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OUTSOURCING JOBS AND ENTERPRISE-LEVEL BARGAINING: 'CHESHIRE CAT' UNIONS REVISITED?

Noel Gaston

CENTRE FOR INTERNATIONAL ECONOMIC STUDIES

University of Adelaide
Adelaide S.A. 5005
Australia

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ABSTRACT

Outsourcing Jobs and Enterprise-level Bargaining: 'Cheshire Cat' Unions Revisited?

The paper has two broad objectives. First, it briefly reviews the salient facts and theories relating foreign direct investment, multinational enterprises and labour markets. Most studies find little evidence that foreign ownership has any adverse effects on labour market outcomes. However, an interesting finding of recent research is that foreign direct investment is influenced by strategic considerations and collective bargaining structures. Second, the paper argues that the decentralisation of collective bargaining is an endogenous institutional or political economic response by unions to the growing global nature of the firms they work for. This is illustrated by developing a model which shows that unions prefer a more wage-oriented bargaining posture if their members are faced with an outsourcing threat. It is argued that the political support for enterprise bargaining by unions in Australia may be viewed in this light. As well as having the ability to explain why outsourcing is not more empirically significant, the model can rationalise the growing wage inequality that has characterised the Australian labour market since the advent of enterprise bargaining in the early 1990's.

Keywords: Outsourcing, wage bargaining, foreign direct investment.

JEL codes: F23, J51, J41.

Noel Gaston
School of Business
Bond University
Gold Coast QLD 4229
Australia

Phone: (61 7) 5595 1111
Fax: (61 7) 5595 1160
noel_gaston@bond.edu.au

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" ... the bargaining power of employers has increased vis-à-vis that of employees because employers can increasingly say in a global economy that they will pack their bags and leave." Bhagwati (1995, p.46).

" ... large corporations ... can build, expand, or acquire facilities outside the [United States] altogether. In fact, all the strategic innovations devised by multiplant companies for playing off one group of workers against another ... have become standard operating procedure in the global economy." Bluestone and Harrison (1982, p.170).

I. Introduction

Much attention has understandably focussed on the relationship between commodity trade and labour market outcomes. Gaston and Nelson (1998) survey the state of play on that controversial issue and conclude that trade liberalisation may very well have contributed to the increasing wage dispersion observed during the 1980's, particularly in countries such as the United States and the United Kingdom. The increased globalisation may have also contributed to the unemployment problems experienced by some West European economies during the same time period. Overall, Gaston and Nelson conclude that the "facts" are consistent with the predictions of short- and medium-run models of labour market adjustment, e.g., models in which labour markets fail to clear instantaneously, models of union-firm bargaining, models of imperfect product market competition, and political economy models of lobbying on trade legislation by self-interested parties.

Foreign direct investment (FDI) is similarly controversial. FDI has grown more rapidly than trade over the past decade (Lawrence, 1996). In addition, FDI may have labour market effects that, at least in the short- and medium-run, may well dwarf the effects of trade. Unfortunately, the effects of FDI on labour markets are hard to

gauge.[1] The analysis of FDI has all the same problems that plague attempts to relate trade flows to labour market effects. FDI involves additional difficulties. For instance, FDI generally involves changes in competitive conditions in commodity markets as well as endowment effects. Conventional models of FDI treat multinational corporations as firms with some kind of competitive advantage that permits them to enter foreign markets. The growing global nature of firms in particular sectors of the domestic economy surely must also have non-trivial labour market effects.

The attention of this paper is directed at one piece of the FDI and labour market effects puzzle. The main catalyst is related to the wide-ranging debate concerning the effects of globalisation on labour markets. The opening quotations are pointed references to a prominent concern and popularly-held view regarding the effects of multinational corporations on labour markets. The widespread fear of jobs being outsourced or firms "delocalising" is often allied to a concern that increasing import penetration, particularly from low-wage countries, has adverse labour market consequences for domestic workers.

The debate surrounding trade and wages has highlighted various candidate explanations for the labour market performances in advanced economies. Related to the themes developed in this paper is the recent research that has emphasised the role played by different types of labour market institutions and the way in which demand shocks translate into very different wage inequality outcomes (e.g., Blau and Kahn, 1996 and Fortin and Lemieux, 1997). The present paper develops a model that investigates the optimal union response to the "new" global environment. In particular, I examine the effect of the outsourcing of production facilities overseas, or at least the threat by firms to outsource, on domestic wage and employment bargains. It is shown that the global environment may lead union workers to prefer more wage-oriented forms of bargaining with their employers.

Lindbeck and Snower (1996) provide a model with a similar punch-line to my own. They show that in the age of the new global firm, which stresses multi-tasking activities by employees, that centralised wage bargaining is inefficient. Efficiency necessitates the eventual switch to less-centralised forms of wage bargaining and a greater reliance on individual contracts.[2] The relevance, for the present purposes, is that models like Lindbeck and Snower's and the one developed below, may help to explain some of the "stylised facts" that are now so ingrained in the conscientiousness of researchers working in the area of globalising labour markets. In particular,

[1] Caves (1996) surveys earlier research, while Graham and Krugman (1991), Lipsey (1994a,b), Slaughter (1995), Brainard (1993a,b), Brainard and Riker (1997) and Riker and Brainard (1997) are more recent references.

[2] Freeman and Gibbons (1995) provide a model of the breakdown of centralised bargaining, which they apply to the case of Sweden. They attribute the decline in Sweden's peak-level wage bargaining system to wages drift and the increasing need for flexibility. In turn, these latter features were affected by economic forces, that increased the dispersion of wages for Sweden's increasingly heterogeneous work-force, as well as falling inflation, which increased wage discipline.

movements away from centralised wage bargaining would by themselves increase the dispersion of labour market earnings.[3]

In my view, the decentralisation of collective bargaining is an under-researched phenomenon associated with the tumultuous changes in the labour markets experienced since the early 1980's. It should be mentioned, however, that some authors have explicitly linked increased international competition and trade as a reason for a move towards more decentralised wage bargaining. For example, Marginson and Sisson (1988) have noted that British multinational corporations are less likely to engage in multi-employer bargaining (see also Katz, 1993 and Ehrenberg, 1994).[4] Katz (1993, p.16) argues that the "... *increasing prevalence of multinational trade and multinational firms may ... help to explain the declines in multi-employer bargaining that have occurred in a number of countries*."[5] Standing (1997) argues that international trends towards increased labour market flexibility and deunionisation have been propelled by globalisation. In fact, the "erosion" of labour security has been "*fuelled by the international division of labour*" (p.12).

