The Effect of Labour Market Programs on Wage Inflation*

Elizabeth Webster and Peter Summers

Melbourne Institute of Applied Economic and Social Research

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Enquiries about Working Papers and other publications of the Full Employment Project should be directed to:

Publications

Melbourne Institute of Applied economic and Social Research

The University of Melbourne

Parkville, Victoria 3052, Australia

Tel: +61 3 9344 5330

Fax: +61 3 9344 5630

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Abstract[*]

One explanation for concurrent levels of high unemployment and inflation during the 1980s and early 1990s has been the high incidence of long term unemployment. It has been argued that employers cease to regard the long-term unemployed as viable alternatives for more experienced workers and are thus more likely to grant the latter pay increases rather than hire more workers when under pressure from demand or supply. Labour market programs are recommended as policies to reverse this de-skilling effect. If employers come to consider the unemployed as substitutes for their incumbent workforce they will be less inclined voluntarily to grant wage increases. This paper aims to test whether Australian labour market programs have affected wage inflation since 1989, by applying pooled cross-sectional time series data to a general bargaining model. We find that a doubling of labour market program participants per employee leads, at most, to a 1 per cent reduction in nominal wages.

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1. Introduction

A common 'hysteresis' argument in the macroeconomic literature maintains that rising levels of long term unemployment over recent decades has given many Western economies an inflationary bias. Inactivity and unemployment erodes the competencies of unemployed people to the extent that employers cease to regard them as viable alternatives for employed workers. As a consequence, employers are more likely to grant pay increases when under pressure from demand or supply (see for example Layard, Nickell and Jackman 1991, Holmlund 1991). Labour market programs are advocated as policies to ameliorate this process. Employers should, according to the theory, come to consider the unemployed as substitutes for their incumbent workforce and will be less inclined either to offer higher wages or to accede more reluctantly to labour demands. Keeping the growth in nominal wages growth low will not only limit price inflation but will, to the extent that wages costs are not fully passed on in the form of prices, also keep real wage rises below what they otherwise would have been. [1]

Both major schools of macroeconomics regard either or both of these achievements as desirable. Mainstream Keynesian or demand side economists argue that a major reason for keeping aggregate demand low is the fear of uncontrollable inflation. If both wage and labour market programs reduce price inflation, then the government may loosen the monetary and fiscal reigns to increase the level of economic activity and employment. Neo-classical or supply side economists on the other hand argue that the major impediment limiting a higher

[1] Sylos Labini (1979) found that nominal wage rises were only partly shifted on to prices in a study of 5 industrialised countries during the 1950s to 1970s. Similarly Brown, Ingran and Wadsworth (1997: 2) found in the UK that real wages declines are more prevalent when inflation is relatively high.

employment rate is the current level of real wages. Any reduction in real wages *ceteris paribus,* will raise the profit maximising level of output across the whole economy.

Our intention in this paper is to test whether Australian labour market programs appear to have had any influence on the levels of wage inflation over the period 1989-96.[2] The Australian literature tends to focused on the positive labour supply effects of programs. However, perverse effects are also possible. Calmfors and Forslund 1991, for example, have argued that high levels of labour market program expenditure can nullify the restraint on wage bargaining brought about through fear of layoff.

Expenditure by the Australian Government on labour market programs has been substantial in recent years. Annual expenditure has exceeded $2 billion under Labor and is targeted to be at least $1 billion under the Coalition government.[3] Almost all long term unemployed have participated in one or more of the Labor Government's *Working Nation* programs. In addition, state governments have funded smaller programs. While these expenditures are not large by international standards (see Martin 1998), they should have been large enough to have operational effects, if indeed they work.

Theories of wage rate determination, which are designed for applied analysis, commonly assume a bargaining framework. Few applied labour economists would analyse the process from the perspective of a perfectly competitive model. While nominal wages do respond to market forces, their influence is muted and one rarely sees continuous rises or falls in wages in response to either excess demand or excess supply, as a simple model would predict.[4]

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[2] We do not discuss the more difficult question of how this should translate into the employment decision.

