WHAT DO UNIONS MAXIMISE?
EVIDENCE FROM SURVEY DATA

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Peter Gahan

Abstract
Mathematically tractable models of unionism have been well developed and are widely used in the economics literature. However, assumptions about union goals and preferences, and how these are determined, are not supported by extensive empirical evidence. Following the lead of Clark and Oswald [1993], this paper explores these questions through a survey of union leaders to ascertain the range of union goals and their preferences. The results of the survey present convincing evidence that standard models do not adequately capture union bargaining behaviour, or union goals and preferences. I make three major conclusions from the survey data. First, neither the Right-To-Manage nor Efficient Bargain models provide an adequate ‘stylised fact’ which describes union-firm bargaining. Instead union bargaining over employment appears to be asymmetric around current levels of employment in that bargaining is more likely to occur where there are employment decreases. Second, while wages and employment represent the two most important goals which unions pursue, the standard model provides an inadequate basis for understanding the full set of goals unions pursue. Third, I also conclude that while the industrial relations approach is able to capture union goals in a more complete sense, the idea of a rational maximising union cannot be rejected.

1 School of Industrial Relations and Organizational Behavior, University of New South Wales, Sydney, 2052, Australia. The original survey on which this paper is based was funded by the Department of Management and Industrial Relations, University of Melbourne, and the 1997 survey was funded by Special Research Grant No. C2189R from UNSW. I would like to thank Donna Buttigieg, Rick Iverson and Christopher Worswick for helpful suggestions in the construction of the survey, and Alice Salamon for her research assistance. I have also benefited from several conversations and feedback from Garry Barrett, Simon Bell, Braham Dabscheck, Jeff Borland, Ian McDonald and James Robinson. Any errors of fact or interpretation remain my own.
'It certainly appears that there is at least a measure of agreement about plausible ways to specify a union utility function.' (Oswald 1985, p. 185)

'The distinction between control over and returns from work – between procedural and substantive goals – is longstanding in industrial relations research. But the question ‘what do unions maximise?’ cannot be simply reformulated as a trade off between pay and control rather than wages and employment. It is infinitely more difficult to determine, let alone measure, how much in wages, for example, might be ‘rationally’ given up for an increase in job satisfaction. Furthermore, the determination of union objectives depends ultimately on the collective deliberations of the unions’ members, a process which is complicated because decisions affecting union activity and behaviour are taken at a number of levels.' (Turnbull, 1988a, p. 112).

‘Unfortunately, our knowledge of [union] objectives is meagre... This ignorance has been exploited by economists seeking to construct theoretical models of unionized labour markets because it has allowed them to specify very convenient forms for union objectives without having to deal with objections to the effect that these forms conflict with a heavy weight of empirical evidence. A cynic would speculate whether, notwithstanding statements to the contrary, many economists really do not want to see a lot of empirical work conducted on a topic that is likely to reveal the irrelevance of certain hypothesis and thereby undermine economists ability to derive sweeping implications from simple specifications.' (Pencavel 1991, p. 54).

I. INTRODUCTION

Labour economists have long been interested in understanding union goals. Understanding union goals is important for appropriate modelling of a wide range of economic processes, including wage and employment decisions of firms, strikes and collective bargaining, unemployment, inflation, and so on [Oswald 1985]. Union theories have principally been concerned with resolving three questions: What are the choice variables that can be assumed to describe the set of goals unions pursue? What is the preference ordering over these goals? And, how are the choice set and preference ordering determined?

While a large number of hypotheses about union goals and preferences have been advanced, Blair and Crawford [1984], Pencavel [1991] and more recently Booth [1995] conclude that

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2 This is perhaps bought into question by the large decline in union membership and influence that has occurred in most industrialized countries. However, the size of the unionized workforce and the problem of unemployment in Europe suggest it is far from a moribund issue, theoretically or for policy. In the US, where union density has declined precipitously, union density remains high in certain industries.
none of these questions has ever been empirically resolved in a satisfactory manner. The problem of establishing valid assumptions is also evident in models of union bargaining behaviour. Although various possibilities have been formalised in the economics literature, two models have been widely used: the right-to-manage (RTM) model and the efficient bargain (EB) model. Which of these best describes bargaining between firms and unions has been a matter of debate.

More than most areas of research in economics, the analysis of unionism has been forced to deal with a contending view, that of industrial relations. Turnbull [1988a, 1988b] for instance has forcefully rejected standard models of union behaviour and the manner in which economists have derived union objectives and preferences directly from the members’ own utility functions. Instead, he argues that union goals are derived from group processes as well as the social and economic context of exchange relations within the firm. Turnbull therefore concludes that it is difficult to determine a utility function which meets the requirements of standard utility analysis.

Moreover, the social dimension of the employment relation implies that unions do not only pursue wage and employment goals. Rather, it hypothesises that union goals include a range of both substantive and procedural issues which affect workers’ extrinsic and intrinsic returns to work, or by defining what Pencavel [1991] refers to as the ‘production technology’ by which ‘raw’ labour is transformed into ‘effective’ labor. From this perspective the calculus of trade-offs between procedural and substantive goals is all but impossible to pre-determine. In short, Turnbull questions the rational choice basis of union decision making: it is not clear that unions can be viewed as maximisers at all. This division between the two perspectives reflects an ongoing (and famous) debate which goes back to Dunlop [1944] and Ross [1947, 1948].

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3 In contrast, Oswald’s [1985] optimistic conclusion which heads this paper seems terribly misplaced in retrospect.
4 A stronger version of the RTM model is found in the ‘monopoly model’ in which the union sets the wage while the firm sets employment levels unilaterally (Oswald [1985]). Given the method of assessing union goals from collective bargaining data, this question of what model best describes union-firm bargaining turns out to be important. It is also important for reasons relating to the properties of bargaining outcomes. For a thorough comparison of these models see Manning [1994].
5 It is worth noting that some models incorporate the idea of differences in leadership and membership goals in utility function. See Borland [1986].
6 Standard utility analysis requires among other things intransitive and stable preferences. These conditions cannot be assumed to hold where membership composition is heterogenous and changes.
7 While Dunlop argued that unions should be modeled like any other economic agent (i.e. they must maximize something), Ross took a more agnostic view and suggested the political processes of union decision-making made it impossible to specify a singular union maximand.
Using established theories of union goals and behaviour in the economics and industrial relations literature as a guide I attempt to do two things. First, I assess the assumptions associated with both the RTM and EB models of union bargaining. I find that neither appears able to fully explain the union-firm bargaining relation. Second, I attempt to empirically explore the set of goals unions generally pursue and to locate any regularities in the preference ordering between those goals.