In this paper, I show that the decentralisation of collective bargaining by unions would mitigate some of the adverse consequences for workers working for multinationals or global firms. In the next section, I explore what it is that we "know" about multinationals and their labour market effects. It provides further grist for the mill before we move on to the Australian setting and the specific focus of my model (in sections III and IV). The results of the model are shown to support the institutional developments as a political economy equilibrium. While no claims are made about having identified the sole determinant of increasing wage dispersion, it is noted that wage inequality in Australia has accelerated since wage determination and collective bargaining became more decentralised.[6] The last two sections of the paper contain a discussion and concluding comments.

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[3] In a similar vein, some authors have pointed to the growth of profit-sharing plans and contingent-pay schemes as being a potentially significant factor behind the growing wage inequality witnessed in the United States during the 1980's (see Bell and Neumark, 1991; Ehrenberg and Smith, 1994). With the increasing prevalence of such pay schemes, volatility in output and income implies greater dispersion in the distribution of earned income. A possible reason for the proliferation of these more flexible forms of employee compensation and the reduced reliance on "pattern bargaining" is globalisation. (See the discussants' comments after the Bell and Neumark, 1991 article.)

[4] Edwards and Podgursky (1986, p.46) argue that "*[u]nions now find themselves negotiating with increasingly centralized corporations at an increasingly decentralized level*".

[5] Katz lists Sweden, Australia, the former West Germany, Italy, the United Kingdom, and the United States as having bargaining structures that have to varying degrees experienced decentralisation of their collective bargaining structures. At the beginning of the 1980's, Sweden and Australia had "extremely centralised" collective bargaining.

[6] A recent study notes that countries with higher unionisation and more coordinated bargaining experience less earnings inequality (OECD, 1997). Rowthorn (1992) shows that wage inequality increases as the degree of coordination among national unions falls.

II. Concordant and Discordant Themes in Recent Findings Relating FDI and Multinationals to Labour Market Outcomes

As usual, most of the high profile and cross-referenced research is for the United States. Hence, the focus is generally either on the behaviour of affiliates of foreign-owned firms in the United States, or on the behaviour of U.S.-owned affiliates in foreign countries. I am not foolhardy enough to attempt a comprehensive survey of this exponentially growing literature. However, in the penultimate section of the paper, I provide a simplified taxonomy of models of FDI and labour markets and explain where my model fits into the overall scheme of things.

First, some questions. The usual motivation for research on FDI (read, multinationals) and associated labour market effects is actually quite straightforward. (Unlike the answers!) To wit, does FDI lead to jobs being outsourced? Does FDI magnify earned income inequality? Does FDI increase the relative demand for more skilled workers? More simply, given the well-documented surge of international capital flows during the past thirty-something years, does outward FDI or capital outflows place downward pressure on the wages of domestic production workers? That is, does FDI operate in a manner similar to the effect that increased import penetration from unskilled labour abundant countries is thought to have on the wages of workers in import-competing sectors of the economy? Does it matter whether FDI is driven by an inexorable "slicing up of the value added chain" a la Krugman or whether it is purely strategic and horizontal in nature?

As for a direct labour market linkage with FDI note that if a feature of multinational behaviour is the exploitation of wage differentials across countries then this behaviour could have effects which may be observationally equivalent to shifts caused by skill-biased technological change. Rapid technological advancement has for many commentators been the leading candidate explanation for the increased earnings inequality experienced by many advanced and developing countries during the 1980's and early 1990's (see Baldwin, 1995; or alternatively, Gaston and Nelson, 1998 for a less sanguine view). An intra-industry shift in labour demand towards relatively more skilled and/or more highly-educated workers would increase the skilled wage premium across all industries. FDI may also lead to relative increases in skilled labour demand and would have effects indistinguishable from those of skill-biased technical change on relative wages (see Slaughter, 1995; Lawrence, 1996; Markusen and Venables, 1997). Some of the "new" trade models attempt to explicitly capture this feature (see Feenstra and Hanson, 1996a,b, 1997; Flam and Helpman, 1987).

Next, some answers, some facts, and yet more questions. First, on the wages front, average compensation per worker tends to be greater in foreign-owned than in domestically-owned establishments. In addition, there are wage spillover effects, i.e., the presence of foreign firms raises average wages at domestic firms (Lipsey, 1994b;

Zweimüller and Barth (1994) show that countries with more decentralised regimes display greater dispersion in their inter-industry wage structure as well.

Aitken *et al.*, 1996). One explanation for the wage effect is that when domestic firms are taken over by foreign firms, average compensation rises and total employment falls, which suggests that low paid and low productivity employees are sloughed off. The wage differential, however, is strongly associated with firm size. That is, controlling for firm size, there is *no* effect of foreign ownership on wages (Lipsey, 1994b).

As for industry location, inwards FDI is often concentrated in high-wage and high skill-intensity industries. Foreign ownership also tends to be heavily concentrated in manufacturing (Lipsey, 1994b). An interesting caveat, is that foreign-owned establishments tend to locate in lower-wage U.S. states (Lipsey, 1994b). This is possibly due to right-to-work laws and the low rates of unionisation in these states. Wheeler and Mody (1992) present evidence supporting the importance of differential labour costs in multinational locational preferences. More recently, Cooke (1997) has presented extremely interesting evidence on the FDI decisions of U.S. firms. Of most interest are Cooke's findings that FDI is negatively related to the presence of high levels of union penetration, centralised collective bargaining structures and governmental restrictions on layoffs. This seems to give credence to the two observations cited at the beginning of the paper.

FDI is concentrated in industries in which U.S. direct investment abroad is highest. Therefore, FDI is industry-specific. Specifically, it is intended to affect the state of competition in the strategic sense (Lipsey, 1994a,b). This seems to argue somewhat against the vertical slicing up view of FDI and multinationals adopted by some commentators (see Krugman, 1995; Katz and Murphy, 1992; Brainard, 1997). It seems that much FDI is horizontal in nature, designed with explicit competition-affecting or strategic considerations in mind (see Markusen, 1995).

