Employee Involvement in Australia:

Workplace Transformation or the Disposable Workplace?

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ABSTRACT

Theory suggests Employee Involvement (EI) programs will appear either where 'workplace transformation' occurs or where worker bargaining power is low and firms create a 'disposable workplace.' This study explores a sample of Australian workplaces and finds disposable workplace settings have a low probability of EI, but are so common that they account for most EI programs. Workplace transformation settings, while rare, are more likely to exhibit EI. Tentative data suggest EI is more successful in human terms under workplace transformation but more economically successful in the disposable workplace.

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After decades of experimentation, worker participation programs gained a position of prominence in the U.S. during the 1980's (NYSE, 1984; AQP, 1989). The most pervasive of these programs were initially labelled 'Quality Circles' but eventually attracted the title 'Employee Involvement' (EI). These programs train workers to solve productivity and quality problems in the workplace and, as such, permit limited participation in supervisory, job-related, and engineering decisions, but do not generally imply either the election of supervisors by workers nor worker participation in strategic managerial decisions.

Research on EI suggests there are two distinct settings which might facilitate the programs. In the first case, EI is viewed as one of several ingredients which can together create a sustained 'workplace transformation' (Kochan, Katz and McKersie, 1986; Levine and Tyson, 1990; Eaton and Voos, 1992). In the second case, EI endures to the extent workers can be manipulated and divided (Marglin, 1978; Edwards, 1979; Parker, 1985; Grenier, 1988), or if the firm creates a 'disposable workplace' (Drago, 1993). The crucial distinction between these views hinges upon whether equality of bargaining power between management and workers favors sustained EI, as with workplace transformation, or if instead the weighting of bargaining power towards management facilitates successful EI, as in the disposable workplace. More specifically, in the workplace transformation case, job security, individual worker rights, measures to build group cohesion such as egalitarian wages, and profit- or gain-sharing systems should facilitate sustained EI (Levine and Tyson, 1990), and a strong 'union voice' in the workplace may promote these conditions (Eaton and Voos, 1992). In the disposable workplace, it is management's ability to make the workplace and groups of workers disposable which prods workers to cooperate with each other and managers in the interests of profit, thereby helping to sustain EI (Drago, 1993). While profit- or gain-sharing systems and egalitarian wages within the workplace are consistent with both approaches, to the extent unions, job security or individual rights undercut management's ability to threaten plant shutdown, the disposable workplace view implies that EI will not be sustained in such circumstances.

These very different approaches lead to two questions. First, does the typical workplace exhibiting EI more closely resemble one which has experienced workplace transformation, or

instead a disposable workplace? The answer to this question tells us which approach is more consistent with current institutional and economic arrangements. Second, if both types of workplaces are found, which is more successful in economic and human terms? It might be that one approach is both more prevalent and successful relative to the other, and we would therefore expect that approach to flourish in the future. However, some recent literature suggests we will discover a disporportionate number of disposable workplace settings along with evidence that transformed workplaces are more successful. Such findings would imply that markets are not functioning efficiently, so the government should intervene to promote workplace transformation (Kochan, 1993; Levine and Helper, 1993; Voos, Eaton and Belman, 1993). Nonetheless, in a recent summary of the relevant evidence, Appelbaum and Batt (1993) conclude that workplace transformation in the U.S. is only more successful in human terms, having no clear advantage over the disposable workplace in economic terms.[1]

This paper uses the recent Australian Workplace Industrial Relations Survey (AWIRS) both to ascertain who has EI and, using more limited evidence, to evaluate EI programs. While such evidence may be intrinsic interest, it is particularly relevant at present because the Australian government has recently experimented with forms of 'enterprise bargaining' (DIR, 1992). These experiments, while generating substantial controversy in Australia (Frenkel and Peetz, 1990), are viewed by some proponents as attempts to promote workplace transformation (BCA, 1989; Hilmer, 1989). The analysis which follows is therefore closely attuned to the question of how bargaining alters the incidence and shape of EI.

Below we first outline the workplace transformation and disposable workplace views in greater detail in order to obtain clear predictions which are then qualified and modified by consideration of the Australian industrial relations system. The next section provides a discussion of the AWIRS data and variables used for testing the incidence of EI. The following section reports regression results for the incidence of EI and analyzes the outcomes, objectives and objections to EI. We conclude with a brief discussion.

Theoretical Considerations and the Australian Context

While the corpus of our analysis concerns the incidence of EI, the theoretical approach

concerns where EI is likely to be successful. This approach can be justified using either the logic that 'if you do not have a program, it cannot succeed,' or through the economic argument that firms will rationally implement EI only where it is likely to be successful. The analysis of EI outcomes presented later confronts the possibility that causes of program existence and of success diverge.

