Regional labour markets: naturally less efficient?

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ABSTRACT

The concepts of the natural rate of unemployment, and subsequently the more agnostic NAIRU, have had a profound effect on economic policy in Australia over the last 25 years. The high rate of unemployment in recent years has been attributed to a high NAIRU that is a consequence of deficiencies on the supply side, including labour market rigidities (requiring institutional reform), high replacement ratios (necessitating less generous welfare payments) and skills mismatch caused by rapid structural change (requiring re-training programs). Other economists argue that these apparent structural rigidities are the outcome of insufficient aggregate demand and hence that high unemployment results from government demand management policy having low inflation, rather than low unemployment, as its primary objective.

This paper considers a feature of the Australian labour market that is not typically considered in the NAIRU/NATURAL rate literature, namely the substantial differences in both unemployment rates and employment growth rates across regions. Can the dominant paradigm explain these disparities when the institutional framework is uniform across urban and country areas within states?

The importance of this issue for regional development lies in the policy prescriptions that flow from the 'natural rate' theory. This paper argues that a focus on institutional reform, such as unfair dismissal legislation and increased labour market flexibility, will be of little assistance to regional economies with high unemployment rates. It is argued that policies which attempt to directly create employment in areas of high unemployment, potentially through a Buffer Stock Employment framework, would yield better employment creation results.
Furthermore, such targeted employment growth would contribute to the ongoing economic viability of rural centres and reduce the demands on infrastructure, resulting from rural populations continuing to relocate to urban centres.

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I hate to say it, but I think too many Australians have been too fussy for too long about the sorts of jobs they'll do. My own view is that provided that it's not illegal or it's not immoral, almost any job is better than no job.
Tony Abbott, Minister for Employment Services (May, 1999)

1 INTRODUCTION

During the 1990s, Federal Government policy to reduce unemployment has focussed almost entirely on the need to reform labour market institutions, rather than on the development of an explicit employment policy.[1] Demand management has had little or no role to play, with real interest rates kept high and fiscal policy being geared to the achievement of budget surpluses. Furthermore, despite unemployment, participation and job growth being inferior in rural and regional areas as compared to metropolitan areas (Howard and Buultjens, 1999, p.115), Federal Government economic policy has paid little attention to the spatial dimension. This paper will outline the implications of such an oversight for reducing national unemployment.

According to Treasury (1999) the main factors that have impeded the reduction of the unemployment rate have been labour market rigidities (requiring institutional reform), high replacement ratios (requiring less generous welfare payments) and skills mismatch caused by rapid structural change (requiring re-training programs). However, if the underlying institutional structure is the major constraint to achieving lower levels of unemployment, why is unemployment so much higher in non-metropolitan areas when all regions within states share identical institutional frameworks? For example in June 1999, the Inner Sydney Region had an unemployment rate of 4.0%, whereas the Hunter & North Coast had a rate of 11% (DEWRSB, 1999).

The implicit supply side model relied upon by policy makers appears to be that labour should be prepared to relocate from high unemployment areas to areas where there are employment opportunities.[2] This mobility of labour will improve skill matching and, by improving the efficiency of the labour market, should lower the NAIRU. The failure of regional unemployment rates to converge would seem to suggest that workers have insufficient rates of mobility reflecting the greater pecuniary costs of relocation, including capital loss from property sale, as compared to city workers changing intra-urban commuting patterns in response to job loss. Thus the incentive structure facing workers

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[1] Even the Labor Government's Working Nation strategy was premised on the need for unemployed workers to be job ready, thereby reducing the NAIRU.

may be sub-optimal, even though tax/welfare provisions are largely the same for all workers across Australia (with the exception of rental assistance payments).[3]

However, another explanation could be that people differ in their responsiveness to labour market conditions, with some workers (particular those in regional areas) being work shy and/or adapting less rapidly to change than their city counterparts. This is suggested by Tony Abbot's quotation.

Finally, long run spatial differentials in unemployment could be caused by differences in local demand conditions when investment, both public and private, is not evenly distributed across the continent. At present the NSW government is spending billions of dollars on construction in preparation for the Olympics in Sydney. Simultaneously, tens of thousands of jobs are being shed in regional areas by GTE's involved in the provision of rail, electricity, water and telecommunication services (see Productivity Commission 1999).

This paper does not attempt to engage directly in the macroeconomic debate over the use of supply side versus demand management policies. Rather, we consider a feature of the Australian labour market that is not typically considered in the 'natural rate' literature: If institutional and behavioural factors are the major cause of unemployment, why do unemployment rates differ so substantially across intra-state regions with identical institutional and legal structures? Does this imply that workers are heterogeneous in their patterns of labour mobility, in response to a given set of market signals? If so, does the structure of incentives need to be altered to bring about more responsive patterns of labour mobility to redress the spatial unemployment inequality? Alternatively, do non-institutional factors play an important role in determining the distribution of regional employment?