[3] The latter includes the CES and expenditure by the Government on private placement services.

[4] Falling (rising) nominal wages in a single market with excess (deficient) labour will not necessarily eliminate the surplus (shortage) of labour in that market, if the wage change has macroeconomic repercussions. If wage changes are transmitted across markets then general falls in nominal wages may reduce consumption demand and thus either depress demand for

By contrast, in bargaining models wages are taken to be a point between workers' desired wage – given their wage : employment trade-off and alternative incomes and firms' desired wage – also given their wage : employment trade-off and alternative incomes. The relative bargaining power of the parties determine the final position of the wage along the workers' preference – firms' preference spectrum. This wage outcome can be formally modelled as a Nash bargain[5], or as a simple weighted average of the two polar positions such as Cartter's costs of agreeing and disagreeing model.[6] Ultimately, it does not matter for estimation purposes which model is assumed because the independent variables in the estimated wage equation are the same.

The Cartter style general bargaining model is used in this paper because it is conceptually more straight forward. This side-steps the need to contemplate controversies such as how representative a perfect knowledge optimising framework is of a real dynamic bargaining situation where the realm of possible strategies and outcomes may be infinite and behavioural uncertainty is prevalent. However, it does suffer from a lack of deductive rigour.

The remaining parts of this paper outline the components of the general bargaining model adopted for this paper. Section two overviews the characteristics of the wage setting process in Australia. Section 3 discusses factors which influence the firms' preferred wage and section 4 discusses the determinants of the workers' desired wage. Finally section 5 tests the general bargaining model using a pseudo panel of Australian industry data from 1989 to 1996.

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labour or depress price levels. Conversely for nominal wages rises. Thus wage competition is not necessarily expected to eliminate macroeconomic problems such as unemployment or chronic shortages of labour.

[5] Blanchflower and Oswald (1994), Nickell, Vainiomaki and Wadhwani (1994), Mumford and Dowrick (1994), Nickell and Kong (1992), Creedy and McDonald (1991), Blanchflower, Oswald and Garrett (1990).

[6] Cartter (1959, Ch 9).

Existing papers which include labour market programs by Anderton and Soteri (1996) and Calmfors and Forslund (1991) adopt a simple monopoly union model. However, this model is less comprehensive than a bargaining model as it completely excludes firm's preferences and accordingly gives them no explicit role in the wage determination process.

Most theoretical treatments are microeconomic as the wage bargain is assumed to take place at the firm or single market level. Some form of implicit wage leadership or perpetual disequilibrium condition (as occurring in wage-wage spirals) are required therefore for this to translate into a general model of wage inflation.

2. Wage determination in Australia

Collective or national employment negotiations in Australia are in almost all cases are centred around wages and or conditions rather than the combined wage and employment package.[7] Wage rates are negotiated in nominal terms although expected changes to the 'cost of living' and product prices will influence both the firms' and workers' bargaining stance. Australian wage negotiations can be resolved at the national, industry, occupation or firm level, and during the present century emphasis has moved back and forth from one tier to another largely at the dictates of the government of the day. Nevertheless, at every level, wage bargains are usually settled as a result of collective rather than individual negotiations. In many cases, negotiations, especially national determinations, are formally conciliated or arbitrated and accordingly the polices of the Industrial Relations Commission and its associated wage tribunals are also influential. Regardless of the degree of centralisation prevalent during any period, a considerable amount of wage drift occurs at the firm level, and in these cases market forces surface. These firm or enterprise level negotiations have at

[7] As such they should not be portrayed as an 'efficient bargain' , see Creedy and McDonald (1991: 350-1).

different times been encouraged (1987 to present) or been discouraged (wages pause, indexation early Accord) by the national government. As such the Australian wage determination system, in common with many other mixed economies, can be regarded as a shifting blend of market pressures, collective bargaining and government policy imperatives.