The two visions of EI mentioned above are the 'workplace transformation' and 'disposable workplace' views. The prior approach posits that EI can be part of a transformation of the workplace away from traditional hierarchical and adversarial relations towards a stable, superior situation for both employees and employers. The necessary components for workplace transformation should both facilitate and be facilitated by EI. Quite differently, the 'disposable workplace' view holds that employers are the major beneficiaries of EI and more generally of production in capitalist firms. Given the programs require voluntary contributions of employee effort and knowledge, it follows that EI success requires bargaining power be heavily weighted in favor of management or that conditions favoring worker coalitions against management be absent.

Workplace Transformation. A clear statement of the workplace transformation view appears in Levine and Tyson (1990), who argue that a combination of gains or profit sharing, job security, measures to build group cohesiveness such as egalitarian wage structures, and guaranteed individual rights function in tandem to create the conditions for EI success. EI requires workers to give up knowledge to management and generally become committed to the objectives of high productivity and high quality. Profit sharing is then required so workers perceive a fair return on their contributions. Group cohesiveness is required both because teamwork may benefit the production process directly, and to ensure that workers do not attempt to undermine or take credit for the efforts of others. Finally, because an honest exchange of information may place supervisors or managers in a bad light, individual rights are required to ensure that speaking the truth will not result in managerial retribution.

Levine and Tyson readily admit workplace transformation is rare, but argue that government policies to stabilize aggregate demand at high levels, and laws to protect workers from unfair dismissals could expedite workplace transformation across the economy.[2]

More recently, Eaton and Voos (1992) provide a related logic, arguing that unions can

provide Levine and Tyson's necessary conditions for successful EI and workplace transformation. Echoing Freeman and Medoff's (1984) analysis of unions as providers of worker 'voice', Eaton and Voos stress that unions promote job security, provide egalitarian wage structures and facilitate workgroup cohesion, guarantee individual rights through grievance and seniority systems, and can translate productivity improvements into wage gains through collective bargaining. The key divergence between Levine and Tyson, and Eaton and Voos is that the latter suggest collective bargaining can take the place of formal profit sharing systems.

Eaton and Voos also argue that participation of the union in strategic decisions can facilitate EI on the shopfloor. Going further, Kochan, Katz and McKersie (1986) and Heckscher (1988) argue that workplace transformation requires unions to give up their historical emphasis on seniority and work rules, and turn towards involvement in strategic decision making instead (see also Cooke, 1992). A parallel argument appears in the managerial literature, where workplace transformation is seen as requiring that managers abandon both bureaucratic practices and extensive managerial hierarchies (Ouchi, 1981; Peters and Waterman, 1982).

The Disposable Workplace. The case of the disposable workplace is related to the argument that firms seek to gain and sustain bargaining power over workers by mixtures of threats, promises and 'divide-and-conquer' tactics (Gordon, Edwards and Reich, 1982; Bowles, 1985). The firm is here drawn to EI because these processes can profitably extract knowledge of the labor process from workers and generate high levels of worker effort, cooperation with other workers and managers, and particularly worker loyalty to management (Parker, 1985). Further, EI itself might here be viewed as a form of divide-and-conquer tactic, either helping managers tame militant unions or avoid unions altogether (Grenier, 1988).

In this view, EI poses two potential problems for managers. First, in a workplace transformation setting where managerial decisions are genuinely influenced by worker objectives, workers may demand increasing levels of influence (Edwards, 1979),[3] thus leading managers to abandonment of EI. Second, to the extent workers or workgroups are provided autonomy on the shopfloor, participation may be used towards non-profitable ends (Marglin, 1978).

Management might, however, be able to safely tap into the benefits of EI by maintaining or gaining sufficient power over workers such that actions against the interests of management lead to stiff penalties. Confronted with such penalties, workers will neither seek to expand the

domain of participation nor use autonomy for their own pursuits. At the most general level, the severe decline in worker bargaining power relative to management during the 1980's, which transpired in both Australia (Peetz, 1990) and the U.S. (Bowles, Gordon and Weisskopf, 1990) might therefore have formed a crucial backdrop for the emergence of EI during this period. More specifically, Parker (1985) suggests that divide-and-conquer in terms of EI typically takes on the vocabulary and symbols of a 'we versus them' approach, whereby workgroups are pitted against other workgroups to simultaneously reduce inter-workgroup solidarity and bargaining power while promoting teamwork. Extending this logic, Drago (1993) argues that threats of plant shutdown, or creation of the 'disposable workplace' leads managers, workers and union leaders within a workplace to form a large team, striving to work hard and cooperate in order to avoid collective job loss.[4]

If the disposable workplace approach is indeed used by managers, we would then expect to see EI in association with low levels of job security, perhaps signalled by layoffs and low levels of unionization. We might also expect to see EI exhibiting a negative relationship to union membership for the simpler reason that unions may provide greater bargaining power for workers. Further conditions which might support EI in the disposable workplace include divide-and-conquers tactics such as promotion systems inside the firm, and high levels of competition in product markets and between workplaces.