I do so by surveying union officials responsible for setting union policies and collective bargaining. The use of survey data has not been well regarded by most economists. However, a number of researchers have recently reported survey evidence on the wage and employment decisions of firms. These have primarily been used to discriminate between various theories of wage-rigidity. Campbell and Kamlani [1997] argue that the veracity of the data is best reflected in the consistency of findings they yield. It is perhaps surprising that similar methods have not been used to examine similar decisions by unions.

An exception to this is Clark and Oswald [1993], who use a survey of British union leaders to explore how union leaders perceive wage-employment trade-offs in their collective bargaining decisions. Their study surveyed the secretaries of 83 British unions affiliated with Trades Union Congress. The intention of their survey was to gather evidence on the nature of union-firm bargaining practices and union preferences. The survey assumed unions only seek to maximise a standard quasi-concave utility function $U(w, N)$, and thereby sidestepped many of the concerns of industrial relations researchers. The general conclusions drawn from this survey was that in the British case, the RTM model provided an adequate characterisation of union-firm bargaining practices, and that generally British unions placed more weight on wages than employment.

The survey evidence reported here began as a replication study of Clarke and Oswald’s [1993] survey. However, the relatively small sample and the limited scope of the survey questions asked by them was deemed to be inadequate. This survey builds on their work by sampling a larger number of union officials involved in bargaining and setting policy within

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Footnotes:

1. Freeman [1978] noted that, unlike sociology and industrial psychology where extensive use has been made of survey techniques, economists have been particularly agnostic about the value of survey data. This, he concluded, was primarily due to the subjective nature of survey responses which measure ‘what people say’ not ‘what people do.’ He also asserted that economists have been ‘leary of what purport to be measures of individual utility’ (p. 135).


3. In addition, they argue the survey evidence is inconsistent with the rent maximization hypothesis (see footnote 21). Clark and Oswald [1993] report that a similar survey of US union secretaries was conducted in which similar results were found. However, only 30 of all 89 AFL-CIO unions responded.
unions, and asks a more extensive range of questions to allow for discrimination between various hypotheses. Most significantly, by relaxing the assumption that unions pursue wages and employment only, I ask whether the industrial relations model of union behaviour has any empirical foundation.

The paper is organised as follows. Section II describes the methodology of the survey. Then Section III examines responses to survey questions designed to evaluate bargaining models and alternative hypotheses about union goals. Section IV summarises the main findings and implications of the survey results, and (partially) evaluates assumptions of the industrial relations and economics models of unionism.

II. THE SURVEY DATA

The data examined here is drawn from two surveys of 284 union delegates attending biennial Congresses of the Australian Council of Trade Unions (ACTU) in 1995 and 1997. Delegates to Congress include both elected and appointed officials from state and federal branches of individual unions, as well as workplace delegates representing specific groups of employees. A comparison of the sample population with estimates for the Australian workforce is given in Table I. Compared with the distribution of the unionised workforce by industry the sample population is broadly representative. However, retail and wholesale trade is under-represented and public administration is over-represented in the sample.

One endemic problem with survey techniques is the quality of the data collected. A number of steps were undertaken to overcome problems potentially associated with surveys of this kind. Respondents were assured of the confidentiality of their responses, and were told that

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11 The ACTU is the national peak association to which the vast majority of Australian unions are affiliated. The ACTU’s biennial Congress is responsible for the formulation of union movements’ industrial and political policies. The number of delegates that each affiliated union sends to Congress is proportional to its size (Gahan [1997]). All 640 (39) and 695 (37) union delegates (unions affiliated) attending the 1995 and 1997 Congresses were surveyed. Delegates representing State Trades and Labour Councils (that is, state offices of the ACTU), media and representatives of foreign national union bodies were excluded from the survey.

12 It is useful to compare this sample population with that used in Clark and Oswald [1993], who confine their survey to union secretaries. The narrower sampling technique was justified by Clark and Oswald on that basis that union secretaries have substantial influence over union policies. Although this is the case in many respects, it is argued that the broader sample used here is more likely to capture all those who have knowledge and influence over union policy and its implementation in collective bargaining. Moreover, it is worth noting the difference in sample size. The Clark and Oswald survey consisted of just 57 responses, one for each union. The larger sample used here (n=284) includes multiple responses from individual unions, which should provide a more reliable picture of union preferences.

13 Clark and Oswald [1993] note that respondents may have incentives to respond untruthfully or may not have full information about union preferences in practice. Both are potential problems where unions or firms are questioned about wage and employment decisions. Firms may be concerned of the reputation effects if found to be cutting wages, while union officials do not want to be perceived as making unwarranted wage demands. Higher level managers and union officials may have only limited knowledge about true wage and employment practices at lower levels within their respective organizations.
data would appear in an aggregate form only and individual unions would not be identified in the results.\textsuperscript{14} Furthermore, multiple responses were received from each union and included a range of survey questions to allow for verification of responses.\textsuperscript{15}