3. The firm's position.

Accumulated workforce skills and the organisation of the workplace are integral to the competitive advantage of a firm. Time and resources are required to embody new workers with specific skills and valuable knowledge about the industry and its associated markets. In addition, a firms' efficiency depends upon synergies and organisational modes within the firm (Marshall [1890], 1920, 255-66, 271, Young 1928, Loasby 1982, 1983, Johansson and Mattsson 1988, Porter 1990, Ch 1, Best 1990, 16, 38-41, 233). The firm needs a certain core workforce to pass on tacit skills and knowledge to newcomers and it will incur abnormal costs if attrition rates are high and the informal skill transfer process is disrupted.

Given this, firms will voluntarily agree to certain wages to prevent undue loss of higher quality workers, to keep attracting high quality applicants and to sustain morale, responsibility and work effort at optimal levels within the firm. If fully productive staff need to be (at least partly) trained within the firm, then there are limitations to the rate at which the firm can expand over time and a kink arises in the short run labour supply curve. Furthermore, if the productivity of the workforce is endogenous to the real or relative wage, then the firm may face a backward bending wage-employment curve and this effectively puts a floor on the wage offered.

From the workers' point of view, jobs vary in terms of the career prospects and opportunities for learning. Thus, a monopsonistic model is a more general model of the labour market and the firm's long run supply of labour has a positive slope.

In terms of a specific model, turnover costs and labour heterogeneity can create a gap between the minimum supply price of the incumbent workforce and the maximum wage the firm is prepared to pay at the current level of employment. In the stylised example below, the supply of ready skilled and experienced labour is not perfectly elastic because the pool of suitable people is limited.

Unions are not necessary for this monopoly situation to arise because labour turnover costs bestow upon each employee a portion of market power. However, it is difficult to see how a common wage will be struck without some form of collective bargaining. Under atomistic bargaining situations we would expect individual bargains to relate to both the minimum supply and maximum demand price for the individual. Nevertheless, the essential point is that in either the collective or atomistic cases, the firm will not determine its own preferred wage without regard to the preferences of their labour force.

The second effect of wages on the firm's employment decision operates via internal morale or 'efficiency wage' effects. This causes the marginal revenue product for labour function to shift right as wages are raised. Higher wages cause the average productivity of labour to increase for given employment and capital levels. If output per worker rises according to a logistic pattern with respect to wages, then we will get a backward bending wage-employment curve for the firm. However, only the downward sloping portion represent profit maximising positions. Unlike firms where wages have no effect on worker productivity, this firm has a minimum positive wage below which it will not wish to do business.

It is not possible to derive first-order conditions from general objective functions that are specific enough for our estimation exercise. We are not able to solve the first-order conditions for the wage rate. To achieve this, either we can assume that these equations are solvable in terms of their parameters (i.e. Calmfors and Forslund 1991) or define specific

functional forms to allow us to identify which variables should be used for estimation purposes and the sign of the appropriate coefficient. While the latter route, which we use here, is more tractable, the functional choice clearly involves some arbitrary and expedient factors and any derived results should be taken as indicative and suggestive rather than literal. This method requires us to assume that firms and workers both know and agree upon the same demand and supply functions; an assumption used to make the problem solvable rather than realistic. Despite these drawbacks, it is intended that the model contains the main forces which consciously or unconsciously determine that bargaining stances of the parties to the wage negotiating process.

Given this caveat, the firm's desired wage is the profit maximising wage given efficiency wage considerations in which the wage paid to workers affects this productivity *ceteris paribus*. Firms also have some monopsony power, for reasons discussed above, and the productiveness of labour is affected by the offered wage relative to outside incomes.