Outsourcing? First, more than 80 percent of FDI is directed to industrialised countries (see Graham and Krugman, 1991; Markusen, 1995). Thus, taken by itself this suggests that the substitution of low-wage labour in developing countries for domestic unskilled labour is a unlikely to be an empirically important factor behind FDI growth.[7] In addition, the support for the view that U.S. multinationals outsource employment to non-OECD countries is extremely weak (see Baldwin, 1995). Blomström *et al.* (1997) find that Swedish firms are even less likely to outsource low-skill jobs to affiliates in developing countries. Home and foreign production workers are at best weak substitutes. In fact, domestic industry employment and overseas affiliate employment may be complements (Slaughter, 1995). Hence, the effect is not substitution between workers at foreign affiliates and domestic workers, but

[7] In fact, it is difficult to see how any other conclusion is warranted. Multinationals employ about 70 million workers world-wide, about three-quarters of whom are employed in their home countries. In addition, the remainder were predominantly employed in industrialised countries. FDI is a "*First World business directed largely at First World locations*". In 1990, the United States, Canada, Germany, the United Kingdom, the Netherlands, France, Italy, Switzerland and Japan were the source of more than 90 percent of the world's outwards stock of FDI and the host to more than two-thirds of the inwards stock. The quotation and figures are from Renshaw (1993). See also Lawrence (1996), Chapter 5.

substitution between other low-wage locations (Brainard and Riker, 1997). Employment at affiliates is also very wage sensitive (see Lipsey *et al*., 1982; Brainard and Riker, 1997; Riker and Brainard, 1997). In addition, U.S. total manufacturing employment shrank 10 percent between 1979 and 1989, and total overseas affiliate employment shrank 14 percent (see Lawrence, 1994; Slaughter, 1995). Once again, this implies that domestic and foreign affiliate employment are not negatively correlated.[8]

Where are we now? My interpretation of the recent evidence is that the "direct" impact of FDI on domestic wage and employment outcomes is marginal at best. The behaviour of multinational corporations, however, is very much affected by unions, both at home and abroad. However, it is unreasonable to assume that labour market institutions do not evolve in response to the rise of the multinational enterprise. In my opinion, the evolution of different schemes of compensating workers and changes in collective bargaining practices, specifically, the move towards more firm-level and efficiency-based bargaining is under-researched. Empirically, we should *not* expect to find dramatic negative effects on workers, particularly, those workers with substantial bargaining power. It is working assumption of the model developed below, that outsourcing only occurs in the event of a bargaining breakdown. This does not, however, imply that the *threat* of outsourcing has no effects on organised workers.

[8] There is indirect evidence that marginal differences in operating costs are unlikely to drive "delocalisation" decisions. For example, Wheeler and Mody (1992) indicate that tax avoidance is rarely a motive. Also, there appears to be little evidence to support the "pollution haven" hypothesis, i.e., firms locating their "dirty" operations in developing countries with low labour costs and slack environmental standards (Eskeland and Harrison, 1997).

III. Enterprise Bargaining in Australia – Why?

The *Industrial Relations Reform Act* of 1993 formalised the process of enterprise bargaining (EB).[9] EB essentially involves the devolution of negotiation of wages and employment to the level of the enterprise or workplace. Employees are generally represented by their unions. When approved by the Industrial Relations Commission, enterprise bargains (EB's) supersede Federal award provisions. Historically, wages and employment have been negotiated and administered at the industry-level in Australia.[10] Awards are the principal legal provision in industrial law in Australia and stipulate work conditions and rates of pay. In the event that EB's are not negotiated, the Federal award conditions act as the 'safety net'. Interestingly, EB's cover all workers – both union and non-union.

There is a debate about the merits of EB for unions, in particular. On one hand, the widespread support for EB by employers was seen to be driven by the increasing international competition engendered by globalisation and Australia's policy of tariff reductions (see Gaston, 1998). In addition, the sentiment that EB would eventually attenuate the influence of unions was also significant. Evidence from New Zealand, for instance, reveals dramatic declines in union membership since more decentralised collective bargaining was introduced in that country with the passage of the *Employment Contracts Act* of 1991 (see Whitfield and Ross, 1996, p.193). The idea behind a 'divide and conquer' strategy entails an undercutting of wages by competing unions in order to capture market share from one another (recall the Bluestone and Harrison quote; see also Dowrick, 1993). On the other hand, globalisation of the world economy may actually enhance the bargaining power of unions. The cost of potential disruptions is greater for firms with vertically-organised production which tilts bargaining power in favour of unions. This, however, is likely to be a short-run phenomenon. In the long run, global firms may re-organise production and delocalise.

While the bargaining power of certain unions may be enhanced, it is difficult to rationalise the political adoption of EB and the support for more wage-oriented bargaining by unions. For example, Davis and Lansbury (1993) note that the position of low-paid workers may be under increasing threat and how this may be at odds with the "traditional" objectives of the union movement.[11]

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[9] The move towards of enterprise bargaining in Australia was actually initiated much earlier than 1993. The national wage case decisions of 1988 and 1989 foreshadowed "award restructuring" at the firm-level and a move towards "managed decentralism" and the eventual shift to more comprehensive enterprise bargaining (see Katz, 1993). The Industrial Relations Commission outlined the Enterprise Bargaining Principle in 1991, which promulgated bargaining at the firm level (or plant level where appropriate).

[10] Davis and Lansbury (1993) provide an accessible industrial relations perspective of the legal, political and economic framework of wage determination in Australia. Hawke and Wooden (1998) provide a nice discussion of the rise of enterprise bargaining and decline in trade union membership.

[11] *The Australian* newspaper (June 6, 1998) reported that the membership of some branches of the Australian Workers Union (AWU) were in "freefall", in deep financial crisis and

EB is thought to be associated with more wage-oriented bargaining.[12] In turn, this benefits the more senior members of stronger unions. Senior workers face a lower risk of layoff and prefer that union bargaining power be directed towards increasing their wages. However, increasing wage-oriented behaviour by unions may lead to what is sometimes referred to as the 'Cheshire Cat' phenomenon (see Burda, 1990), in which the median union member may support a wage policy that is inimical to the long-run survival of the union. This phenomenon requires a significant degree of 'irrational' myopia on the part of the union.