**TABLE I  INDUSTRY CHARACTERISTICS OF THE SAMPLE POPULATION**

<table>
<thead>
<tr>
<th>Industry Group</th>
<th>Percent of respondents in sample</th>
<th>Percent of total unionised workforce</th>
<th>Percent of workforce in the Australian economy</th>
<th>Percent of industry workforce unionised</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agriculture, Forestry &amp; Fishing</td>
<td>1.0</td>
<td>0.5</td>
<td>2.3</td>
<td>6.6</td>
</tr>
<tr>
<td>Mining</td>
<td>1.4</td>
<td>1.5</td>
<td>1.2</td>
<td>38.5</td>
</tr>
<tr>
<td>Manufacturing</td>
<td>12.2</td>
<td>18.7</td>
<td>15.0</td>
<td>38.7</td>
</tr>
<tr>
<td>Electricity, gas &amp; water</td>
<td>2.8</td>
<td>2.1</td>
<td>1.0</td>
<td>65.4</td>
</tr>
<tr>
<td>Construction</td>
<td>5.2</td>
<td>5.0</td>
<td>5.2</td>
<td>29.7</td>
</tr>
<tr>
<td>Wholesale &amp; Retail trade</td>
<td>2.1</td>
<td>13.6</td>
<td>20.9</td>
<td>20.2</td>
</tr>
<tr>
<td>Transport and storage</td>
<td>9.8</td>
<td>7.1</td>
<td>4.6</td>
<td>48.0</td>
</tr>
<tr>
<td>Communication services</td>
<td>2.1</td>
<td>4.3</td>
<td>2.2</td>
<td>62.1</td>
</tr>
<tr>
<td>Finance, property &amp; business services</td>
<td>6.6</td>
<td>8.2</td>
<td>13.9</td>
<td>18.5</td>
</tr>
<tr>
<td>Public administration &amp; defence</td>
<td>21.0</td>
<td>7.9</td>
<td>5.2</td>
<td>46.9</td>
</tr>
<tr>
<td>Education, health &amp; community services</td>
<td>23.1</td>
<td>24.1</td>
<td>18.3</td>
<td>41.0</td>
</tr>
<tr>
<td>Recreational, personal &amp; other services</td>
<td>8.4</td>
<td>7.1</td>
<td>10.4</td>
<td>21.2</td>
</tr>
<tr>
<td>No Response</td>
<td>4.2</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

**III. OVERVIEW OF THE SURVEY RESULTS**

The survey focused on three issues. First, as a means to investigate the assumptions of standard models of union bargaining, respondents were initially asked about wage and employment issues. These questions simply replicate the items in the Clark and Oswald [1993] survey and were intended to ascertain whether or not unions bargained over wages, employment and hours of work.

In addition, the 1997 survey included two further questions to ascertain whether any asymmetry exists in bargaining over workforce reductions and increases. This line of questioning began from the presumption that bargaining between unions and firms is also likely to occur at times other than the renewal of collective agreements. Given the derived

\textsuperscript{14} The survey was conducted by approaching all delegates individually over a five-day period. This allowed for any concerns about the survey to be discussed with potential respondents. Once a respondent agreed to take the questionnaire they were then left to deposit the completed form anonymously. Where requested, unions were also provided with a summary of the survey findings. The project was also supported by the ACTU, who encouraged delegates to complete the survey.

\textsuperscript{15} A small pilot survey was also conducted (n=10) to ensure the clarity of the questions and eliminate the possibility of soliciting inaccurate information. Where problems were identified questions were modified or replaced.
nature of labour demand and the uncertainty over employment levels, it is more likely that employment (excluding manning arrangements) will be determined between contracts; efficient contracts in which this is pre-determined are simply not feasible. This does not preclude union bargaining or influence over these decisions, but it does imply that such decisions are unlikely to be recorded formally in a collective agreement.\footnote{An exception to this is the phenomena of concession bargaining which emerged during the 1980s – a situation in which firms and union do in fact jointly bargain over employment and wages. For an account of concession bargaining, see Mitchell [1985].}

Second, as a means to explore the nature of union preferences, respondents were presented with a number of hypothetical agreements from which they could choose. To begin with it was assumed that unions attempt to maximise a standard utility function \( U(w, N) \). For the purposes of comparability, the first of these questions replicates the item asked in the Clark and Oswald [1993] survey. Respondents were asked to rank three hypothetical bargaining agreements: (i) a five percent increase in employment, \( ceteris paribus \); (ii) a five percent decrease in workers job effort, \( ceteris paribus \); or (iii) a five percent increase in wages, \( ceteris paribus \).\footnote{The question asked was as follows. ‘Consider a situation where your union is asked to make a choice between three possible agreements with an employer. Assume ZERO inflation, and that there have been no improvements in wages and conditions for some time. AGREEMENT 1: A 5 percent increase in the number of workers employed at the firm. Pay (wage rates) and hours worked remain the same. AGREEMENT 2: A 5 percent decrease in work effort (intensity of work). Pay and the number of workers employed remain the same. AGREEMENT 3: A 5 percent increase in pay at the firm. Employment and hours of work remain the same. (a) Which of these three agreements would your union \textbf{prefer} for its members? (b) Which is second best? (c) By \textbf{how much} would your union prefer its first choice to its second choice?} In addition, a second hypothetical scenario was used. Respondents were asked to nominate the percentage amount of a wage decrease they would be willing to accept to prevent a 10 percent decrease in employment at the firm where its members are employed.\footnote{The question asked was as follows. ‘Imagine a situation in which a firm will need to layoff 10 percent of its work-force if it is to remain in business. (This is a fact you know to be true, you know the company is not bluffing. You know the firm \textbf{must} shut down if labour cost savings cannot be made.) The company is prepared to make a deal with your union about wages and employment levels: the company says that it will be willing to maintain current employment levels \textbf{if} the union agrees to a cut in wage rates. What is the \textbf{maximum wage decrease} you would be willing to accept to maintain the current number of workers employed by this company? Assume zero inflation.}

To examine the rationale for union preferences a question then asked the respondent what the most likely response by the firm would be to a wage increase.\footnote{The question asked was as follows. Which of the following do you think is the most likely response by an employer to a wage increase that your union is able to win for its members? Assume ZERO inflation. (a) The employer will pass on wage increases through price increases. (b) The employer will concede to the wage increase and accept lower profits. (c) The employer will accept some combination of lower profits and increased prices. (d) The employer will respond to a wage increase by reducing the number of workers employed. (e) The employer will expect workers to pay for the wage increase by working harder.}
Third, as means to investigate the differences between the economic and industrial relations approaches, the assumption of a standard utility function was relaxed. Respondents were thus asked to nominate goals and rank their preferences in order of importance for their own union.