We can incorporate efficiency wage considerations into a Cobb-Douglas production function as:

$$q = Ak^{\alpha}l^{\beta}\left(\frac{w}{\varepsilon w^{*}+(1-\varepsilon)b}\right)^{\gamma} \qquad (1)$$

Where q is real output, A represents technological efficiency, l is units of labour and k represents other inputs, and the term $\left(\frac{w}{\varepsilon w^{*}+(1-\varepsilon)b}\right)$ is the wage rate relative to average outside incomes. w is the wage rate offered to workers in the firm, w^{*} is the outside wages rate, b is unemployment benefits, ε is the probability of unemployment and α, β and γ are positive fractions.

Then

$$MRP_l = pAk^{\alpha}\left(\frac{w}{\varepsilon w^* + (1-\varepsilon)b}\right)^{\gamma} l^{\beta-1} \quad (2)$$

Let the minimum supply price of labour be represented as

$$w = sl^n \quad (3)$$

Where *s* and *n* are the parameters of labour supply.

Maximising $\Pi = R - C = pq - wl$ with respect to *l* yields

$$l = \left(\frac{pA\beta k^{\alpha}}{ns}\right)^{\left(\frac{1}{n-\beta}\right)}\left(\frac{w}{\varepsilon w^* + (1-\varepsilon)b}\right)^{\left(\frac{\gamma}{n-\beta}\right)} \quad (4)$$

Substituting back into (3) gives

$$w_f = s^{1-\left(\frac{n-\beta}{n-\beta-n\gamma+\gamma}\right)}\left(\frac{pA\beta k^{\alpha}}{n}\right)^{\left(\frac{n-1}{n-\beta-n\gamma+\gamma}\right)}\left(\varepsilon w^* + (1-\varepsilon)b\right)^{-\left(\frac{n-1}{n-\beta-n\gamma+\gamma}\right)} \quad (5)$$

Where $\frac{n-1}{n-\beta-n\beta+\gamma} > 0$ if *n* is large relative to β and γ, which is most likely if we have a linear supply of labour function and close to constant returns to scale. In this example, *s* and *n* represent the parameters of labour supply for this firm, such as the outside wage, the level and accessibility of unemployment benefits and supply from the education, training and immigrations sectors. If labour market programs are successful in converting unsuitable

long-term unemployed into potential employees, they are also expected to reduce the wage rates firms want to offer and will be included in *s* or *n*.

Taking logs of (5) gives:

$$\log w_f = (x-y)\log s + y\log(pA\beta k^{\alpha}) - y\log n - y\gamma\log(\varepsilon w^* + (1-\varepsilon)b) \quad (6)$$

Where $x = \frac{n-\beta}{n-\beta-n\gamma+\gamma}$ and $y = \frac{n-1}{n-\beta-n\gamma+\gamma}$.

An increase in *s* (due to a decline in labour supply), will have a positive effect on the desired nominal wage as $1-\beta > 0$.

4. The workers' position.

The workers' desired wage is represented by a group utility maximisation function subject to the labour demand curve constraint. Workers combine to extract some of the above normal profits arising from product market power. The workers' collective welfare function is usually given (i.e. Blanchflower and Oswald 1994)

$$V = l\,(v - v^*) \quad (7)$$

where *V* represents workers' total utility from working in their given job, v represents the workers' utility and v^* is expected utility of non-working states. The workers' desired wage is derived by maximising (7) subject to the wage-employment trade-off implied by the firm's (or industry's or occupation's) demand curve (2).

Conventionally, outside wages, the level of unemployment benefits and the relative probabilities of each state are the major determinants of v^*. In addition, Calmfors and Forslund (1991) include labour market programs as part of the non-employment alternatives. However, in the Australian context, the provision of programs for unemployed people is too uncertain and small to expect that workers would include them in their wage negotiation calculations. Accordingly we do not model labour market programs in the manner of Calmfors and Forslund, but we assume that their effects operate via the supply of 'suitable' labour described in the previous section.