Predictions. The workplace transformation and disposable workplace views yield some similar predictions. For example, neither view is inconsistent with large firms, profit sharing, internal promotion systems and truncated managerial hierarchies being positively associated with EI. Similarly, one might posit that on-the-job training, by increasing worker job security, should be positively related to EI under the workplace transformation view and, by decreasing the worker's relative wage in alternative employment, should be associated with EI in the disposable workplace. Somewhat differently, workplace transformation suggests EI is broadly consistent with gender integration of the workplace (Kanter 1978), while the disposable workplace view suggests wage discrimination in conjunction with employment integration functions to segment the workforce (Reich 1981, pp. 204-215). Integration is in either case consistent with EI.

Key differences center on job security and unions. The workplace transformation view suggests job security and active unions should positively influence EI success (the latter

following from Eaton and Voos), while the disposable workplace view predicts job insecurity and low levels of union activity or presence should facilitate EI. Further implications are more subtle. Specifically, arrangements such as the employment of casual or secondary workers in the firm, or the use of outside contractors and temporary workers, might represent either a method for enhancing job security for core workers or instead function as a visible threat to such security, so we can make no clear predictions regarding such arrangements. An additional complication is that while the transformation view predicts union participation in plant-level decision making enhances EI programs, this could also hold in a disposable workplace to the extent such participation divides the union local from other locals, national organizations, or undermines enforcement of agreements achieved at higher levels in the firm, industry or economy.[5]

While we have painted the workplace transformation and disposable workplace strategies in opposition to one another, it seems possible that both views might receive empirical support in a world characterized by multiple equilibria. In particular, we might find a majority of traditional workplaces which avoid EI, a very small number of transformed workplaces which are either unionized or otherwise provide Levine and Tyson's necessary conditions for successful EI, and an additional group of workplaces where job insecurity, low levels of worker bargaining power, and divisive personnel strategies coincide with EI.

The Australian Setting. The Australian industrial relations system was historically characterized by centralized determination of wages and working conditions in tandem with informal relations on the shopfloor (Strauss, 1988). Government appointed tribunals handed down or ratified 'awards' (the rough equivalent of collective bargaining agreements) covering 85% of all employees in 1985, and typically assign jobs to particular unions through 'conveniently belong to' and 'roping in' provisions in awards. Because the system was constructed early in this century when craft unions were abundant, the latter provisions created a situation where most unions were occupationally-based, most awards covered multiple firms, and multiple union coverage affected most firms (Drago, Wooden and Sloan, 1992). Critics charged that as a result of this system, relations between managers and workers were overly bureaucratic and, relatedly, that unions typically misdirect resources away from the shopfloor towards the national or award level (BCA, 1989).

To the extent union activity is centralized and bureaucratic, Eaton and Voos' hypothesis

that unions facilitate workplace transformation by providing workers with a voice on the shopfloor may not fit the Australian experience, even if it would hold for U.S. data. On the other hand, the Australian industrial relations system has permitted the government to pursue a nation-wide comparable worth policy for the last two decades (Gregory and Duncan, 1981). Together with a policy of maintaining wage 'relativities' between occupations in awards, comparable worth helped to promote pay equity (Mitchell, 1984) and hence may favor workplace transformation as envisioned by Levine and Tyson.

During the 1980's, pressures mounted to reform the Australian industrial relations system. Critics, such as Blandy, et al (1985), claimed the centralized system stifled cooperation and innovation. The government initially responded with a series of incomes policies labelled 'accords' during the mid- to late-1980's (including the period of AWIRS survey administration), and with the Hancock report (1985), which concluded the industrial relations system was fundamentally sound. Both the leading trade unions body (ACTU/TDU, 1987) and the Business Council of Australia (BCA, 1989) objected to the Hancock report, with the prior seeking reform along Swedish lines with industry-based unions and worker participation in strategic decision-making, while the latter favored enterprise bargaining. This debate triggered a series of union amalgamations beginning in the late 1980's,[6] while the government pressed forward with forms of enterprise bargaining. In March 1987, the 'second tier' was added to the accords, thereby providing a fixed component to wage increases along with a second tier increase of up to four per cent which was negotiated mainly at the firm level in exchange for productivity improvement offsets. In August 1988, the second tier was replaced by the Structural Efficiency Principle, the latter permitting firms and unions to negotiate wage increases along with changes in award conditions which would improve efficiency in order to fund the increases. This movement culminated in 1992 federal legislation supporting enterprise bargaining.[7] Therefore, during the period of AWIRS survey administration, from October 1989, to May 1990, the government was supporting a dramatic increase in the decentralization of bargaining, though it is not clear how much of this bargaining occurred at the workplace as opposed to firm level (DIR, 1992).

