in union growth of these and other structural differences in the inclination and opportunity of employees to join unions should be immediately apparent. As the distribution of the workforce changes across sectors, occupations, genders, types of employment contract (full-time, part-time, permanent, non-permanent etc.) and enterprise sizes, the trend in union growth is either accelerated or decelerated, depending on the manner in which these structural effects aggregate or combine. Over a very long time, net structural effects probably first accelerate trade union growth, as male, blue-collar manufacturing employment grows, and then lead to a deceleration of the growth trend, as white-collar, female and tertiary sector employment grows.

Structural differences in inclination or opportunity to unionise are not, however, invariant over time, introducing a further complication into the theory of union growth. Institutional changes can affect structural differences in levels of unionisation. For example, unions in the Irish public service were denied a formal role in the determination of pay and conditions until 1950 or later. Following the introduction of the conciliation and arbitration systems for different categories of public servants, unions in the public service assumed a more effective and visible role in determining pay and conditions. This change in State policy towards its own employees probably contributed to an improvement in the density of public sector unionism relative to the private sector. A

further institutional change that affected existing gender differences in unionisation was the abolition of the marriage bar in the public service in the early 1970s and the subsequent 'normalisation' of employment for married women across Irish industry. Changes in the wider social and political structures of societies also change structural differences in propensities to unionise. Over a long period, such dimensions of wider social outlooks as views on womens' employment and attitudes to the 'propriety' of white-collar and professional workers joining trade unions undergo change. Such changes in social outlooks interact back upon structural differences in probabilities of unionisation, altering their scale.

In a broader sense, too, the value placed on collective association and collective action by people may change, with significant implications for trade unions. One such aspect of long-run sociological change, is the progressive erosion of the value placed on solidarity in the cultures of working-class communities (cf. Goldthorpe et al, 1971). A recent example of a much discussed trend in contemporary culture which may further affect unions is the alleged growth of 'post materialism' or 'post modernism', with its supposed impatience with bureaucracy, rules, standardisation and autocratic forms of control and representation (cf. Inglehart, 1990; Rose, 1988).

Closely related to changing social structure and culture is the influence exerted on union growth of changing political structure and culture. Public attitudes to the value and role of trade unions are subject to long-run change, and the changes which occur can influence the general popularity of unions. Unions in virtually all Western nations, albeit to varying degrees, had to struggle to gain the status of lawful organisations. A measure of social acceptability, or even respectability, was gradually gained once the taint of criminality was removed. Following the destruction of Western Europe in the Second World War, unions came to be viewed as bulwarks of democracy in postwar economic and political reconstruction. A generally benign view of the place of unions in economic and political affairs came to dominate public attitudes. And so it remained up to the 1970s or beyond. The ascendancy of neo-liberal political attitudes in many European countries during the 1980s brought into question the benign view of trade unions. Sometimes, as in Great Britain, the reappraisal of unions resulted in their being portrayed as obstructionist, outmoded and economically malign.

Structural influences on union growth tend, in the main, to change very slowly over a long-period of time. As such, their primary influence is on the underlying trend in unionisation. They can, however, exert a more abrupt or medium-term effect on unionisation, as, for example, when a recession leads to a dramatic change in the structure of the workforce and economic activity, or when a social cataclysm, like war, leads to abrupt change in the prevailing social and political climate of opinion. Cyclical influences lead to short-run fluctuations around the trend dictated by structural change, while institutional influences increase or reduce the level of growth over the periods of time in which the influences in question remain in force.

It is now well established that the influences outlined above prove to be of varying empirical importance across different nations and, possibly, across different periods of time within nations. Thus, for example, the Wagner Act introduced in the United States in 1937 to aid union recruitment and organisation appears to have permanently altered the influence of cyclical and structural variables on union growth (Stepina and Fiorito, 1986). Comparative and temporal differences in the influence of cyclical and other factors on unionisation point to the importance and complexity of the institutional and historical circumstances through which the various types of influence come to bear on the trend in trade union growth. It should also be apparent that a number of the influences discussed are intercorrelated, making statistical estimation of their discrete effects difficult. Moreover, data are not readily available to test for the effects of several influences, most notably, institutional and structural influences.