Another aspect of more wage-oriented or decentralised bargaining by the stronger unions is that wage inequality might be exacerbated.[13] That is, the members of strong unions are able to negotiate higher wages, the members of weak unions and workers in non-unionised sectors of the economy are not. Figure 1 indicates that the wage gap between high income earners and low income earners, as measured by the 90-10 real wage differential for full-time, non-managerial employees, e.g., has widened since the transition towards EB's in the Australian workplace. It is clear that some workers have fared progressively better and some progressively worse during the 1990's. In addition, since the wage negotiated in EB's extends to non-unionised workers in the same sector it could be argued that "inside" or union workers can shift the consequences of their higher wages onto the shoulders of non-union workers in the same industry.

The next section examines a rationale for union preference for EB. In particular, I investigate whether EB or wage-oriented bargaining may be preferable for unions in a more globalised economy. That is, do workers prefer EB or firm-level bargaining to industry-level bargaining when firms can outsource their jobs to foreign affiliates.

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were fighting for their survival. The AWU is one of Australia's oldest and largest unions. The percentage of the total workforce that is unionised has been slowly, but steadily, declining in Australia. In 1986 the figure stood at 45.6 percent; 41.6 percent in 1988; 40.5 percent in 1990; 39.6 percent in 1992; 35.0 percent in 1994; and 33.5 percent in 1996 (source: Trade Union Members, Australia [ABS catalogue no. 6325.0, various issues]).

[12] For example, Calmfors (1993) notes that centralisation of collective bargaining leads to "negative wage externalities" being internalised. Decentralised bargaining results in less wage restraint by those who have the bargaining power to increase their own wages. Hawke and Wooden (1998) argue that the uniform wages generated by centralised bargaining in Australia involved rents being transferred from efficient competitive industries to less efficient protected sectors.

[13] Declines in collective bargaining coverage or the retreat from centralised negotiations have produced wider earnings distributions in the United States, United Kingdom, Sweden and Italy. See Freeman (1998) for references. Countries with more centralised/coordinated systems of bargaining also show some tendency to have lower unemployment and higher employment rates as well (see OECD, 1997).

IV. Bargaining with an Outsourcing Threat

Consider an industry in which there are no strategic interactions between firms. A critical assumption is that the industry market structure generates rents that are shared between firms and domestic unions. I focus on the impact of a more globalised economy and the ability of the firm to outsource employment overseas, rather than the impact of globalisation on product market rents.

Wage and employment bargains: Attention is focused on a representative firm facing a union. The firm's profits are given by $\pi(w,l;p) = R(l,p) - wl$, where $R(l,p)$ is the revenue function when employment is l and w is the wage. Higher values of p are associated with higher total and marginal revenue, i.e., $R_p > 0$ and $R_{lp} > 0$. Hence, higher p unambiguously indexes good times. Further, we assume $R_l > 0$ and $R_{ll} < 0$.

The firm bargains with the union over wage-employment contracts, (w,l). We assume that bargaining over wages and employment is efficient and that the choice from the set of efficient contracts is the one that maximises the symmetric Nash product, i.e.,

$$S(w,l) = \left[U(w,l;r) - \overline{U}\right]\left[\pi(w,l;p) - \overline{\pi}\right], \tag{1}$$

where $U(.)$ is the union's utility function and r denotes the reservation alternative for workers. Differences in bargaining power are incorporated into the disagreement point, $(\overline{\pi}, \overline{U})$, which is discussed further below.

We assume that the Nash solution lies in the interior of the choice set and that S is strictly concave so that the solution is unique and may be characterised by the following first-order conditions. We suppress arguments where no ambiguity exists and use subscripts to denote partial derivatives.

$$S_w(.) = U_w \Delta^{-1} - \pi_w \Pi^{-1} = 0 \tag{2.1}$$

$$S_l(.) = U_l \Delta^{-1} - \pi_l \Pi^{-1} = 0, \tag{2.2}$$

where $\Pi = \left[\pi(w,l;p) - \overline{\pi}\right]$ and $\Delta = \left[U(w,l;r) - \overline{U}\right]$, the economic rent for firms and employed workers, respectively. Substituting (2.1) into (2.2), gives the equation for the contract curve, which equates the slope of the union's indifference curve and the firm's iso-profit curve,

$$-\frac{U_l}{U_w} = -\frac{\pi_l}{\pi_w}. \tag{3}$$

Further headway is made by investigating the implications of some commonly-considered functional forms for union preferences.

Union preferences: Consider the popular specification used by McDonald and Solow (1981). Here the union comprises m workers, each endowed with one unit of labour time. Prior to actual wage and employment negotiations, a worker's expected utility is given by

$$EU = \frac{l}{m}U(w) + \frac{(m-l)}{m}U(r), \tag{4}$$

where $U(.)$ is increasing and concave, w is the wage rate if employed and the reservation alternative, or benefit when unemployed, is denoted by r.[14] Alternatively, ignoring the issue of union membership, the union is assumed to maximise

$$EU(w,l) = lU(w) + (1-l)U(r), \qquad (5)$$

where l is normalised to denote the probability of employment.[15] The union's disagreement payoff is $\overline{U} = U(r)$.

Eqn.(3) yields the set of efficient contracts

$$\frac{U(w)-U(r)}{U_w} = w - R_l . \qquad (6)$$

With union risk neutrality, $R_l = r$ so that labour is hired until its marginal revenue product equals the reservation wage.

It is straightforward to conduct comparative statics on Eqns. (2.1), and (2.2). For complete transparency, Proposition 1 summarises the results for the risk-neutral union case.[16] The exogenous variables are the reservation wage, the price and the firm's disagreement outcome.

Proposition 1 (*Risk neutral union*)

a) $w = w(r, p, \overline{\pi})$: $w_r > 0$; w_p *has indeterminate sign*; *and* $w_{\overline{\pi}} < 0$;

b) $l = l(r, p, \overline{\pi})$: $l_r < 0$; $l_p > 0$; *and* $l_{\overline{\pi}} = 0$;

c) $\pi = \pi(r, p, \overline{\pi})$: $\pi_r < 0$; $\pi_p > 0$; *and* $\pi_{\overline{\pi}} > 0$;

d) $U = U(r, p, \overline{\pi})$: $U_r > 0$; $U_p > 0$; *and* $U_{\overline{\pi}} < 0$.