For present purposes, workplace bargaining in Australia can be given two very different interpretations. On the one hand, such bargaining might promote a more effective union voice on the shopfloor (Drago and Wooden, 1991b). Eaton and Voos (1992) imply that such

bargaining will then be related to sustained EI in settings of the workplace transformation type. On the other hand, if such bargaining acts to reduce worker solidarity and bargaining power, as Frenkel and Peetz (1990) suggest, then such bargaining might be related to sustained EI in disposable workplace type settings.

Data and Methodology

This study draws on the Australian Workplace Industrial Relations Survey or AWIRS, which was modeled on the two Workplace Industrial Relations Surveys undertaken earlier in the U.K.[8] The data set used here was constructed from a sample of Australian workplaces with a least 20 employees administered between October 1989, and May 1990. The sample was stratified to exclude some industries, ensure coverage of others, and to oversample large workplaces, so the data employed here are weighted.[9]

The target sample size for the relevant portion of the survey was 2,000 workplaces, drawn from a list of 3,976 workplaces provided by the Australian Bureau of Statistics. A total of 2,000 workplaces were initially contacted, of which 771 were defunct, had less than 20 employees at the time, or had otherwise changed their business status. Around 1,000 further workplaces were then contacted, and a total of 2,004 responses resulted, for a rough response rate of 90% (2004 out of 2229 workplaces fitting survey administration criterion). Because the theoretical views outlined earlier apply to market economies, we restrict our attention to commercial workplaces, defined as "workplaces which undertake activity for the purposes of making a profit," thus reducing the usable sample to 1,453 workplaces. The restriction to commercial rather than private sector workplaces permits us to include a number of nationalized workplaces in, e.g., banking and airlines, but suggests we later use a variable to control for any effects of state ownership. Purging of workplaces which did not respond to all pertinent questions resulted in a working sample of 1,070 workplaces.[10]

Among other questions, the AWIRS asks Employee Relations managers whether "Quality circles/productivity improvement groups" are "currently used by management."[11] Responses to this question were used to form our dummy dependent variable, 'EI', which is described in Table 1.

Independent variables are also described in the table. Following the Levine and Tyson logic, dummy variables were constructed for the existence of profit sharing for non-managerial employees (PROFSHARE) and whether management had intentionally reduced the size of the workforce during the preceding year (LAYOFFS).[12] To consider the fundamental argument of Eaton and Voos, an indicator of union density (UNION) was employed.

Other variables relevant to job security include one for the proportion of part-time and casual employees out of the total number of inside employees (SECONDARY).[13] A parallel variable proxies the prevalence of outsourcing through subcontractors, outworkers or 'temporary' agency workers, measured as a proportion of the total inside and outside workforce (OUTSOURCE).

Turning to other issues, we include the proportion of women among inside workers (WOMEN) along with its square (WOMENSQ) to ascertain whether the hypothesized positive effects of gender integration hold, which will be the case if the maximum positive effect of women on EI incidence occurs at around 50% of employees. We also add an indicator of on-the-job training (OJTRAIN), which should also positively influence EI. The proportion of managers promoted from within the organization (PROMOTE) is used to proxy internal labor markets which, along with workplace size (EMPLOYEES) should positively influence EI, while the proportion of managers to the total inside workforce (MANAGERS) should capture the degree of hierarchy, so be negatively related to EI. Additionally, to provide a stronger test of the disposable workplace view that layoffs and job insecurity represent threats from management rather than simply a response to competitive market conditions, a variable for the degree of competition in the workplace's product market (COMPETE) is employed.[14] A related variable is that for multinational status of the firm (MULTINAT), which could either control for the greater resources which such firms could devote to EI, yielding a positive effect, or proxy the firm's ability to threaten plant shutdown, which would also suggest a positive correlation with EI. Finally, variables indicating the occupational mix in the workplace (SKILLBLUE and CLERICAL), the relevant industry (MANU, MINING) and whether the workplace is government owned (PUBLIC) are included. Absent such controls, one is likely to ascribe effects to unions which are more properly attributed to the conditions which attract unions (Keefe, 1992). The control for mining is particularly important given a large section of that industry has historically

circumvented awards in favor of a collective bargaining system much closer to that found in the U.S. (Howard, 1986).