Table 1: Influences on Trade Union Growth and Decline

| Type of Influence | Examples | Manner in which Effect on Union Growth is Exerted |
|--------------------------|---|---|
| CYCLICAL INFLUENCES | Rate of change in: wages prices employees at work unemployment profits productivity | Effects reflected in <i>short-run</i> changes. |
| INSTITUTIONAL INFLUENCES | Legislative initiatives Changes in bargaining levels Political composition of governments Employer ideologies/strategies | Developments may accelerate or retard growth during <i>particular periods</i> , or on a long-term basis. |
| STRUCTURAL INFLUENCES | Changing sectoral/occupational/ gender composition of workforce Level of employment concentration General social attitudes to trade unionism | Usually structural changes occur incrementally and their impact is reflected in <i>long-run</i> trends in union growth. |

Modelling Irish Trade Union Growth and Decline

Table 1 summarises the theoretical framework for comprehending the sources of trade union growth and decline. Table 2 summarises the basic statistics of trade union growth in Ireland, concentrating on the trend during the 1980s. Table 3 presents the results obtained when the theoretical framework is used to model the influences on the annual rate of trade union growth in Ireland over the period since 1930. The method of

Table 2: Trade Union Membership Levels in Ireland, 1945-1990 *

| | Membership | Annual Rate of Change† | Employment Density** | Workforce Density†† |
|---------|------------|---------------------------|-------------------------|------------------------|
| 1945 | 172,300 | | 27.7 | 25.4 |
| 1955 | 305,600 | | 45.7 | 41.6 |
| 1965 | 358,000 | | 52.4 | 48.8 |
| 1975 | 448,800 | | 59.3 | 52.3 |
| 1980 | 527,200 | 1.99 | 61.8 | 55.2 |
| 1981 | 524,400 | -0.54 | 61.5 | 53.5 |
| 1982 | 519,900 | -0.53 | 60.3 | 51.4 |
| 1983 | 513,000 | -1.24 | 61.1 | 49.7 |
| 1984 | 500,200 | -2.50 | 60.7 | 48.2 |
| 1985 | 483,300 | -3.38 | 59.9 | 46.6 |
| 1986 | 471,000 | -2.54 | 58.0 | 45.0 |
| 1987 | 457,300 | -2.93 | 56.2 | 43.1 |
| 1988*** | | (2.92) | (57.1) | (44.2) |
| 1989 | | (-2.54) | (55.6) | (43.4) |
| 1990 | | (0.82) | (54.6) | (43.2) |

* Series presented here differ, usually slightly, from previously published estimates due to data revision.

† In calculating annual rates of change in trade union membership, estimates of annual levels of membership were adjusted to improve the validity and reliability of the rates of change series. The rationale for adjusting the series and the methodology adopted are outlined in Roche and Larragy (1989;1990).

** Employment Density = (trade union membership/civilian employees at work) x 100

†† Workforce Density = (trade union membership/civilian employee workforce) x 100

*** Estimates in parentheses from 1988-1990 were derived from the annual affiliated membership of unions affiliated to the Irish Congress of Trade Unions. These estimates were adjusted in a manner analogous to the adjustments made to the earlier membership series (see † and sources cited therein).

Sources: DUES Data Series on Trade Unions in Ireland (Department of Industrial Relations, University College Dublin and University of Mannheim Centre for European Social Research, Germany); Irish Congress of Trade Unions, *Annual Reports*.

estimation used is Ordinary Least Squares Regression.¹ Reasonably consistent time series for a number of dependent and independent variables are available for the period 1930-1987. Equation 3.1 presents the results of the modelling exercise over this period. From 1987-1990 estimates of the annual rate of trade union growth were obtained from data on the membership of unions affiliated to the Irish Congress of Trade Unions. Because the use of this series represents a discontinuity in the dependent variable, the results of the modelling exercise over the entire period, 1930-1990, are presented separately in equation 3.2. Obviously, these results are tentative and should be viewed as provisional.