Accordingly, assume that $v = w$ and

$$v^* = \varepsilon w^* + (1-\varepsilon)b.^{8} \tag{8}$$

Assume workers' maximise

$$V = l[w-\varepsilon w^*-(1-\varepsilon)b] \tag{9}$$

subject to a demand for labour function (2) which can be simplified to

$$l = c\, w^{z}. \tag{10}$$

Where $c = \left(pA\beta k^{\alpha}\right)^{\left(\frac{1}{1-\beta}\right)}\left(\varepsilon w^* + (1-\varepsilon)b\right)^{-\left(\frac{\gamma}{1-\beta}\right)}$ and $z = -\left(\frac{1-\gamma}{1-\beta}\right)$

The first-order condition for utility maximisation becomes

[8] Strictly, the disutility of working or being in each state should also be included. These are usually excluded in economy or industry applied models because of the difficulty of finding a suitable measure. To the extent they are time invariant but industry specific they will be captured in the industry dummy variables presented in Table 1.

$$\frac{\partial V}{\partial w} = (z+1)w^{z} - z\varepsilon w^{*} w^{z-1} - z(1-\varepsilon)bw^{z-1} = 0 \qquad (11)$$

Simplify by multiplying by w^{1-z} and rearranging. This defines a desired wage, w_w (in logs)

$$\log w_w = \log\left(\frac{z}{z+1}\right) + \log\,(\varepsilon w^{*} + (1-\varepsilon)b). \qquad (12)$$

5. The wage outcome

If our representative firm and workers (or their industry or national agents[9]) set their preferred wage rates according to this model, then the remaining task is to determine how any difference of position will be resolved. The general model discussed in the introduction assumes that the final outcome, w_b, depends upon the outcome of the costs of agreeing and disagreeing of the two parties (see for example Cartter 1959, Ch 9) or the balance of bargaining power between the two groups, such that

$$w_b = \theta(w_w) + (1-\theta)(w_f), \qquad (13)$$

where θ represents the relative bargaining expertise and power of labour relative to capital.

[9] Sizing up this firm level model to either in industry or national level should affect the elasticities of the relevant curves. If bargaining occurs at the national level, comparative wages will drop out, efficiency wage effects based on comparative wage justice will also disappear (but not that based upon real wage resistance) and that elasticity of labour supply will fall significantly. We also expect that the elasticities of labour demand will be smaller because of the income effects of wage rises.

In this case θ represents the net utility gain to workers of w_w relative to w_f and the costs they must bear in order to achieve this agreement relative to the net profits gained by the firms of w_w relative to w_f plus the costs it must bear in order to achieve it.

Under the general bargaining model, the final wage outcome, w_b, as a simple weighted average of the firm's desired wage (6) and the workers' desired wages (12) , thus:

$$\log w_b = \theta \log\left(\frac{z}{z+1}\right) + (\theta - (1-\theta)\gamma y)\log(\varepsilon w^* + (1-\varepsilon)b) + (1-\theta)\, y\left(\frac{1}{1-\gamma}\right)\log(pA\beta k^{\alpha}) + (1-\theta)(x-y)\log s - (1-\theta)\log n. \quad (14)$$

which simplifies to

$$\log w_b = const + \varphi_1 \log w^* + \varphi_2 \log b + \varphi_3 \log p + \varphi_4 \log l + \varphi_5 \log s + \varphi_6 \log p^e + \varphi_7 \log n + trend, \quad (15)$$

Assume that the omitted terms (A, β, K, α, and n) can be represented by either the constant or the trend. Prices are defined in nominal terms and the effect of in(de)flation would be to shift the parameters of all parties right(left) and thus the expected price level, p^e, can be added to the final equation.

6. The estimation results

We have estimated (15) for 14 Australian industries[10] using quarterly data from 3/1989 to 3/1996. Not surprisingly, most of the independent variables are the parameters of the basic demand, supply and utility curves given in the original equations (2), (3) and (7). While unions have not enjoy full coverage in any Australian industry during this period, unions bargain on behalf of the whole workforce as any agreed wage applies equally to both members and non-members.