**Negotiations Over Wages and Employment**

Generally, union models have proceeded along one of two paths. The first simply involves the *ad hoc* specification of a maximand unions are assumed to follow, rather than its derivation from a more robust modelling of union behaviour. This approach has been associated with the work of Dunlop [1944]. Among a number of alternatives, Dunlop proposed that it was realistic to assume unions maximise the total wages bill of members subject to the constraint of labour demand. He also proposed rent maximisation as an alternative maximand, a proposition which has been pursued more seriously by Rosen [1970] and de Menil [1971], among others.**

The new generation of union theories attempt to infer union preferences from estimates of more generally specified union utility functions in which union preferences are derived from those of its members. This approach assumes the monopoly model holds and that union goals can be inferred by directly observing collective bargaining outcomes.** Studies by Brown and Ashenfelter [1986], Card [1986], Carruth and Oswald [1985], Dertouzos and Pencavel [1981], Farber [1977, 1978a, 1978b], McCurdy and Pencavel [1986], Pencavel [1984a, 1984b] and Svejnar [1986] estimate union utility functions in this manner.

These empirically derived estimates of union preferences are problematic for two reasons. First, the estimates of union utility functions are based on collective agreements, not on direct measurement of union preferences. Second, as Booth [1995] notes, such agreements are the

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(f) The employer will offset the wage increase by introducing new work arrangements or labour saving technology.

(g) Other (Please specify)

20 The wage-bill is defined as $wE$, where $w$ is the real wage rate, $h$ is hours worked and $E$ is employment. The rent is given as $E(w-w_a)$, where $w_a$ is the alternative (competitive?) wage in the non-union sector. Turnbull [1988a] has catalogued a range of other union maximands.

21 The utility function estimated in these studies have generally taken (i) a utilitarian form in which the unions utility function is assumed to the sum of its members utilities (ie, $U = Nu(w) + (M-N)u(b)$, where $u(.)$ is the utility function of the individual worker, $M$ is union membership, $w$ is the union wage paid to $N$ workers, and $b$ is the unemployment benefit or alternative wage paid to union members not employed in a union job); (ii) an expected utility function in which union maximized the expected utility of a typical (or median) worker (ie, $U = \alpha[w - W^*]^{\delta}[l - L^*]^{\gamma}$, where the values of $\delta$ and $\gamma$ indicate the relative importance of wages and employment to the union, where $w$ and $l$ are union wage and employment, and $W^*$ and $L^*$ are generally interpreted to be a minimum wage and employment level acceptable to the union. In the case of all three, wages bill maximization and rent maximization are identifiable special cases. More detailed discussions of these studies can be found in Farber [1986], Pencavel [1991] and Booth [1995].
outcome of both employer and union preferences and are likely to reflect institutional parameters and bargaining power. The basic assumption from which these studies begin is consistent with what Layard and Nickell [1982] has term the Right-to-Manage (RTM) model in which wages are negotiated by both the union and employer and the employer is free to determine employment levels unilaterally. The alternative, associated most closely with McDonald and Solow [1981], is the efficient bargain (EB) model. This model assumes that unions bargain over both wages and employment, and yields a wage-employment contract curve that is off the demand for labour curve (see Oswald [1985] and Manning [1994]). Where this model holds, estimates of union preferences from collective bargaining data are unlikely to be robust.

In this study, the assumptions of the RTM and EB models were examined by asking respondents about the extent to which their union bargained over wage and employment issues. Responses to these questions are summarised in Table II. The response to the first of these questions provides some support for the EB model: over half of all respondents reported that bargaining does in fact occur over both wage and employment issues. The results from Questions 3 and 4 reinforce this interpretation. Between two-thirds and three-quarters of all respondents indicate that bargaining over issues which clearly affect employment levels, such as manning levels, the introduction of labour-saving technology and hours of work. However, responses to Question 2 provide some support for the RTM model. Consistent with the findings of Clark and Oswald [1993], over ninety percent of all respondents indicated that the employer usually makes the final decision about employment levels. This conclusion supports earlier work by Oswald and Turnbull [1985] and Oswald [1993], which found strong evidence in favour of the RTM model.

Clark and Oswald interpreted this paradox as evidence that ‘the determination of employment lies somewhere in between the two extreme cases’ (p. 395). However, responses to the final two questions suggest an alternative explanation. The vast majority of respondents (80.8 percent) indicated that their union was involved in negotiations over employment reductions, but less than half indicated that their union as involved in a firm’s decision to increase the

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22 The importance of institutions and bargaining power is suggested in Calmfors and Driffill’s [1986] analysis of wage bargaining institutions. In this model, the capacity of centralized bargaining to socialize employment externalities of union wage demands alters union wage and employment preferences. Svejnar [1986] is the only empirical study which explicitly attempts to incorporate power and institutional concerns into his analysis of union preferences. In his model, however, power is a given exogenous parameter and does not influence union preferences. In contrast, Golden [1997] argues unions pursue organizational goals as a means to generate power in bargaining.

23 Bean and Turnbull [1988] however report strong evidence to support the EB model.
size of its workforce. This suggests the RTM and EB models may operate over different ranges of the wage-employment space.\textsuperscript{24}

### TABLE II  NEGOTIATION OVER WAGE AND EMPLOYMENT ISSUES

<table>
<thead>
<tr>
<th></th>
<th>YES Number of Responses (%)</th>
<th>NO Number of Responses (%)</th>
<th>No Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Does your union usually negotiate over how many workers are employed at an establishment as well as over their wages and conditions? (n=284)</td>
<td>149 (53.0)</td>
<td>132 (47.0)</td>
<td>3</td>
</tr>
<tr>
<td>2. Is the level of employment usually decided by the employer? (n=284)</td>
<td>260 (92.2)</td>
<td>22 (7.8)</td>
<td>2</td>
</tr>
<tr>
<td>3. Does your union usually negotiate over working practices such as the size of crews, demarcation, or the way in which new technology can be used? (n=284)</td>
<td>196 (69.8)</td>
<td>85 (30.2)</td>
<td>3</td>
</tr>
<tr>
<td>4. Does your union usually negotiate over hours of work per week? (n=284)</td>
<td>211 (74.3)</td>
<td>69 (24.6)</td>
<td>4</td>
</tr>
<tr>
<td>5. Does your union negotiate over plans by firms to down-size its workforce? (n=204)</td>
<td>164 (80.8)</td>
<td>39 (19.2)</td>
<td>1</td>
</tr>
<tr>
<td>6. Does your union usually negotiate over plans by firms to increase the size of its workforce? (n=204)</td>
<td>97 (47.8)</td>
<td>106 (52.2)</td>
<td>1</td>
</tr>
</tbody>
</table>

**Note:** Percentages shown exclude ‘no responses’.

An alternative way of thinking about the result is to view union involvement in bargaining over employment as asymmetric around the current level of employment. This may be the case for two reasons at least. First, Australian labor law requires firms to provide advance notice of such decisions and to consult or negotiate with unions over the size and timing of redundancies.\textsuperscript{25} Similar institutional requirements, although of varying degrees of strictness, exist in most industrialised countries (see Büchtemann [1993], and Lazear [1990]). Firms face no such requirements over decisions to increase employment.