Proof: See Appendix.

There are no real surprises here. The impact on wages of higher reservation wages shifts the threat point in the union's favour, raising their total welfare. The impact of higher product prices is to raise employment. The wage indeterminacy with respect to higher product prices is well-known and is explored in detail by Gaston and Trefler (1995). However, note that higher prices unambiguously benefit both the union and firm.

Most importantly, Proposition 1 also states that the domestic union is adversely affected by a higher value of the firm's disagreement outcome. Mezzetti and Dinopoulos (1991) interpret $\overline{\pi}$ as the value of the option to switch production abroad.

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[14] In line with the discussion in the last section, r may be interpreted as the Federal award wage. Hence, (w - r) represents the amount of "wages drift" (see Freeman and Gibbons, 1995).

[15] A union representing workers is assumed to treat its employed and unemployed members equally. Workers are homogeneous and all face the same risk of unemployment, (1 - l).

[16] See Gaston and Trefler (1995) for the risk averse case. Risk aversion, however, is not central for the results that follow.

That is, $\overline{\pi}$ varies positively with a credible outsourcing alternative for the firm.[17] It is credible threat in the case of a multinational enterprise because of the lack of coordination between domestic and foreign unions or workers. As Caves (1996, p.125) notes multinational enterprises enjoy bargaining ploys that the national firms do not possess.

The ability to outsource shifts the domestic collective bargaining outcome in favour of the firm. That is, when it bargains with a domestic union. the firm can threaten to close the domestic plant and switch production to the foreign country. During any dispute, the domestic firm supplies the market from abroad. The threat point of the firm is therefore its reservation profit when its production facilities are moved off-shore.[18]

A pertinent issue is how unions might respond to the possibility of outsourcing production and employment by firms. If foreign direct investment and outsourcing production facilities overseas by firms are features of the new global environment, then it is simply unrealistic to assume that unions and workers sit idly by. Unions adapt to the new global environment or risk extinction. Labour market institutions evolve.

Choosing the stance of bargaining: For transparency, the risk-neutrality assumption is retained, i.e., the union's underlying preferences are given by $U(w,l) = (w-r)l$. However, we now suppose that the union leadership is free to choose the weight, λ, in the symmetric Nash product

$$S(w,l) = \left[(w-r)^{\lambda} l^{1-\lambda}\right]\left[\pi(w,l;p) - \overline{\pi}\right], \qquad (1')$$

where $\lambda \in [0,1]$ is the intra-union bargaining weight when the median union's membership is secure. Pemberton (1988) interprets low values of λ as reflecting a relatively greater weight being placed on the desire for high membership on the part of union leadership vis-à-vis the desire for high wages on the part of the median union member. In the following, we treat λ as a variable that can be strategically chosen by the union.[19] Note that neither $\overline{U}$ nor $\overline{\pi}$ are treated as strategic variables.

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[17] It is helpful to think of $\overline{\pi}$ as being inversely related to barriers or restrictions to FDI. FDI liberalisation is therefore associated with a higher $\overline{\pi}$. As in Mezzetti and Dinopoulos (1991), I focus on the case in which the firm produces in the home country in equilibrium, despite its option to shift production abroad. The analysis is easily extended to the case in which the firm produces both at home and overseas.

[18] Presumably, if foreign and domestic workers are equally productive and the foreign wage is less than the domestic wage (due to the absence of unions in the foreign country), there are some additional fixed costs of moving overseas or taxes on overseas production, otherwise production would never occur at home.

[19] Drawing on the literature on strategic delegation (e.g., Vickers, 1985; Sklivas, 1987), Jones (1989) investigated the desirability of entrenching a union leadership that was sufficiently bloody-minded to pursue a more 'wage-oriented' strategy. However, firms also have a similar incentive to be bloody-minded in pursuing low wage-high employment outcomes. Consequently, an increase in industrial disputes may result. Institutionalising enterprise bargaining, in the political economic sense, may therefore be a less costly way of credibly committing to a more wage-oriented bargaining posture. Political economy models that

Once again, Eqn.(3) yields an expression for the contract curve

$$\frac{(1-\lambda)}{\lambda}(w-r) = w - R_l . \qquad (7)$$

As $\lambda \to 0$, $w \to r$ and employment is maximised, i.e., the union is completely employment-oriented. As $\lambda \to 1$, $w \to R_l$ and worker's receive the entire marginal revenue product. With complete wage-oriented bargaining, employment and wage outcomes occur along the demand for labour schedule. The symmetric case considered in the previous section is represented by $\lambda = \frac{1}{2}$ (so that $R_l = r$).

Rearranging Eqn.(2.2) and suppressing arguments, yields the Nash bargaining condition or "equity locus"

$$w = \theta\left|\frac{R}{l} - \frac{\overline{\pi}}{l}\right| + (1-\theta)R_l . \qquad (8)$$

where $\theta = \left|\frac{1-\lambda}{2-\lambda}\right|$. Thus, the negotiated wage is simply the weighted mean of the marginal and the (net) average revenue products of labour. It is also apparent from Eqn.(8) that, for a given level of employment, the threat to move production overseas ($\overline{\pi} > 0$), results in a lower negotiated wage.

The ability to credibly choose the wage-orientation or bargaining posture has a number of obvious advantages for the union, but the one I focus on below is the union's response to the firm's threat to outsource. Specifically, the union's optimal choice of λ increases in $\overline{\pi}$. We prove this in two steps. First, Proposition 2 states that the union chooses a *more* wage-oriented posture if it has the option to do so. Second, Corollary 1 states that the union chooses a more wage-oriented posture in bargaining in order to maximise the welfare of its members, when the firm's outsourcing threat is greater.

Proposition 2

Suppose that wages and employment are chosen to maximise the symmetric Nash product $\left[(w-r)^{\lambda} l^{1-\lambda}\right]\left[\pi(w,l) - \overline{\pi}\right]$, $\lambda \in [0,1]$. *Suppose also that a risk-neutral union can choose the degree of wage-orientation when it bargains with the domestic firm. That is, it can choose* λ^* *in its bargaining objective* $U(w,l;\lambda) = (w-r)^{\lambda} l^{1-\lambda}$, $\lambda \in [0,1]$. *Then the union will optimally choose a more wage-oriented bargaining posture, i.e.,* $\lambda^* > 0.5$.