The choice of an indicator for workplace bargaining was of critical importance for the present analysis. In particular, to the extent a manager might misrepresent EI as existing where it does not, it seemed likely that the same manager might respond with a false positive to questions concerning joint committees or workplace bargaining. To address this possibility, we turned to the union delegate questionnaire portion of the AWIRS.[15] Although there has been no full-blown analyses of the union delegate data to date, the general consensus which emerged from a conference on the AWIRS at the University of Sydney in November, 1992, was that, particularly for questions on workplace-level issues, managerial responses are preferred over those from union delegates. Nonetheless, one set of questions asked union delegates the relatively straightforward question of whether 'management "always" consult[s] with your union on' issues of employment levels, wage increases, physical working conditions, occupational health and safety, introduction of new technology, dismissals and disciplinary action, changes to work practices, or a major change in product or service.[16] This question generated a respectable response rate, with missing values for only 13 of 1,138 union delegate respondents. Responses to the bargaining question were translated into an additive scale labelled BARGAIN (see Table 1). In the sample of 1,453 commercial workplaces, however, only 732 usable delegate responses were available. To recover missing observations, we first set values for the scale to zero for non-union workplaces (according to the variable UNION described above), thereby recovering 218 observations, and then set missing observations equal to zero if managers claimed not to have bargained with union delegates at the workplace during the previous year, adding another 314 observations, and leaving only 200 missing observations for the variable.[17]

The appropriate regression methodology for analyzing dummy dependent variables is the probit (Maddala 1983), which is used for the main analysis, along with supplementary statistical methods for more direct examination of the data.[18]

Analysis

EI Incidence. Results for the probit estimate of EI incidence using independent variables

described above are presented in the first numeric column of Table 2. In general, the equation provides a reasonably good fit, with the pseudo R^2 suggesting the independent variables explain over one-quarter of the variance. Concerning the major variables of interest, we find profit sharing is significantly and positively related to EI, as are layoffs, while union membership negatively influences EI incidence. Although the profit sharing result is consistent with both the workplace transformation and disposable workplace views, the others are only consistent with the disposable workplace in that threats of job loss and weak or unions seem to be related to EI. Contrary to predictions, part-time and casual or secondary workers are not associated with EI, although internal promotion systems, high levels of workplace employment, and flat managerial hierarchies are all positively related to EI as expected. Of the control variables, only manufacturing attracts a significant coefficient, which is positive. The bargaining variable also yields a positive coefficient, but it is not significant at conventional levels.

We next turned to a closer examination of workplace bargaining effects. Specifically, the potential for multiple equilibria suggested that bargaining might be related to settings favoring workplace transformation, while a lack of bargaining might be associated with disposable workplace settings. To get at this possibility, we split the sample according to values of the bargaining variable. The data naturally divided into three subsamples where low bargaining was proxied by zero or one on the BARGAIN scale, intermediate bargaining was represented by two thru four on the scale, and high levels of bargaining were proxied by higher values on the scale.[19] Compared to a base run with two dummy bargaining variables for the split points, the χ^2 statistic for splitting the sample in this way was 82.29 (significant at the 1% level with 32 d.f.).[20]

Probit results for the subsamples are presented in the next three columns of Table 2. Each equation yields a reasonably good fit, although the sample size falls to under two hundred for both intermediate and high bargaining groups. Ignoring the intermediate group for a moment, results for high and low bargaining groups are remarkably consistent with the workplace transformation and disposable workplace approaches respectively. In the high bargaining subsample, EI is positively and significantly associated with profit sharing and union membership, and flat managerial hierarchies, while layoffs have no significant effect, just as the workplace transformation view suggests. Further, the positive association between outsourcing

and EI may suggest that outsourcing is a source of job security, allowing a 'core' of workers to be retained by the firm almost regardless of demand conditions. In the low bargaining subsample, EI is positively and significantly related to layoffs, internal promotion systems, and flat managerial hierarchies, and negatively associated with union membership, just as the disposable workplace view predicts. The weak negative association with secondary workers, following the logic for the outsourcing result in the high bargaining subsample, may be interpreted as further evidence of low job security among those who exhibit EI and low levels of workplace bargaining.

In general, evidence for the high and low bargaining groups suggests two distinct industrial relations regimes, one favoring EI as part of a disposable workplace strategy and the other promoting EI as part of workplace transformation.