Table 3: Trade Union Growth and Decline in Ireland: Results of OLS Regression Modelling

| Equation (a) Period | 3.1 1930-1987 | 3.2 1930-1990 | 3.3 1930-1990 | 3.4 1930-1990 |
|---------------------------------|------------------|------------------|------------------|------------------|
| Adjusted R2 | 0.78 | 0.78 | 0.79 | 0.77 |
| F | 26.47 * | 27.63 * | 20.68 * | 19.62 * |
| Durbin Watson | 1.88 † | 1.96 † | 2.1 † | 2.13 † |
| <i>Cyclical Influences</i> | | | | |
| WRATE | 0.23 ** | 0.25 ** | 0.20 | 0.19 |
| PRATE | 0.03 | 0.01 | 0.09 | 0.06 |
| ERATE | 0.41 * | 0.41 * | 0.47 * | 0.43 * |
| <i>Institutional Influences</i> | | | | |
| WST | -0.45 * | -0.45 * | -0.43 * | -0.45 * |
| TRANSITION | 0.40 * | 0.39 * | 0.47 * | -0.36 * |
| LABOUR | -0.09 | -0.09 | -0.10 | -0.06 |
| NPA | -0.06 | -0.06 | -0.10 | -0.07 |
| RECOGNITION 1 (b) | | | | |
| RECOGNITION 2 | | | | |
| RECOGNITION 3 | | | | |
| <i>Structural Influences</i> | | | | |
| DENSITY | -0.37 * | -0.38 * | -1.95 * | |
| WHITE-COLLAR | | | -0.26 | -0.15 |
| INDUSTRY | | | 1.04 * | -0.09 |
| PUBLIC DOMAIN | | | 0.70 ** | -0.18 |
| FEMALES | | | 0.30 | 0.16 |

* denotes statistical significance at the 1% level; ** denotes statistical significance at the 5% level

† indicates the absence of first-order serial correlation at the 1% level.

(a) All regression coefficients reported are in standardised form (beta).

(b) For results on the union recognition variables (see Table 4).

(c) Variables: The dependent variable is the annual percentage rate of change in annual trade union membership. The independent variables are defined as follows. WRATE = the annual percentage rate of change in money earnings; PRATE = the rate of inflation; ERATE = the annual percentage rate of change in civilian employees at work; WST = a dummy variable representing the introduction of a wages standstill and the enactment of the Trade Union Act, both in 1941; TRANSITION = a dummy representing the return to free collective bargaining following wartime controls (1946-1950); LABOUR = a dummy variable scored as 1 during years in which the Irish Labour Party participated in inter-party or coalition governments; NPA = a dummy variable scored as 1 during years in which national wage accords/agreements/understandings were in operation. RECOGNITION1 = Number of Labour Court recommendations dealing with trade union recognition issues per 100 recommendations issued (average per year for five year periods from 1947-86 and for 1987-90); RECOGNITION2 = five-year moving average of workers involved in strikes arising due to trade union recognition as a percentage of all workers involved in strikes (1965-1990); RECOGNITION3 = five-year moving average of working days lost due to strikes as a percentage of all working days lost due to strikes (1965-1990); DENSITY = the level of employment density, lagged by one year to avoid spurious correlation with the dependent variable; WHITE-COLLAR = employees in white-collar occupations as a percentage of all gainfully occupied employees; INDUSTRY = all employees in manufacturing, utilities and transport as a percentage of all employees at work; PUBLIC DOMAIN = all employees working in the public sector as a percentage of all employees at work; FEMALES = female employees as a percentage of all employees at work.

Sources: Information on sources and on the construction of variables is available from the author.

The results obtained from the extended modelling exercise are broadly consistent with those obtained from earlier research (Roche and Larragy, 1990). Of the cyclical influences, the trend in earnings and the trend in employees at work are confirmed as important influences on unionisation in Ireland. The rate of inflation proves however not to be of significance. This is due both to the tendency for inflationary peaks in Ireland to have coincided with recessions - the latter exerting a countervailing influence on the propensity to unionise in times of high inflation - and, probably, to an 'inurement effect', whereby the largely endemic character of inflation, at least up until recent years, combined with the prominence of the consumer price index in wage determination in Ireland, may have instituted a strong expectation that wages would almost automatically be protected against inflationary pressure.

Several institutional influences are shown to have been at work. The introduction of a wage freeze (subsequently modified) in 1941, combined with the enactment of a statute (the Trade Union Act 1941) intended to rationalise trade union structure, exerted a sharp drag on union membership in that year. The period of the late 1940s to about 1950 also witnessed several mutually reinforcing institutional developments which accelerated trade union growth. The advent of the wage-round system of wage determination gave trade unions a new prominence, and higher level of visibility, in pay fixing. The setting up of the Labour Court in 1946 also increased the visibility and legitimacy of trade unions' role in the Irish labour market and industrial relations. These institutional forces combined over the late 1940s to bring about a sharp acceleration in trade union growth. This institutionally-induced acceleration effect seems to have petered out by the early 1950s.