Proof: See Appendix.

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endogenise labour market institutions seem to be more readily embraced by economists these days. Wright (1986) uses a dynamic voting model to show how workers with heterogeneous employment opportunities help to entrench a public unemployment insurance system that may prescribe sub-optimal levels of benefits. Saint-Paul (1996) and Fredriksson and Gaston (1998) use political economy models to show that incumbent workers or "insiders" may "vote" for labour market policies that exclude "outsiders".

Corollary 1
The union chooses a more wage-oriented bargaining posture the greater is the firm's threat to outsource employment and production, i.e., $\frac{d\lambda^*}{d\bar{\pi}} > 0$.

Proof: See Appendix.

The finding in Proposition 2 is not novel and is closely related to the literature on strategic delegation. For example, Jones (1989) noted that a preferred outcome for the union could be achieved if a credible institutional mechanism existed that increased wages, even though its members were exposed to a greater risk of unemployment. Consequently, a preferred contract for the union would involve higher wages with greater employment risk.[20] On the other hand, the firm would prefer that contracts stipulate low wages and high employment. The real issue, of course, is how either the firm or union can credibly commit to adopt bargaining postures different from that implied by their "true" underlying preferences.

It is the argument of this paper that the political support and ratification of EB achieves exactly this outcome. In fact, EB can be rationalised as the outcome of a political economic equilibrium. The possibility that firms bargaining with unions may actually outsource to mitigate the power of unions, is countered by institutional changes in the way in which unions bargain. In addition, the political support for EB is the optimal response to the globalised world economy and the possibilities of capital flight. This is the case for members of a strong union at least.

Corollary 1 *is* novel and states that by setting a higher λ^* the union can ameliorate the effect of a growing $\bar{\pi}$ on worker welfare. That is, the union can offset the firm's increased ability to be able to locate overseas. A growing threat to locate production overseas, or a *higher* $\bar{\pi}$, results in a *larger* λ^* or even greater wage-oriented bargaining posture on the part of the union.[21] The higher value of λ means that the interests of the median union worker are pursued more aggressively by the union leadership. Consequently, unions become more aggressive in wage-bargaining with firms that threaten to outsource employment overseas in the event of a bargaining breakdown. The support for EB is optimal from the viewpoint of the union's membership. Doing so, however, may jeopardise the union's marginal workers. When demand fails to grow it may thus imply falling levels of union membership. In addition, this implies that wage and employment bargains are struck "closer" to the demand for labour curve. Some recent and consistent evidence for this is presented by Haskel *et al.* (1997) who show that increasing labour market flexibility in the United Kingdom has resulted in labour input being more closely aligned to the business cycle.

[20] The same conclusion pertains for efficient bargains constrained to lie on the labour demand curve (i.e., a 'right-to-manage' model). See Jones (1989).

[21] This result holds as long as R_l is not "too" convex. See proof of Corollary 1. Mezzetti and Dinopoulos (1991) have a similar restriction in their strategic trade model.

V. Discussion

There are essentially two broad types of models that investigate the relationship between FDI and labour markets – general equilibrium or trade models and partial equilibrium or labour models. Both types of models have their advantages, depending on the precise questions posed. In addition, trade models are of two basic types – the conventional or HOS model and the "new" trade or industrial organisation models.

Predictions about changing factor prices from the standard HOS trade model are inevitably bound up with the Stolper-Samuelson Theorem. Much of the focus in developed countries has been on the effects of outsourcing unskilled, blue collar jobs to developing countries. For example, in the United States a prominent concern of the labour movement is the loss of jobs to Mexico's *maquiladoras*. Lawrence (1996) argues that the evidence for a large globalisation effect, via either increased trade or capital flows, on labour markets is fairly weak. In particular, it should be expected that if outsourcing unskilled jobs to developing countries is empirically important, that the skilled wage premium should rise in the developed countries and fall in the developing countries. Attendant with this should be falls in the proportion of skilled workers employed in developed countries. This has simply not happened. Lawrence (1996), like a number of other trade economists, has opted for the skill-biased technological change explanation for the increased wage inequality experienced in a number of countries – both developed and developing – since the early 1980s.

Since conventional trade theory has little to say about direct investment (see Ethier, 1994), most recent attention has been devoted to the new trade models. In general, economists working with these models do not reach such optimistic conclusions as the HOS devotees. Also, much of the empirical evidence presented is more in keeping with the partial equilibrium models presented by labour economists. In accord with stylised facts, many of these economists work with models of product differentiation. For example, Feenstra and Hanson (1996a,b; 1997) argue that FDI has increased the relative demand (and therefore, wages) for skilled workers in both the North and the South. The North produces ever increasingly high quality goods, reducing the demand for unskilled workers. However, as the relatively unskilled activities (from the North's perspective) head South, the demand for skilled labour in the South increases (since the activities are relatively skilled from the South's perspective). Hence, it is possible for FDI to have effects on labour markets similar to the effects engendered by skill-biased technological change.

In a similar fashion, Markusen and Venables (1997) show that anything that liberalises investment, relative to international trade, will lead to an increased formation of multinational corporations since exporting and producing overseas for the host country's market are substitutes. If multinational corporations use relatively more skilled labour than "national" firms, then the skilled wage premium increases with greater investment liberalisation. In fact, in a similar fashion to the Feenstra and Hanson model, the skilled-unskilled wage gap widens world-wide.

Much of the new trade literature is devoted to understanding the growth and formation of multinationals. They address the ownership, location and internalisation motives for FDI. For example, why ownership and control is important; why and where multinationals locate abroad; and why activities need to take place within the boundaries of the firm (particularly, when sub-contracting or licensing are obvious alternatives). In his survey of multinationals and trade, Markusen (1995) points out that the internalisation motive is the most abstract and difficult to rationalise. The bargaining models may provide some insight into why firms may choose FDI over licensing activities or "arm's length" contracting – investing overseas, which may entail substantial investment in plant and equipment, provides a credible threat to outsource employment; licensing in all likelihood will not.[22] In addition, strategic considerations involving unions in developed countries are consistent with two-way FDI within the same industry – which is a prominent feature of modern FDI (Ethier, 1994).