The causes of EI incidence for the intermediate bargaining group show that workplaces with EI in this sample tend to have profit sharing, avoid secondary workers and outsourcing, and exhibit high levels of on-the-job training, while neither union membership nor layoffs exhibit significant associations. Given users of EI among this group do not fit either view provided earlier, it seems possible that we are here encountering a group of workplaces with more or less traditional industrial relations settings where managers introduce EI not as part of some overall managerial strategy, but rather as an add-on to improve product quality and productivity. To the extent EI is therefore merely an appendage, managers might view secondary workers and outsourcing as substitute methods for cutting costs and improving profits, hence explaining the negative association between these variables and EI incidence. Relatedly, managers may have a greater interest in improving the quality of their existing workforce where on-the-job training is substantial.

Checks on the validity of the results were then undertaken. First, results for the three subsamples were compared after moving the split points for the bargaining variable, and the results remained quite similar. Second, it may be that profit sharing does not cause, but is instead either a result of EI or is related to some third factor leading managers towards experiments with both profit sharing and EI. We therefore dropped the profit sharing variable from the system to see whether the results were stable, and the general pattern of results remained. Third, the simple split sample runs ignored the possibility that bargaining is

endogenous. We therefore performed bivariate probits with sample selection where the first stage locates each workplace in a particular bargaining subsample (i.e. the low, intermediate, or high bargaining group) and the second predicts EI incidence within the subsample.[21] Results for the low bargaining subsample became marginally stronger. For the other, smaller subsamples, results were also basically similar except profit sharing lost significance in the high bargaining run while union density became significant negative (1% level) for the intermediate bargaining subsample.

We next examined the distribution of characteristics across bargaining groups and, within each group, for workplaces with EI. Figures are provided in Table 3. Starting with figures for the number of establishments, we find the low bargaining group is extensive, including almost four times as many workplaces as the other groups combined. Indeed, for the low bargaining subsample, 1,723 workplaces are projected to have EI programs, more workplaces than exist in the entire high bargaining subsample. This evidence suggests that, for Australia at least, the market tends to favor the disposable workplace over workplace transformation. Nonetheless, within the high and intermediate bargaining subsamples, the proportion of workplaces with EI is almost twice that found in the low bargaining group.

Turning to independent variables, although profit sharing was found to be most closely associated with EI in the high bargaining group, it turns out to be far more prevalent in general in the low bargaining group, a result which echoes Eaton and Voos' (1992) finding that formal profit sharing systems in the U.S. are predominantly a non-union phenomenon. Layoffs are slightly more concentrated in the high bargaining and low bargaining groups, suggesting the pressures on managers to move away from traditional relations are lower in the intermediate bargaining subsample, a finding which is mirrored by figures for the extent of competition within each group, and supporting the notion that EI is largely an add-on for the intermediate bargaining group. Union membership is far more concentrated in the high and intermediate bargaining groups, being lowest for low bargaining workplaces with EI, consistent with workplace transformation occurring mainly in the high bargaining sample, and the disposable workplace being mainly associated with the low bargaining group. Both secondary employees and women are more often present in the low bargainer sample, findings which may imply greater managerial flexibility within that group and which are again consistent with disposable workplaces being located there. Finally, note that employment is by far the largest in the intermediate bargaining

subsample, averaging over twice the levels found in the low bargaining subsample, and with particularly high employment levels for intermediate bargaining workplaces with EI.

Success, Objectives and Objections to EI. The analysis thus far suggests that EI is consistent with both workplace transformation and with the disposable workplace strategy, though the Australian environment has favored the latter approach. This does not, however, inform us as to the success or desirability of these very different strategies. To address that question we turn to some relatively tentative data from the AWIRS. Specifically, the survey includes three sets of questions asking managers about improvements resulting from, managerial objectives for, and objections to participation programs. The data are necessarily tentative because respondents having 'Ongoing formal joint consultative committees' answered the questions with respect to that program, while those responding positively to the EI incidence question but negatively to the consultative committees question were asked to address EI specifically. To exclude all respondents who had consultative committees involves a substantial loss of potentially relevant information for workplaces who also had EI. We therefore present summary figures in Table 4 for responses to these questions both for all respondents who had EI, and for the subsample which exhibited EI but not consultative committees.

Starting with improvements resulting from EI, regardless of which set of figures we use, a majority of managers claim benefits in terms of productivity or efficiency, ease of introducing change, management-employee relations, and product or service quality. Nonetheless, the high bargaining group exhibits significantly fewer positive responses concerning productivity or efficiency, ease of introducing change, management-employee relations, and labor turnover, while the low bargaining group claims the greatest gains in terms of ease of introducing change, and labor turnover. This evidence does not support the claim that greater economic gains are associated with EI under a workplace transformation setting as opposed to a disposable workplace setting.