Second, the survey evidence is consistent with the standard insider-outsider model proposed by Lindbeck and Snower [1988] in which unions are assumed to be selfish and concerned about existing membership only. In this model unions are unlikely to object to employment increases in any case, as they are not likely to affect the welfare of existing members, and may

\textsuperscript{24} This is consistent with the findings of Mitchell [1972] who found employer resistance to union demands produced a quasi wage-employment trade-off, but was not evident over all ranges of union demands. This result is also foreshadowed in Farber [1986].

\textsuperscript{25} The *Termination, Change and Redundancy Case* [26 (1984) AILR 256] requires Australian firms to negotiate over technological change and redundancies in the workplace. Substantial legislative requirements are also found at the state-level. For a description of both state and federal legal requirements, see Fox, Howard and Pittard [1995].
generate new membership. Opposite to workforce reductions is also consistent with Golden’s [1997] proposition that unions value rank-and-file participation. Rank-and-file participation is a valued asset to unions as the success of bargaining is contingent on participation and rank-and-file support. However, the voluntary nature of membership generates low levels of participation and provides opportunities for firms to weaken union organisation at the workplace level by selectively removing activists during phases of workforce reductions.

The findings reported here have significant implications for evaluating competing hypotheses about the nature of union preferences as the general use of collective agreement data to test alternative maximands relies on the assumption that union do not bargain over employment. At best, the survey results provide only limited support for the RTM model of bargaining favoured by Clark and Oswald [1993]. Some support is found for the industrial relations literature which hypothesises both a larger choice set of goals and a bargaining process that is more compatible with the EB model. This has the unfortunate implication that estimates of union utility functions from collective agreement data (which assume the monopoly model of union bargaining) will be the product of both employer and union preferences and cannot be relied upon to provide robust estimates of union goals and preferences.

**Union Preferences Over Wages and Employment**

One way to avoid the problem of separating employer and union preferences is to attempt to locate wage and employment decisions or trade-offs which unions would prefer if they were able to decide the outcome unilaterally. This is the very purpose of collecting survey data. It has the added appeal of providing the means to explore union preferences over a range of industry conditions, rather than a single union or industry.

To investigate union preferences over wage and employment issues, respondents were first asked to rank three hypothetical agreements. This question again replicates an item contained in the Clark and Oswald [1993] survey (see footnote 17). Clark and Oswald interpreted this question as evidence of union preferences over a wages-employment trade-off, despite the possibility of a three-way trade off which included effort levels. This simplification was

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26 This interpretation also provides an intuitive reason why the EB and RTM models produce a contract curve which lies on the labour demand curve when current union membership is less than total employment. See Oswald [1985], Carruth and Oswald [1987] and Booth [1995]. More recent empirical work by Doiron [1995] rejects the insider-outsider model in union preferences in favour of models which place a positive weight on employment. However, her study suffers from similar problems associated with previous empirical estimations of union preferences.
possible as the Clark and Oswald survey yielded no cases of the effort preferred agreement as first preference. The larger sample included in this survey produced 21 such cases, or 7.4 percent of all respondents.

In the Clark and Oswald survey, approximately twice as many respondents (59.7 percent) preferred wages to employment (31.6 percent). The results from the same question asked of Australian union officials are presented in Table III. Again, almost twice as many respondents (57.4 percent) reported the wages preferred agreement as their first preference compared with those who favoured the employment agreement (32.8 percent). Moreover, consistent with Clark and Oswald’s survey results, the median preference was wages preferred by ‘a small amount’. Using estimates of the union wage mark-up and levels of risk averseness in Britain, Clark and Oswald concluded British unions placed greater weight on wages than employment, and that the implied indifference curve was steeper than that which would support the rent maximisation hypothesis. Their conclusion is broadly consistent with previous empirical studies which examine collective bargaining data.

<table>
<thead>
<tr>
<th>Preference Ordering</th>
<th>Strength of Preference Ordering*</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>A Lot</td>
</tr>
<tr>
<td><strong>Wages Preferred</strong></td>
<td></td>
</tr>
<tr>
<td>W, N, e</td>
<td>35</td>
</tr>
<tr>
<td>W, e, N</td>
<td>37</td>
</tr>
<tr>
<td><strong>Employment Preferred</strong></td>
<td></td>
</tr>
<tr>
<td>N, w, e</td>
<td>18</td>
</tr>
<tr>
<td>N, e, w</td>
<td>19</td>
</tr>
<tr>
<td><strong>Effort Preferred</strong></td>
<td></td>
</tr>
<tr>
<td>e, w, N</td>
<td>4</td>
</tr>
<tr>
<td>e, N, w</td>
<td>1</td>
</tr>
<tr>
<td><strong>No Response</strong></td>
<td>-</td>
</tr>
<tr>
<td><strong>Total No. of Responses</strong></td>
<td><strong>88</strong></td>
</tr>
</tbody>
</table>

*Respondents were asked ‘By how much their union would prefer its first choice to its second choice?’

w = wages, N = employment, e = effort or work intensity

27 This proposition is generally assumed in the industrial relations literature. See, for example, Blyton and Turnbull [1994]. Unfortunately, no question was included to directly test this proposition.

28 Clark and Oswald also recalculate these proportions by weighting for union size. Unfortunately, individuals unions, and therefore union size, could not be asked in this survey.