In contrast, labour economists take the existence of FDI and global firms as their point of departure when examining labour market effects. A typical inquiry is how the existence of production facilities overseas may affect the domestic wage and employment bargains that are struck between global firms and organised workers. There has been a proliferation of models that deal with every possible bargaining scenario. For example, bargaining could be between a national employers' association and a large national union, a single firm dealing with multiple unions, a single union dealing with many firms.[23] In addition, an important distinction that must also be drawn is that between horizontally-integrated global firms ("cross-hauling" FDI) versus vertically-integrated global firms ("slicing up the value-added chain"). The union's and firm's welfare not only depend crucially on the structure of bargaining, but also the type of firm integration under consideration.

A basic issue is whether any union can potentially "hold-up" a vertically-integrated firm or whether workers will be pressured to reduce wages by dint of the increased competition from workers at foreign affiliates and outsourcing threats. In the latter case, it may seem obvious that unions can be played off against one another, but it depends crucially on whether the workers in separate unions (or "bargaining units") are complements or substitutes for one another (Horn and Wolinsky, 1988; Dowrick, 1993). If the two groups of workers are complements (substitutes) in production, then both groups can do better by bargaining separately (jointly).

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[22] The issues are far from clear-cut, however. While multinational firms may find it beneficial to make capital investments in production facilities overseas to tilt the bargaining outcome in their favour, Grout (1984) showed that firms may *under*-invest in capital in order to avoid expropriation by strong unions. More recently, Ulph (1989) has shown that unions may be better off by weakening their bargaining position, so that firms increase their investment whereby, although getting a smaller slice, the larger pie more than compensates. However, Ulph shows that firms may *over*-invest in capital in order to make credible a threat to use other workers.

[23] Ulph and Ulph (1990) provide an accessible survey of the structure of union bargaining.

The industrial relations benefits of "going global" for firms are particularly obvious when they integrate horizontally rather than vertically (see Mezzetti and Dinopoulos, 1991; Zhao, 1995, 1998). This is the case modelled in the present paper. Of course, these are similar to the tensions associated with vertically-integrated firms. While it may pay for unions to band together to push up the wage bargain (see Davidson, 1988; Dowrick, 1989, 1993), it is not always possible for unions to credibly increase their threat payoff. Alternatively, the same objectives may be achieved by unions adopting a more wage-oriented bargaining posture. They can institutionalise this through their political support for enterprise bargaining. This is avenue is particularly attractive, when it may be difficult for unions to integrate across national boundaries (see Caves, 1996).

VI. Conclusion

This paper sought to increase our understanding of one dimension of the relationship between multinational corporations and labour markets. In particular, we investigated the evolution of less centralised wage bargaining in an era characterised by a growing number of global firms. In Australia, enterprise bargaining has introduced radical changes to the way in which wages are determined. It was argued that the changes in the manner in which bargaining is conducted in Australia may best be viewed as an endogenous institutional or political economic response by unions to the growing internationalisation of the firms they work for.

The increased importance of multinational firms and the greater exposure to international competition has brought with it many changes. One such change is the demise of centralised wage bargaining. The model presented in this paper shows that unions prefer a greater degree of wage-orientation in their bargaining posture when dealing with firms that threaten to outsource their jobs. The relevance of the model for recent labour market developments is that the model's findings help to explain the increased dispersion of labour market earnings. Less directly, another feature of the model is that large flows of outsourcing to foreign countries should not be a prominent feature of actual labour markets. Overall, it should not be terribly surprising that changes in labour market institutions have accompanied the growing internationalisation of labour markets.

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Appendix

Proof of Proposition 1: Totally differentiate Eqns. (2.1) and (6), using Eqn. (2.2) to simplify, to obtain

$$\begin{vmatrix} 2l & 2(w-r) \\ 0 & R_{ll} \end{vmatrix} \begin{bmatrix} dw \\ dl \end{bmatrix} = \begin{bmatrix} R_p & l & -1 \\ -R_{lp} & 1 & 0 \end{bmatrix} \begin{bmatrix} dp \\ dr \\ d\bar{\pi} \end{bmatrix}. \tag{A.1}$$

The determinant is $2lR_{ll} < 0$, by concavity. Using Cramer's Rule the results follow. ■

Proof of Proposition 2: Totally differentiate the first-order conditions, using Eqn. (7) to simplify, to obtain

$$\begin{vmatrix} (\lambda+1)l & (2-\lambda)(w-r) \\ (\lambda-2)l & \dfrac{(\lambda-2)(1-\lambda)(w-r)}{\lambda} + lR_{ll} \end{vmatrix} \begin{bmatrix} dw \\ dl \end{bmatrix} = \begin{bmatrix} -\lambda & (\pi-\bar{\pi}) \\ (1-\lambda) & (\pi-\bar{\pi}) \end{bmatrix} \begin{bmatrix} d\bar{\pi} \\ d\lambda \end{bmatrix}. \tag{A.2}$$

The determinant is $D = (\lambda-2)(w-r)\left|\dfrac{1-2\lambda}{\lambda}\right| l + (\lambda+1)l^2 R_{ll}$. $D < 0$ as long as

$$\frac{(\lambda-2)(1-2\lambda)}{\lambda(\lambda+1)} < \frac{-lR_{ll}}{(w-r)}.$$

The union chooses λ to maximise $U(w,l;\lambda) = \big(w(\lambda)-r\big)l(\lambda)$. It therefore solves $U_\lambda = (w-r)l_\lambda + lw_\lambda = 0$. Using Cramer's Rule on Eqn.(A.2), we have $l_\lambda = \dfrac{3l(\pi-\bar{\pi})}{D} < 0$ and $w_\lambda = \dfrac{(\pi-\bar{\pi})}{D}\left|\dfrac{(\lambda-2)(w-r)}{\lambda} + lR_{ll}\right| > 0$. Substitution into U_λ yields

$$\frac{2(2\lambda-1)}{\lambda} = -\frac{lR_{ll}}{(w-r)} > 0. \tag{A.3}$$

Clearly, $\lambda^* > \frac{1}{2}$. When evaluated at the λ^* defined by Eqn.(A.3), also note that $D = \frac{3}{2}\lambda l^2 R_{ll} < 0$. ■

Proof of Corollary 1: First, we note that for the λ^* defined by Eqn.(A.3) to maximise $U(\lambda)$, we require that the second order condition, $U_{\lambda\lambda} = \frac{(\pi - \bar{\pi})U}{D}\left| \frac{2}{\lambda^2} + \frac{(2R_{ll} + lR_{lll})l_{\lambda}}{(w-r)} \right|$ is negative.