The participation of the Irish Labour Party in inter-party and coalition governments since 1930 has been of no general benefit to Irish trade unions. This is not so surprising given that the main Irish political parties have not adopted sharply distinct party-political approaches to unions or industrial relations. Moreover, Labour has always been the minority partner in the governments which it has joined since the foundation of the State. The level at which wage bargaining was conducted also appears to have had a generally neutral effect on the growth of Irish trade unions. National wage agreements were no more, or no less, disadvantageous to unions than 'free-for-all' wage rounds. This probably reflects the actual occurrence of two-tier wage bargaining under national agreements in Ireland, along with the tendency for national agreements from the 1940s to the 1960s to operate, in practice, as little more than frameworks guiding wage-round negotiating.

The sole structural variable included in equations 3.1 and 3.2 is the prevailing level of trade union density, lagged by one year to avoid spurious correlation with the annual rate of trade union growth. This variable is highly significant in the Irish case. Lagged density is usually included in union growth models to capture what is known as the 'saturation effect'. Saturation arises when union density rises and those remaining unorganised become progressively less inclined to unionise and progressively more

difficult, and/or more costly, to organise. Analytically, such a structural effect is quite distinct from those influences on the trend in union growth which arise from changes in the structure of the workforce. However, over a long period of time it is likely that lagged density will, in fact, measure the combined influence of structural change in the workforce on union growth and the saturation effect proper, as it operates within various sectors and segments of the workforce.

In an attempt to separate out the impacts on union growth of saturation and structural change, four structural variables were entered into the model in addition to lagged density. These are the percentages in the workforce of white-collar employees, public sector employees, female employees and employees working in manufacturing, utilities and transport. The latter variable was intended to provide a measure of levels of employment in the traditional industrial strongholds of Irish trade unions.

The correlations between each of these variables and lagged density are extremely high, ranging from $r = 0.60$ in the case of the percentage of females to between $r = 0.90$ and 0.95 in the case of the remaining variables. The intercorrelation of structural variables themselves is also extremely high in the Irish case. As a result of such a high level of multicollinearity the signs, coefficients and significance levels of these variables are extremely sensitive to the inclusion or exclusion of the correlated variables from the estimating equations. This is illustrated by comparing equation 3.3, which includes all structural variables and lagged density, with equation 3.4 which includes all structural variables but excludes lagged density.

In an attempt to overcome this problem a composite structural variable was developed using principal components analysis. This variable continued to be highly correlated with lagged density, removing the possibility of obtaining reliable estimates of the discrete effects of structural change and saturation. Finally, lagged density was included in the composite structural variable derived by principal components analysis. The resulting composite measure of structural-saturation effects failed to explain more of the variance in annual union growth than the lagged density variable alone.

While compelling theoretical and empirical reasons remain for believing that various dimensions of structural change in the workforce affect the trend in trade union growth, no statistical confirmation of structural effects could be obtained from the data available. Lagged density appears to capture both the effect of saturation within sectors, as unionisation rises, and the net effect on propensity and opportunity to unionise of changes in the distribution of the workforce across sectors.

Theoretically it is expected that rises in the proportions of women workers, white-collar workers, workers in the private sector and workers outside traditional trade union industrial heartlands depress the rate of trade union growth. If this reasoning is sound in the Irish case, recent and projected changes in the structure of the Irish workforce present formidable obstacles to trade unions. All these dimensions of structural change now show rises in the proportions of the workforce in sectors and segments which unions have found it relatively difficult to penetrate. In this respect the

period since the early 1980s is historically unique. Hitherto, the effects of change in one structural dimension would have been moderated by the effects of changes in others. Recently, the effects of change on all dimensions would have been mutually reinforcing. Female employment grew from 34 per cent in 1980 to 40 per cent in 1990; white-collar workers rose from 53 per cent of all employees in 1980 to 58 per cent in 1990; over the same period employment in the public sector fell from 34 per cent to 31 per cent, and employees working in manufacturing, utilities and transport fell from 36 per cent to 32 per cent. There is little prospect that such trends will be reversed in the years ahead.