29 The central conclusion of previous studies which estimate union preferences over wage and employment goals is that union members are generally risk-averse and unions place greater weight on employment than would be implied by the rent maximization hypothesis. With the exception of Pencavel [1986] and Svejnar [1986] all have reject the wage-bill maximization and rent maximization hypotheses. Pencavel [1986] estimates an addilog objective function for the International Typographical Union in which larger locals have an objective function consistent with the rent maximization hypothesis. The wage-bill maximization hypothesis was rejected in all the studies cited. Svejnar [1986] employs a expected utility framework to examine the effects of bargaining power and costs of disagreement on wage outcomes. His evidence does not always reject the rent maximization and provides support for the EB model.
Unfortunately, no Australian studies have attempted to estimate union utility functions in a similar fashion. Consequently, no estimates of risk averseness are available, and no conclusion can be drawn from this question in the same manner.

Some meaningful inferences can nonetheless be drawn from the results. To begin with, the results suggest different unions place different levels of importance on employment, though most unions place relatively more weight on wages than employment. Of the wages preferred group just over two-thirds indicated they preferred the wage agreement ‘a lot’ or ‘quite a lot’. The strength of the preference can be interpreted as evidence that union indifference curves are likely to be flatter than that which is consistent by the rent-maximisation hypothesis. Note, however, a substantial proportion (one-third) of all respondents favoured employment over wages. More than two-thirds of this group indicated they preferred the employment agreement by ‘a lot’ or ‘quite a lot’, which implies an indifference curve steeper than the rent maximisation hypothesis.

To examine this issue further, respondents were asked to indicate what wage decrease they would be willing to accept to prevent a 10 percent decrease in employment. Arguably, this question would provide a more direct measure of the slope of a union’s indifference curve than the item drawn from Clark and Oswald [1993]. The responses to this question are summarised in Table IV. Almost 60 percent of all of respondents indicated that they would accept no wage decrease, while just over 30 percent of respondents indicated they would be willing to forgo a wage decrease of somewhere between 1 and 6 percent. Less than 1 percent indicated they would be willing to accept a wage decrease of 10 percent or more to prevent a 10 percent decrease in employment. The responses to this question indicate a strong wage preference at the expense of employment.

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31 There are however some doubts about the robustness of the exercise undertaken by Clark and Oswald to reach this conclusion anyway. Estimates of relative risk aversion are sensitive to the interpretation of $W^*$. Farber [1986] compares the Carruth and Oswald [1985] study of British mining union with his own earlier studies of the US miners’ union (Farber [1978a, 1978b]), and concluded the lower estimate found in the Carruth and Oswald study was primarily due to the use unemployment benefits for $W^*$ rather than an actual earnings measure used in his own study. The use of a single estimate of relative risk aversion is also questionable given the high degree of variability of estimates found in Dertouzos and Pencavel [1981]. Their study of the US Typographical Union found large variations across cities. Moreover, the estimates are drawn from collective agreement data in the manner criticized as inadequate in the previous section.

32 The rent maximization hypothesis yields an indifference curve approximated by a rectangular hyperbole defined by the constant $wN$ with slope = -1.

33 For the full question see footnote 18

34 One explanation of this result is that respondents were unlikely to believe the firm’s claim that labour cost savings needed to be made. To minimize this possibility, the question was worded in such a way as to
It was hypothesised that union wage and employment preferences were likely to depend on expectations of firms’ responses to wage increases. The question is important because the standard approach assumes union preferences are constrained by a wage-employment trade-off only. Alternatively, where unions are capable of bargaining over effort or other margins that define the employment relation (e.g., product quality, fairness, job satisfaction, and so on), firms may be willing to negotiate over (or choose not to resist) lesser employment decreases in return for adjustment on these other margins.\textsuperscript{35}

\begin{table}[h]
\centering
\caption{Wage-Employment Trade-Offs}
\begin{tabular}{lcccccccc}
\hline
\textbf{1. ‘What is the maximum wage decrease your union would be willing to accept to maintain employment levels?’} & No Response \\
\hline
\textbf{Number of Responses} & 0 \% & 1-2 \% & 3-4\% & 5-6\% & 7-8\% & 9-10\% & >10\% & \\
\textbf{(Percent)} & (59.2) & (11.6) & (13.7) & (5.6) & (-) & (2.1) & (0.7) & (7.0) \\
\hline
\textbf{2. ‘Which of the following do you think is the most likely response by an employer to a wage increase that your union is able to win for its members?’} & & & & & & \\
\hline
\textbf{Price Increase} & 31 & 5 & 15 & 52 & 69 & 68 & 21 & 9 \\
\textbf{Lower Profits} & (11.6) & (2.1) & (5.6) & (18.7) & (25.7) & (25.4) & (7.4) & (3.2) \\
\textbf{Both*} & & & & & & \\
\hline
\textbf{Labour Increase} & & & & & & & & \\
\textbf{Lower Employment} & & & & & & & & \\
\textbf{Work Intensity} & & & & & & & & \\
\textbf{Saving Technology} & & & & & & & & \\
\textbf{Other} & & & & & & & & \\
\textbf{No Response} & & & & & & & & \\
\hline
\end{tabular}
\end{table}

* ‘Both’ refers to a combination of price increases and reduced profits.
The ‘Other’ category referred to some combination of the above set of possible actions.

To explore this issue respondents were asked to nominate how they would expect firms to respond to a wage increase. Less than one fifth of respondents (18.7\%) expected firms to reduce employment levels. Approximately one-quarter of respondents (25.4\%) indicated that firms were likely to increase work intensity, while 19.3\% expected firms to increase prices, reduce profits, or some combination of the two. Taken together, these unambiguously indicate to respondents that the information from the firm was verifiable and true. A second interpretation is that this type of question invites dishonest responses. Unions officials, mindful of the implications of indicating a willingness to contemplate a wage decrease, are unlikely to provide a true answer. Again, respondents were assured that the survey was to be reported in such a way that no individual union or respondent could be identified. The ACTU also vetted the survey question, informed respondents of its purpose, and encouraged respondents to treat it seriously. A third, more plausible, explanation is that unions may be concerned about potential industry-wide flow-on effects of agreeing to a wage increase in a single firm. I thank Jeff Borland for making this point.