Part of the reason for this pattern of results might lie in divergent program objectives if workplaces seeking transformation are more concerned with human and less with economic objectives. Results for management objectives, also reported in Table 4, are consistent with this assertion. Relative to managers in the low bargaining subsample, managers in the high bargaining group are significantly less interested in EI as a mechanism to help introduce new

technology, reduce labor turnover and absence, or improve the quality of the product or service. By the same token the high bargaining group was generally (if not always significantly) more concerned with objectives such as increased job satisfaction, reducing the level of disputes, and improving health and safety.

Finally, we considered reports of objections to EI. The reason for doing so was that, to the extent EI was merely an add-on for the intermediate bargaining group, as opposed to an integral element in a cohesive management strategy, we would expect such objections to concentrate in that subsample. In general the data bear out this expectation. According to either set of figures, employees, union representatives, first line supervisors, and higher level managers were significantly more likely to object to EI in the intermediate bargaining group. For workplaces following the workplace transformation or disposable workplace approach, the path to EI is apparently smoother. Note, however, that workplace senior managers were significantly more likely to object to EI in the low bargaining group, suggesting EI programs, and perhaps the entire disposable workplace strategy are being implemented by higher level management against the wishes of workplace managers.

Discussion

The analysis reported above was designed to ascertain whether Australian workplaces which have implemented EI programs tend to do so in the context of job security, gains sharing and union voice, as part of a workplace transformation, or instead initiate EI programs where workers are driven to cooperate in the interests of management due to a shortfall of worker bargaining power, as part of a disposable workplace strategy. Splitting the workplaces into groups which diverge in the extent of workplace bargaining, we discovered three EI settings or regimes. Workplaces with substantial bargaining appear to use EI as one element in workplace transformation. There EI is related to profit sharing, high levels of union density, flat managerial hierarchies and, to the extent subcontracting or outsourcing ensures job security for core workers, job security as well. Workplaces with intermediate levels of bargaining seem to use EI as an add-on in basically traditional settings, and perhaps as an alternative to subcontracting or the use of secondary workers to achieve cost reductions. In the vast majority of workplaces, where

workplace bargaining is rare, EI often appears to be integrated into the disposable workplace strategy. EI is here associated strongly with layoffs and the absence of union members, the absence of secondary employees, and the presence of internal promotion systems and flat managerial hierarchies.

Less direct evidence suggests that although EI typically has positive economic effects regardless of workplace bargaining, such effects are strongest in disposable workplace settings, while human relations improvements are more closely related to workplace transformation settings. These results are not particularly surprising given managerial objectives for the programs tend to be more humanistic where EI is associated with workplace transformation. Nor do the results necessarily imply that the disposable workplace is generally more profitable than the workplace transformation, even if the economic benefits from EI are greater in the prior setting.[22] More generally, the results are consistent with Appelbaum and Batt's (1993) conclusion that there exist different strategies which can be used to create the 'high performance workplace,' with the workplace transformation approach mainly having an advantage in terms of beneficial effects for workers. Further, what Appelbaum and Batt posit as an alternative strategy for U.S. employers, which closely follows the Baldrige award criteria and is typically non-union, fits comfortably with the type of 'disposable workplaces' identified here, since the objectives for EI in the low bargaining sample were mainly product quality, productivity and efficiency, major criteria employed for the Baldrige award.[23]

A final set of issues concern government policy. A reasonable inference from the analysis above is that to the extent the Australian government promotes workplace bargaining, this will enhance the potential for sustained EI in tandem with workplace transformation. If the government takes a laizzes faire approach, however, the disposable workplace strategy may flourish.

While this basic inference is plausible, the actual policies of the Australian government have recently favored 'enterprise bargaining,' which allows either workplace or firm-level negotiations. The firm-level approach seems intuitively less likely to facilitate workplace transformation and might, as Frenkel and Peetz (1990) suggest, diminish the representation function of Australian unions. Any serious investigation of this question, however, requires more data.

Turning to the U.S. for a moment, collective bargaining and union membership might, akin to workplace bargaining in Australia, have positive effects in terms of workplace transformation, while laizzes faire policies will foster the disposable workplace.[24] Recent U.S. government policies seem to have favored the latter.[25] However, to ascertain whether this supposition is true will require a U.S. data set comparable to the AWIRS. It is therefore important, and arguably an urgent task, for the U.S. government to initiate a workplace industrial relations survey here.

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Footnotes

1. Appelbaum and Batt classify what is called the disposable workplace here as firms following the Baldrige award criteria. Note further that the term 'workplace transformation' is sometimes used synonymously with 'high performance workplace.' Appelbaum and Batt's work suggests that disposable workplaces may also achieve high levels of performance, suggesting we do not identify the 'high performance workplace' with either managerial strategy.