Employer Strategy and Union Recognition

Among the institutional influences discussed earlier was that of employer strategies towards trade unions and the conduct of collective bargaining. Commentators on Irish industrial relations have observed a growing scepticism among employers regarding the future viability of the prevailing 'pluralist' model of industrial relations strategy in which union recognition and adversarial collective bargaining are major features (cf. Roche, 1990; 1992). Since the 1980s the ideological high ground among employers has been occupied by advocates of 'human resource management'. Though the latter concept of industrial relations strategy is used to describe a variety of stances towards unions and employee representation, it sometimes describes a preference to proceed, where possible, without conceding recognition. If union recognition is deemed to be in practice unavoidable, employers guided by HRM concepts will nevertheless attempt to rationalise arrangements for union recognition; for example, by conceding recognition to one union only, or by minimizing multiple unionism. HRM-inspired strategies also threaten to marginalise union representation within companies, with a possible reduction in trade union density at company level. The current vogue in HRM ideology, concepts and principles represents a challenge to union recruitment and organisation which could conceivably already have reduced the effectiveness of unions in gaining more members, or in retaining existing members.

Linked with the growing popularity of new models for the conduct of relations with employees, are indications that the Industrial Development Authority may have softened its long-standing policy of encouraging incoming multi-nationals to adopt to local labour practices by recognising trade unions. (McGovern, 1989: 63). The Federation of Irish Employers also appears to have revised its stance on union recognition, and now stands prepared actively to support companies opting to remain non-union. In addition to the sophisticated challenges to union recognition and recruitment represented by human resource management, there appears to have occurred over the past decade a resurgence in more old fashioned tactics of union suppression (McGovern, 1989).

Tests of the impact of changing management strategy on union growth are difficult to construct due to the lack of appropriate time-series indicators of management behaviour. A proxy indicator of management strategy can nonetheless be developed

from available data on disputes over union recognition heard by the Labour Court. Further proxis can be developed from data on strikes over union recognition. Labour Court data covers the period 1947-1990 and strikes data the period 1960-1990. The indicator developed from Labour Court data (labelled RECOGNITION1 in Table 4) measures the share of Labour Court recommendations dealing with recognition in total Labour Court recommendations. The volume of disputes going to the Labour Court has varied significantly around a long-run rising trend. By expressing recognition disputes heard by the Court as a ratio of all disputes leading to a recommendation, the indicator is adjusted for the long-term trend in resort to the Court.

Strikes data permit the construction of two further indicators of variation in employer resistance to union recognition: the annual number of workers involved in strikes over recognition as a percentage of workers involved in all strikes (RECOGNITION2) and the annual number of working days lost due to recognition strikes as a percentage of all working days lost (RECOGNITION3). Again because they are specified in ratio form, both indicators control for well-known trend effects and cyclical fluctuations in levels of strike activity. As the strikes data indicators are being used as proxis for broad medium- to long-term changes in employer ideology and strategy, rather than stances that are expected to vary significantly from year to year, both are specified as five-year moving averages. The results obtained when these alternative indicators of employer strategy are entered into the model comprising the significant terms from the analysis in Table 3, are presented in Table 4. Only the first indicator, RECOGNITION1, provides encouraging results. The variable has a modest but significant dampening effect on the rate of trade union growth over the period 1947-1990. An F test rejects the null hypothesis that the small rise in the overall explanatory power of the model over the period 1947-1990 could be due to chance. The test indicates, however, that there remains a probability of one in ten that the effect of the recognition variable could be attributed to chance.

All in all, given the difficulty of constructing valid and reliable indicators of a complex variable like employer strategy, such a tentative result is not surprising.

The Stability of Influences on Union Growth and Decline

A final issue meriting discussion is whether the various influences on union growth operated consistently over the whole period 1930-1990. A frequent criticism of union growth models is that they attempt to represent as unchanging, relationships between influences and behavioural outcomes, which, in fact, may be subject to change over time. The critical question here is whether, on theoretical grounds, it might be expected that the overall period 1930-1990 might divide into sub-periods characterised by differences in the magnitude or even direction of the impact on unionisation of cyclical, institutional and structural influences.