The dependent variable, w, is represented by the nominal average ordinary time wages per full time adult in each industry. This is the closest estimate we have for the hourly nominal wage by industry. Outside wages, w^*, are represented by the growth of ordinary time wages per full time adult across all industries. Unemployment benefits, b, is the nominal benefits weighted by the average demographic composition of beneficiaries. Workers relative bargaining strength, θ, is represented by the number of days work lost through disputes per employee by industry. This is based on the notion that unions only call or seek to continue a strike if they believe that their bargaining power is strong enough on balance to deliver them a positive outcome. We assume that there are no direct measures of firms' monopsony power, n, and the technology and capital variables, A, k, α, β, but some of their effects may be picked up in the industry dummies. The expected price level has been represented by the cumulative sum of Melbourne Institute householders' median inflationary expectations.

The demand for labour variables, p, are proxied by job vacancies per employee and overtime worked per employee in the respective industries. The two labour supply variables,

[10] This includes all industries except agriculture, fisheries and forestry.

l and *s*, are represented by the short term unemployment rate per industry[11] and labour market program participants per employee.[12] The difficulty of obtaining exogenous measures of labour demand and supply parameters has meant we have had to rely upon endogenous measures such as vacancies, overtime and unemployment. These variables were accordingly estimated first as instrumental variables. Unfortunately this gives an ambiguous meaning to some coefficients as we cannot easily distinguish movement of a curve from movements along a curve.

Labour market programs include Jobstart, Training for Aborigines, labour market adjustment programs, JobSkills, National Training Wage, New Work Opportunities, and Special Employer Support. While labour market programs have directly affected only a very small portion of employees in any one industry, their effect on the wage bargain should magnify as they affect the sensitive new employee margin.

All prices are in nominal terms because the nominal wage bargain is set in the context of recent levels of nominal demand and outside prices. We have assumed that the wage bargain is struck in the context of last period's economic environment and independent variables are lagged one period.

The data used in this paper are derived from AUSSTATS except the labour market program data and the Melbourne Institute Inflationary Expectations median. Labour market program data is based on interpolations from annual DEETYA data.

The data cover a short span of time (only 32 quarters) and also includes both a severe recession and a recovery during which employment growth was atypically slow and uneven

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[11] A person was defined as short term unemployed if they had been unemployed for less than twelve months. Only people who had worked full time within the last 2 years are classifiable by industry.

[12] We used ratios of labour market program participants because the other demand and supple side variables are similarly denoted.

across sectors. Bearing these factors in mind, we pooled the data and used a fixed-effects panel data framework to estimate equation (14) in logs. [13]

Unrestricted estimates for the levels equation are shown in Table 1. The estimates are based on a heteroskedasticity- and autocorrelation- consistent estimate of the residual covariance matrix, as in Newey and West (1987).[14]

These results indicate that the outside wage has by far the largest effect on nominal wages, with an elasticity of 0.54. This reflects the importance of maintaining relative wages in new bargaining situations.

Labour market programs appear to have had a slight moderating influence on wage inflation; a doubling of the coverage of these programs (participants per employee) reduces nominal wages by 1 per cent *ceteris paribus*.[15] Although significant at the 10 per cent level, this elasticity is quite small in magnitude. Likewise, increases in the unemployment rate tends to moderate nominal wage claims. A doubling of the short term unemployment rate would lower nominal wages by 4 per cent *ceteris paribus.*

Industrial disputes are significant and positive (although very small in magnitude) which suggests that a higher strike rate either indicates or causes a shift in bargaining power toward workers.

Implied price expectations are also significant and positive. The comparatively low elasticity of 0.12, can be explained by the tendency for the median expected inflation rate to continuously over estimate actual inflation.

Vacancies are significant and positive only if the short term unemployment rates are excluded. Overtime was not significant and nominal unemployment benefits were negative

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[13] The time series was too short to estimate the equations separately or as a SURE scheme.

[14] The diagnostic tests reported in the lower panel of the table were performed on the original estimates.

[15] This assumes that the elasticity is constant over the whole curve.

(contrary to expectation) but not significant. These last three variables have been excluded from the second estimation process.