2. See also Kochan (1993) or Voos, Eaton and Belman (1993).

3. For supportive evidence, see Drago and Wooden (1991a).

4. Relatedly, see Bowles (1985) and Bluestone and Harrison (1982).

5. In the U.S. automobile industry, discussions with John Drew, a UAW shop steward, suggest joint consultation at the plant level is often closely related to the pitting or whipsawing of local against local in the struggle for jobs.

6. The total number of unions in Australia, which should reflect amalgamation activity, fell from 316 in 1987, to 295 in 1990, to 227 in 1992.

7. Specifically, the Structural Efficiency Principle was replaced with the "Enterprise Bargaining Principle" for awards in October 1991. In 1992, the IR Legislation Act was passed, thereby legitimating enterprise bargaining.

8. For a general description of the survey and results, see Callas, et al (1991).

9. Excluded industries were those associated with agriculture, forestry, fishing and hunting, and defence.

10. The major culprits were questions on the employment of women (227 missing observations), union density (224 missing), occupational data (214 missing), employment of secondary workers (213 missing) and subcontractors (210), workplace employment levels (207 missing), and the bargaining variable (200 missing, see discussion below). Excepting union density and bargaining questions, all these variables are constructed from the Employee Profile Questionnaire (the only portion of the AWIRS filled in by respondents), responses to which were the major source of missing data for the AWIRS. In response, the AWIRS team calculated a weighting variable (SCQWT) specifically for those responding to the Employee Profile Questionnaire; that weight is used here.

11. Managerial data comes from three forms: a written Employee Profile Questionnaire (pre-mailed to each workplace), and oral General Management and Employee Relations Management questionnaires, which were often administered to the same person. The EI questions were asked of the Employee Relations manager. All independent variables, excepting the bargaining variable, were drawn from responses to the various managerial questionnaires.

12. Note the AWIRS permits construction of a variable for involuntary layoffs, or 'compulsory redundancies.' The LAYOFFS variable includes compulsory redundancies as well as voluntary redundancies, early retirement programs, etc. Addition of a dummy compulsory redundancy variable to the systems reported below never resulted in a significant increase in explanatory power or a significant t-statistic, though the t-statistic for LAYOFFS typically fell.

13. Casual employees are typically defined in awards as entitled to a 20% hourly wage premium, but no vacations, pension benefits, or due process rights for termination.

14. Leigh's (1990) study of the deregulated U.S. airline industry suggests the number of competitors, rather than contestibility, is an appropriate indicator for the level of price competition.

15. Union delegates in Australia are equivalent to shop stewards in the U.S. or U.K. in that they represent union members at their place of employment, and do not receive income from their union.

16. The description of categories is precisely as in the AWIRS, except employment levels are there labelled 'staffing or manning levels.'

17. The question asks: 'In the last year, has management at this workplace negotiated with union delegates from [the name of the largest union] over any workplace matter?' Note the union delegate questionnaire is directed to a representative of the largest union in the workplace, hence making the questions comparable.

18. All statistical procedures aside from the probit are discussed in Seigel (1956).

19. The sample was initially split into two subsamples. However, it was discovered that, in general, increasing the split point on the bargaining scale increased the explanatory power for the high bargaining subsample, while reducing the split point increased the explanatory power for the low bargaining subsample, therefore suggesting an intermediate group existed.

20. This particular split yielded the maximum sum of the unrestricted log-likelihood results. The sum of the log-likelihood values for these three regressions was -343.93. Increasing the upper split point by one lowered the value to -361.76, and reducing the upper split point by one lowered the value to -350.18. Increasing the lower split point by one lowered the value to -345.19, and reducing the lower split point by one lowered the value to -344.46.

21. The system was identified by dropping the EMPLOYEES, COMPETE, SKILLBLUE, and MINING from the incidence equation (these variables are never significant in the subsample results reported in Table 2) while retaining these variables and all others for the selection equation. On the bivariate probit with sample selection, see Greene (1992 Ch. 39).

22. For example, workplace transformation settings may exhibit such high levels of performance in general that EI contributes less there as opposed to disposable workplace settings.

23. Specifically, data in Table 4 show the ranking of objectives in the low bargaining sample to run from quality/productivity and efficiency, to communication, down to job satisfaction. For the high bargaining subsample, objectives run from efficiency and productivity, down to job satisfaction and communication, and finally to product quality.

24. This logic follows that of Drago and Wooden (1991b) who suggest union membership is a much better proxy for union voice in the U.S. compared to Australia.

25. For this specific argument in a historical context, see Drago (1993).