\textsuperscript{35} This implies that the union utility function $U(w, N)$ does not describe a union’s choice set. Additional evidence for this view is discussed in the following section.
options which do not involve employment reductions account for 44.7 percent of all responses. The remaining respondents indicated that firms were likely to respond to a wage increase by making some combination of all of the above adjustments. The largest category of this type, labour saving technology, accounted for 25.4 percent of all respondents.

These results may provide a partial explanation for the strength of wage preference found in the previous question. In short, union resistance to wage decreases may reflect an expectation that firms are capable of making alternative adjustments to restore profitability through increased work intensity, price increases, and so on. Under these conditions unions may seek to resist wage decreases and negotiate over a more complete range of wage and employment issues. To test for this, the relationship between the preferred agreement (wage, effort or employment preferred) and expected employer responses was examined. While a statistically significant correlation was not found for unweighted data ($\chi^2(4) = 2.82$), when the data was weighted for strength of preference, a statistically significant correlation was found at the 5 percent level ($\chi^2(4) = 11.68$).

The Choice Set of Union Goals

In an important contribution to the literature, Blair and Crawford [1984] express the view that union behavior is best modeled on the assumption that their goals can be described as a unidimensional choice over wages and employment. ‘These’ they suggest, ‘are so central to the purpose of American unions that we feel quite comfortable in abstracting from all other union policy decisions.’ (p. 551). This view has provided the basis for a large literature on union goals and behavior, and has been utilised by labor economists to analyze unions in most industrialized countries, irrespective of the institutional and or national setting. Yet, the foregoing analysis implies that a re-examination of this view is required. This criticism is not by any means novel, as the quotes from Pencavel [1991] and Turnbull [1988a] which head this paper suggest.36

In contrast to the labour economics, the industrial relations literature has focused on a range of alternate goals which may also be of interest to union members and leaders. Most notably, the enforcement of procedures by which wage and employment decisions are seen to be

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36 One standard justification for the focus on the wage–employment trade-off is that many other goals are in fact reducible to a dollar value and are therefore amenable to standard analysis. However, I know of no study on union goals which attempts to do this. To the extent that there are trade-offs been wages, employment and other omitted objectives then the omitted factors need to be included to really understand union objectives and bargaining outcomes.
arrived at in a fair manner. Comparative industrial relations research also suggests that institutional and political contexts which characterize Anglo-American labor markets explain the pre-occupation of US unions with wage and employment trade-offs, but are not necessarily applicable to all union movements. For instance many European union movements, which operate in an entirely different institutional context to that of US unions, are generally viewed as engaging in political exchange as well economic ones (see for example, Crouch [1993] and Lange, Ross and Vannicelli [1982]). Thus, a standard union utility function is unlikely to capture the behavioral attributes of unions in different institutional settings. Moreover, the organizational goals which unions pursue have often been seen to reflect principal-agent problems between members and leaders (see Pemberton [1988]). Although recognition of these goals may pose challenges for the formal process of union behavior, it is argued that this is hardly sufficient justification for the exclusion of these goals from any formal analysis.

### TABLE V UNION GOALS

<table>
<thead>
<tr>
<th>First Preference</th>
<th>Second Preference</th>
<th>Third Preference</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Number (%) of respondents</td>
<td>Number (%) of respondents</td>
</tr>
<tr>
<td>Wages</td>
<td>96 (33.8)</td>
<td>31 (10.9)</td>
</tr>
<tr>
<td>Preventing workforce reductions</td>
<td>59 (20.8)</td>
<td>55 (19.4)</td>
</tr>
<tr>
<td>Workplace union organization</td>
<td>35 (12.3)</td>
<td>43 (15.1)</td>
</tr>
<tr>
<td>Rank and file involvement</td>
<td>19 (6.7)</td>
<td>71 (25.0)</td>
</tr>
<tr>
<td>Recruiting new members</td>
<td>9 (3.2)</td>
<td>19 (6.7)</td>
</tr>
<tr>
<td>Influence over government policy</td>
<td>12 (4.2)</td>
<td>14 (4.9)</td>
</tr>
<tr>
<td>Workplace safety</td>
<td>8 (2.8)</td>
<td>21 (7.4)</td>
</tr>
<tr>
<td>Influence over management policy</td>
<td>9 (3.2)</td>
<td>11 (3.9)</td>
</tr>
<tr>
<td>Job Satisfaction</td>
<td>2 (0.7)</td>
<td>6 (2.1)</td>
</tr>
<tr>
<td>Other*</td>
<td>18 (6.3)</td>
<td>7 (2.5)</td>
</tr>
<tr>
<td>No response</td>
<td>17 (6.0)</td>
<td>17 (6.0)</td>
</tr>
</tbody>
</table>

* This item includes: child care facilities, career paths, affirmative action, protecting minorities, productivity & improved work methods and superannuation.

In order to identify what union officials saw as the set of goals which unions pursue, respondents were asked to nominate important goals for their union and to indicate how important each was. Respondents were then asked to nominate in order of preference the three most important goals for their union. Responses to these questions are summarized in

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37 For example see Cooke [1994]. Blair and Crawford are, it is fair to note, aware of alternative choice sets. However their conclusion that these can either be reduced to a unidimensional one, or that the task of formally addressing this problem is too arduous or intractable seems unacceptable. These procedural goals are also recognized as important by Pencavel [1991] but are not formally incorporated into his analysis.

38 For a description of the variations in the goal orientations of different national union movements see Bean [1994] and Wallerstein, Golden and Lange [1997] and Golden and Pontusson [1992].
Table V. The survey findings confirm the proposition that unions are primarily concerned with wage and employment goals. However, the results also lend considerable support to the industrial relations literature which gives greater weight to organizational and political goals. While wages and employment were the two most cited first preferences, organizational and political objectives were the first preference for around 25 percent of respondents. The significance of these goals is also reflected in the even larger number of respondents who cited such issues as second or third preferences.

The importance of organisational goals also supports Ross’ [1947, 1948] insistence that any analysis of union goals requires the inclusion of institutional and political goals. Ross is often interpreted as taking the view that the contingencies of organisational and political realities within unions is inconsistent with the neo-classical idea that unions have some well defined maximand (see Farber [1986] and Turnbull [1988b]). In contrast to this view, Borland [1986] insists that a recognition of institutional and political processes within union decision-making is not of itself inconsistent with the postulates of rationality, but implies that the standard approach of modeling union goals as the sum of members utilities will be inadequate.