All industry dummies were significant in the second estimation and either significant, or close to significant, in the first.

We also tested for whether the wage rates were sensitive to the change in institutional setting by inserting a dummy variable for the last quarter in 1991 when there was a formal shift to enterprise bargaining under the wages Accord. This was not significant. Neither was there found to be any time trend.[16]

Conclusion

Low and falling commodity prices have diminished public concern about inflation since the early 1990s. However, many macroeconomists believe that changing institutional and cultural expectations in industrialised societies have created an underlying bias towards positive inflation over the past half century. To the extent this is correct, inflation is more likely to be a recurrent irritation rather than a solved and forgotten ill. In addition, while the aggregate profit share is now as high as it was during 1970 to 1973, there is no assurance that it will not fall again to the low level exhibited from 1974 to the late 1980s.

The stimulus to inflation may arise from an injection into the product pricing stage, for example, through a rise in the costs of raw materials, or from an injection into the wage determining stage through specific labour market conditions. Because we are specifically

[16] We have not tested for unit roots or cointegration in our panel for two reasons. First, we are not sure what the test results would mean in a statistical sense. Levin and Lin (1992), for example, show that in a panel with 10 individuals, 25 time periods and individual-specific intercepts, their unit root tests has only 19 per cent power (with a nominal size of 5 per cent). Second, we are not sure what the test results would mean in an economic sense. Because our data set covers

interested in labour market programs, we have only considered the labour market side. We have found that while outside wages and expected prices account for most of the nominal wage rises, variations in the proportion of labour market program participants across industries and over time appear to have a small moderating effect as well.

If these effects can be substantiated, then consideration should be given by Australian governments to placing more funds into labour market programs or other programs which re-introduce the long term unemployed into the culture of work as a means of forestalling an escalation of wage inflation in the future. However, the ultimate value of labour market programs also depends on their effectiveness vis-à-vis other potential government programs.

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essentially all Australian industries, a long run relationship among the variables is almost definitional. We believe a finding of no cointegration would not be credible, while a test supporting it would not be particularly informative.

Table 1. Regression results

Dependent variable: Log of nominal average ordinary time wages per full time employee in industry *i* (t statistics in brackets)

(Log) level of	(1)	(2)
Outside nominal wage	0.39	0.54
	(1.54)	(1.95)
Short term unemployment rate [(a)]	-0.04	-0.04
	(-2.94)	(-3.19)
Labour market program participants per employee[(b)]	-0.01	-0.01
	(-1.46)	(-1.62)
Expected price level	0.16	0.12
	(2.92)	(2.13)
Industrial disputes per employee [(c)]	0.002	0.002
	(1.88)	(2.42)
Unemployment benefits (nominal)	-0.29	
	(-1.33)	
Vacancy rate [(d)]	0.004	
	(0.05)	
Overtime worked per employee [(d)]	-0.14	
	(0.02)	
Industry dummies (base = manufacturing)		
Mining	0.45	0.45
Electricity, Gas, Water	0.12	0.12
Construction	0.09	0.09
Wholesale, retail trade	0.02	0.04
Accommodation, cafes etc	-0.21	-0.18
Transport and storage	0.08	0.08
Communication	0.07	0.08
Finance, business services etc	0.15	0.17
Government	0.05	0.07
Education	0.14	0.19
Health	0.03	0.06
Cultural, recreation services	0.07	0.10
Personal services	0.03	0.05
Adj. r-squared	0.96	0.96
std. error of estimate	0.032	0.032
N	448	448

Notes: (a) This only includes people who worked full-time within the last two years.

(b) Participants who did not give an industry have been apportioned over all industries.

(c) Data for electricity, gas and water; wholesale and retail trade, accommodation cafes and restaurants, finance, business services etc, governments, education, cultural and recreational services and personal services use data from the ‘other industries’ sector.

(d) Specific vacancy and overtime rates by industry are not available prior to May 1993 and were estimated for this period.

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