Table 4: Trade Union Growth and Decline in Ireland: Results of Tests for the Effects of Employer Strategy on Trade Union Growth

| Equation (a) Period | 4.1 1947-1990 | 4.2 1965-1990 | 4.3 1965-1990 |
|--------------------------------|------------------|------------------|------------------|
| Adjusted R2 | 0.85 | 0.71 | 0.71 |
| F | 42.82 * | 16.48 * | 16.47 * |
| F Change | 2.98 * | | |
| Durbin | | | |
| Watson | 2.3 † | 2.2 † | 2.2 † |
| Independent Variables(b) | | | |
| <i>Cyclical Influences</i> | | | |
| WRATE | 0.13*** | 0.40 * | 0.39 * |
| ERATE | 0.49 * | 0.67 * | 0.66 * |
| <i>Institutional Influence</i> | | | |
| TRANSITION | 0.41 * | | |
| RECOGNITION1 | -0.13 ** | | |
| RECOGNITION2 | | 0.02 | |
| RECOGNITION3 | | | -0.02 |
| <i>Structural Influences</i> | | | |
| DENSITY | -0.43 * | -0.36 * | -0.35 * |

* denotes statistical significance at the 1% level

** denotes statistical significance at the 5% level

*** denotes statistical significance at the 10% level

† indicates the absence of first-order serial correlation at the 1% level.

(a) All regression coefficients reported are in standardised form (beta).

(b) All variables defined in Table 3, footnote c.

The most likely point at which any such ‘structural break’ could have occurred in Irish industrial relations is the year 1946. In the period 1930-1945 the institutional legitimation and the supports subsequently afforded to Irish trade unions by the Labour Court were absent. Generalised pay rounds had not yet developed. Unions in the public services still awaited formal recognition and a role in collective bargaining. More generally, the State was ambiguous towards the part played by unions in economic and social affairs. The period after 1946 witnessed the institutionalisation of industrial relations and collective bargaining in Ireland. The Labour Court took on a pivotal role in conflict resolution; generalised pay rounds became an established feature of pay determination, and public policy reflected a more consistently benign outlook on the role of trade unions.

Thus, the period 1930-1945 could be contrasted with the period 1945-1990 in terms of the degree to which industrial relations in general, and collective bargaining in particular, were institutionalised. The question remains whether the contrasting institutional and legislative contexts of union growth in both periods may have mediated the impact of the various influences on employees’ propensity and opportunity to join trade unions. It could be, for example, that the advent of wage rounds in the period since 1946 increased the influence of wage rises on employees’ propensity to join unions - that is, might have heightened the ‘credit effect’ - by making the role of unions in pay determination more transparent. Likewise, the ‘saturation effect’ could have been moderated in the post-1946 period by the growing legitimacy of trade unions and the related public-policy supports to unionisation. In testing for the possibility that cyclical and structural influences operated differently in the pre- and post-1946 periods, it should be recognised that allowance is now being made for two theoretically distinct ways in which the various postwar changes in Irish industrial relations may have impacted on union growth. First, the ‘transition effect’ variable tests the hypothesis that the circumstances surrounding the transition to free collective after the War led to a discrete once-off rise in union growth which petered out in the early 1950s. Second, the introduction of shift parameters for other influences tests for the possibility that postwar institutional changes combined to alter permanently the scale, or even direction, of the effect of wage changes, employment changes etc. on union growth.

There are various ways of testing for structural breaks in the operation of influences on unionisation. One straightforward way is to compare the results for regressions run over each of the sub-periods. This is done in equations 5.1 and 5.2 of Table 5. A shortcoming of this approach is that it fails to take account of the possibility that differences in the values and significance levels of coefficients could be due to chance.² An alternative approach which can overcome this problem is to estimate a moderated regression model, which allows the coefficients of the various influences to shift between periods. The hypothesis that such shifts, both individually and in combination, are greater than can be accounted for by chance or random occurrences can then be tested. This is done in equation 5.4. Judging from some of the correlation

Table 5: Trade Union Growth and Decline in Ireland: Testing For the Stability of Parameter Coefficients (unstandardised slope coefficients)