Sufficient is $2R_{ll} + lR_{lll} < 0$, which is satisfied as long as R_{lll} is not "too" positive.

The effect on union welfare of higher $\bar{\pi}$ is $U_{\bar{\pi}} = (w-r)l_{\bar{\pi}} + lw_{\bar{\pi}}$. From Eqn.(A.2), we have $l_{\bar{\pi}} = \frac{(1-2\lambda)l}{D} > 0$ (since $\lambda^* > \frac{1}{2}$) and $w_{\bar{\pi}} = \frac{-\lambda l R_{ll}}{D} < 0$. By substitution,

$$U_{\bar{\pi}} = \frac{(w-r)(1-2\lambda)l - \lambda l^2 R_{ll}}{D}. \qquad \text{(A.4)}$$

Evaluated at the optimal λ^* we have $U_{\bar{\pi}} = -\frac{1}{3}$.

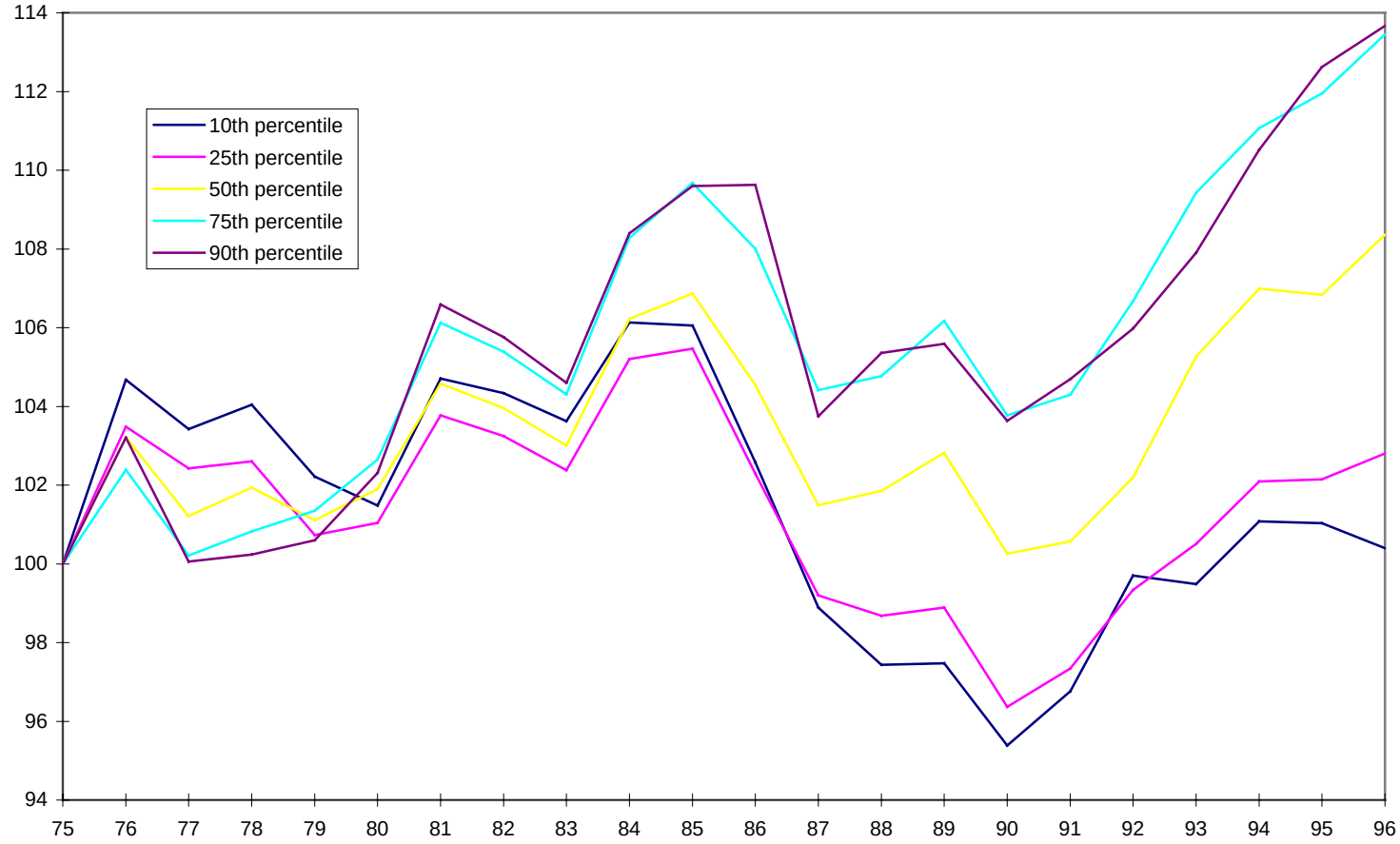
Note that $\lambda^* = \frac{2U}{4U + l^2 R_{ll}}$. Differentiating with respect to $\bar{\pi}$ gives:

$$\frac{d\lambda^*}{d\bar{\pi}} = \frac{2\lambda(1-2\lambda)U_{\bar{\pi}} - \lambda^2(2lR_{ll} + l^2 R_{lll})l_{\bar{\pi}}}{2U} > 0. \qquad \text{(A.5)}$$

Eqn.(A.5) is positive since $U_{\bar{\pi}} < 0$, $l_{\bar{\pi}} > 0$ and $2R_{ll} + lR_{lll} < 0$. ■

FIG. 1 REAL WEEKLY EARNINGS OF FULL-TIME NON-MANAGERIAL EMPLOYEES 1975-1996

(May data)



Source: Published and unpublished data from the ABS Survey of Employee Earnings and Hours (EEH Survey), ABS Cat no. 6305.0. The EEH Survey was not conducted in 1982 and 1984. Results for these years have been obtained through linear interpolation. All series deflated by the all groups CPI.