The survey results can be interpreted as consistent with this view in that those union activities which contribute to their relative strength, such as recruitment and workplace organization, directly effects the capacity of unions to pursue their primary goals of wages and employment. This proposition has been explored most explicitly by Golden [1997]. She argues the success of unions bargaining strategies is contingent on rank-and-file participation in union activities at the workplace. The voluntary nature of membership, however, generates low levels of rank and file participation. Thus, workplace union organization is likely to be a highly valued union asset. The survey evidence is consistent with this view. In this sense, union utility functions will not be well described by a unidimensional choice between wages and employment, but rather one which includes organisational objectives. The importance of organizational goals, in turn, implies union utility functions are unlikely to be adequately described by standard utility functions which simply derive union utility directly from the

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39 Ross [1947: 587] argued: ‘The formal rationale of the union is to augment the economic welfare of its members; but a more vital institutional; objective – survival and growth of the organization – will take precedence whenever it comes into conflict with the formal purpose.’

40 However, some trade-offs are identifiable. For example, a union may be willing to restrain its wage demands to secure a closed shop arrangement with an employer. In addition, this view ignores the possible importance of differences in preferences and interests of union members and leaders.
utilities of their members. However, it does imply that union goals will not be configured so as to maximize a prior set of preferences.

IV. COMPARISON AND SUMMARY

The use of survey data has not generally been well received by economists. The major concern has been the subjective nature of the data collected. However, where existing theories have required unusual information to discriminate between them, economists have been willing to employ surveys for this purpose. This is reflected in an upsurge in published research which uses survey evidence to examine various wage determination theories. Contrary to the expectations of most economists, these surveys have produced some impressive and robust results.

In many respects, the problem of testing theories of union goals and preferences is analogous. It is simply impossible to test alternatives using standard sources of data. More direct data are required. It is therefore surprising that few researchers appear to have followed this option. One exception is a survey of British union secretaries undertaken by Clark and Oswald [1993]. This study attempts to build on their work by surveying Australian union officials about bargaining behavior, union goals and preferences.

The survey began by attempting to assess the validity of the RTM and EB models of wage bargaining. The motivation for doing so was the observation that empirical estimates of union utility functions from collective bargaining data have assumed unions set wages unilaterally, while employment is determined by the firm. Yet, there is limited empirical support for this proposition. In contrast, where firms bargaining jointly with a union, the outcome is the product of both firm and union preferences, institutional forces and the balance of bargaining power. Consequently, little can be inferred directly about union preferences from collective agreements.

The results reported from this survey support the conclusion that the RTM does not describe firm-union bargaining arrangements. Instead the evidence suggests the RTM and EB models holds over different regions in wage-employment space. The RTM model held where firms sought to increase employment, while unions bargained over both wages and employment where firms attempted work force reductions.

41 Golden [1997] suggests a utility function of the following form: $U(N, w, M^p)$, where $M^p$ is the proportion of membership actively involved in union activities. She does not, however, assume that union preferences are derived from members utility functions in the standard manner.
Assuming a standard quasi-concave utility function $U(w, N)$, I then sought to ascertain relative preferences over wages and employment. The results were broadly consistent with Clark and Oswald [1993]. It was found that unions generally favoured wages over employment, though in a significant proportion of cases unions preferred employment. To explore the reasons for their preferences, respondents were asked to indicate how they expected employers would respond to union-won wage increase. The standard approach to understanding union wage-employment trade-offs assumes that employers respond with employment decreases. Contrary to this expectation, the majority of respondents indicated a range of alternative responses, including price increases, profits decreases, technological change, or increases in work intensity. When union preferences were weighted for the strength of their preferences, the relationship between union preferences and expectations about employer responses to a wage increase was found to be statistically significant.

These responses provide initial evidence that unions do not simply maximize utility over wages and employment. In order to explore the choice set of union goals respondents were asked to nominate goals which were important to their union and the order of their preferences over them. Though wages and employment were the most frequently nominated first preference, organizational goals were also nominated as highly important. It was argued that this was consistent with the industrial relations literature, which has been critical of economic models that reduced union goals to a simple wage-employment trade-off, and treats the bargaining process between firms and unions as exogenous. The importance of other goals, particularly organizational and membership involvement goals, demonstrates the role of union activity which attempt to change the bargaining process in such a way that the ability of unions to achieve substantive objectives is enhanced.

Though the results of this survey cannot be construed as definitive or capable of answering the whole range of questions which are raised by union theories, it is argued that the results are nonetheless significant. First the study points to a possible means to explore existing hypotheses and to derive new ones. A key result concerned the test of the assumptions of the RTM and EB models of bargaining. The results did not produce unambiguous support for either model. Rather it suggested that both may be questionable as generalizations. This study also produced evidence to support many aspects and assumptions of the industrial relations model of unionism. Most importantly, it supported the view that (i) union preferences are not constrained by wages and employment only, and (ii) that union preferences cannot be derived from the goals and preferences of union members only.
The results also point to a number of avenues for future research. Most importantly, it is concluded that there is still very little known about union goals and policies or how these are determined. Existing models are at best incomplete. One possible direction for research is a comparison of unions with relatively homogeneous and heterogeneous membership. It may prove useful to consider the extent to which leaders’ and members’ preferences converge or diverge, and whether regularities can be identified that explain patterns of convergence and divergence. An additional set of questions not explored here (largely due to limitations of the data), which are nonetheless seen as important in the theoretical literature, is the possible effects of union size, union type or industry on preference ordering. This too suggests an important avenue of future research.

It was also noted at the outset that union goals and preferences are likely to be influenced by the institutional political contexts in which union operate. However, the effects of these variables could not be explored in the context of this study. Wage bargaining institutions, employment regulations and protections for trade unions, will all influence union goals and preferences. Yet, there have been few studies to explore any of these dimensions systematically (see Wallerstein et al. [1997]). The analysis reported here is a useful starting point for exploring differences between national union movements, or as Golden [1997] has done, individual unions in paired industries. This in turn will provide a stronger basis for assessing the robustness of assumptions used in models of union behavior, bargaining theory, and wage and employment decisions of firms.
REFERENCES