| Equation | 5.1 | 5.2 OLS Regression | 5.3 | 5.4 Moderated Regression |
|------------------------------------|-----------|--------------------------|-----------|--------------------------------|
| Period | 1930-1945 | 1946-1990 | 1930-1990 | 1930-1990 |
| Adjusted R ² | 0.78 | 0.84 | 0.79 | 0.82 |
| F | 14.15 * | 59.27 * | 44.93 * | 35.91 * |
| Durbin | | | | |
| Watson | 1.56 †† | 2.35 † | 1.94 † | 1.96 † |
| F Change | | | | 4.91 * |
| Independent Variables (a) | | | | |
| <i>Cyclical Influences</i> | | | | |
| WRATE | 0.90 * | 0.14 * | 0.18 * | 0.83 * |
| ERATE | 0.89 * | 1.04 * | 0.88 * | 0.89 * |
| <i>Structural Shift Parameters</i> | | | | |
| WRATE | | | | -0.69 * |
| ERATE | | | | 0.15 |
| <i>Institutional Influences</i> | | | | |
| WST | -14.45 * | | -16.38 * | -14.94 * |
| TRANSITION | | 4.15 * | 6.05 * | 3.73 * |
| <i>Structural Influences</i> | | | | |
| DENSITY | -0.58*** | -0.21 * | -0.14 * | -0.44 * |
| <i>Structural Shift Parameter</i> | | | | |
| DENSITY | | | | 0.21 * |

* denotes statistical significance at the 1% level

** denotes statistical significance at the 5% level

*** denotes statistical significance at the 10% level

† indicates the absence of first-order serial correlation at the 1% level.

†† indicates that the Durbin-Watson test is inconclusive.

(a) All variables defined in Table 3, footnote c.

coefficients, the moderated regression results, however, may suffer from multicollinearity and should be interpreted in the light of the standard regression results. Equation 5.3 presents standard regression results for the entire period 1930-1990 to provide a point of comparison for the sub-periods analysis.

Comparing the results of the standard sub-periods regressions first, it appears that there are sizeable differences between the effects of wage changes on unionisation before and after 1945. Contrary to expectations, a one per cent change in earnings appears to have had a significantly greater impact on the rate of union growth *prior* to 1946 than afterwards. This result is confirmed in the moderated regression results, where the structural shift parameter points to a significant negative change in the impact of wage changes between the two periods. The institutionalisation of wage-round bargaining may then have been responsible for a long-term reduction of the credit effect. This might have occurred because recurring wage rises came to be perceived as an automatic entitlement, or as part of the 'nature of things'.

The effect of lagged density is more difficult to interpret. The standard regression results suggest that density exerted a relatively strong impact on union growth prior to 1946. However, the t statistic attains significance at the .10 level only, suggesting that the effect of density on union growth during this period was unstable or inconsistent. The highly significant coefficient on density, post-1945, suggests a more consistent negative effect on union growth. The moderated regression results appear to confirm a weaker saturation effect after 1945. But multicollinearity may be a problem here. Moderated regression results show no change in the effects of other influences. An F test confirms that the moderated regression parameters bring about an improvement in the overall goodness of fit of the model.

Conclusion

This paper presented a theoretical framework for modelling trade union growth and decline. The framework was used to derive a model of union growth and decline in the Republic of Ireland. The model was estimated over the period 1930-1990, highlighting significant cyclical, institutional and structural influences on union growth and decline in Ireland. An exploration of the influence of employer strategy used several dimensions of conflict over union recognition as proxy variables. The results indicated that a proxy for employer strategy adds to the explained variance in union growth over the period 1947-1990. This result is of exploratory value only and the analysis illustrates, as much as anything else, the problems that arise in testing for probably important, but also complex and elusive, institutional influences like employer ideology and strategy. Further analysis revealed that the standard regression results on the consistency and direction of the various influences on union growth are reasonably robust over time. The robustness of the saturation effect is less well borne out. It also appears, contrary to expectation, that the scale of the impact exerted on union growth by wage rises declined between the sub-periods 1930-1945 and 1946-1990.

Notes

1. Cognoscenti of trade union growth modelling may wonder why an alternative method of estimation, such as cointegration modelling was not used in deriving results. While cointegration methods have advantages in detecting trend effects in the impact of various time series on union growth, and more generally, in separating cycle from trend, the substantive results obtained in applications of cointegration techniques have not been dissimilar to those obtained through OLS modelling. What is more, certain of the variables used in cointegration models seem virtually uninterpretable in behavioural terms - a factor that does not, on the face of it, appear unduly to concern econometricians (cf. Carruth and Disney, 1988).
2. A Chow Test for a structural break in parameter values between 1930-1945 and 1946-1990 rejects the hypothesis that the two sets of parameters differ significantly at the .01 level, but marginally accepts the hypothesis of significant difference at the .05 level.

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