We argue that the Government's underlying model of the labour market is flawed due to its failure to consider the spatial dimension of employment creation. The empirical evidence demonstrates that, while the dynamics of inter-state labour mobility are different from those in the USA, the rate of mobility is similar. Also, the role of wage adjustment in influencing mobility is small, so that there is no justification for pursuing increased wage flexibility through further labour market reform. Indeed the existence of a wage curve across states (Kennedy and Borland, 1998) and the demonstration in this paper that a modified wage curve operates across Statistical Regions points to the possibility of the cumulative decline of some areas, following an employment shock. Downward pressure on wage rates in declining areas through further labour market reform is likely to promote dynamic inefficiency. The disparity between unemployment rates in metropolitan and non-metropolitan areas is likely to increase.

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[2] In addition, firms should relocate to areas where unemployment is high and wages are declining.
[3] Cashin and Strappazon (1998) are critical of Government transfers to maintain activity in declining areas.

Furthermore, the paper questions whether an increased rate of inter-state and regional urban mobility is actually desirable. The limited extent of firm relocation to areas of high unemployment and low wages suggests that positive feedback is likely to occur, mainly through demand spillovers of the type observed in the USA. Such feedback is likely to undermine the long-term economic viability of regional areas, leading to the creation of obsolete infrastructure and the need for its duplication in the cities.

It is argued that targeted macro stimuli to areas of high unemployment with unused infrastructure would be a more effective way to reduce both regional unemployment and the NAIRU than simply focussing on increasing the incentives for labour to relocate to low unemployment urban areas where infrastructure is already overutilised. Regional employment generation administered by Councils within a buffer stock employment framework to meet local needs would be an appropriate approach. The paper concludes that the key to reduced economy wide unemployment is the number and spatial distribution of jobs and not the sharpening of incentives for labour to relocate from declining areas.

The theoretical underpinnings of current government policy are explored in Section 2. The extant empirical literature on inter-state labour mobility is then explored and a modified wage curve is developed for Statistical Regions. An analysis of variance of unemployment rates for Statistical Local Areas is also undertaken. Contemporary Coalition government policy is assessed in Section 4 with particular reference to regional initiatives. In the final section, some policy initiatives are outlined and concluding comments are presented.

2   Labour Market Theory and Regional Unemployment

The NAIRU

The Coalition Government's approach to unemployment reduction is based on the theoretical model of the Non Accelerating Inflationary Rate of Unemployment (NAIRU), with monetary policy being used solely to control inflation and product and factor market reforms used to stimulate employment growth. Fiscal policy is designed to reduce the public sector's call on national savings (see Treasury 1999).

The NAIRU defines a rate of (equilibrium) unemployment at which the competing claims of income earners are consistent (Carlin and Soskice, 1990, p.136). It represents the minimum sustainable rate of unemployment. The size of the NAIRU is a manifestation of supply side imperfections, so that an unacceptably high equilibrium unemployment rate signals the need for supply side reform. In broad terms, Government has eschewed active demand management and pursued labour market reform, changes to the design of the welfare system and National Competition Policy (NCP) to achieve employment growth. These policies are outlined in Section 4.

Labour Mobility

Policy makers, who pursue further supply side reform in response to the high overall rate of unemployment in Australia, fail to explain why unemployment rates differ substantially between regions in a state, such as NSW, within which the institutional arrangements are identical.

Spatial issues tend to be ignored in the analysis of the NAIRU, although labour mobility between regions in response to market signals is considered to be a key element of the functioning of the labour market. If local labour market shortages are not rapidly filled through labour mobility, then inflationary pressures could build regardless of the 'national' unemployment rate.[4]

In a study of inter-state migration, Debelle and Vickery (1998, p.3) note that there are four avenues of adjustment that can eliminate a relative unemployment differential, following an adverse state-specific shock that generates a rise in unemployment relative to the national average:

- Wage adjustment. The wage in the state falls relative to the wage rate in the rest of the country. This adjustment can be classified as a purely internal labour market adjustment.

- Firm (or capital) mobility. Firms relocate to the state to take advantage of the relatively larger pool of unemployed workers, but the existence of demand spillovers (Diamond, 1982) means that a region hit by a demand shock is less likely to attract say service sector employment. This would be further enhanced by the negative income effect of lower employment and wages. This form of adjustment would be further enhanced by a fall in the relative wage.

- Labour mobility. Workers in the state migrate to a state where the unemployment rate is lower. Again, a fall in the relative wage would further encourage out-migration; and

- Workers remain in the state but exit from the labour force.

A lower real wage has an ambiguous impact of labour mobility, because, while it encourages out-migration, it will also tend to increase labour demand and firm in-migration, thereby reducing unemployment and the inducement of unemployed labour to relocate. In principle, under perfect information, if intra-state labour markets convey the correct market signals, then sustained inter-state unemployment rate differentials would reflect the magnitude of relocation costs.

On the other hand, Cashin and Strappazon (1998) examine theories of movements in regional per capita incomes. They emphasise the importance of inter-regional wage differentials in promoting labour mobility and the relocation of firms, with the latter enhanced by financial markets that enable cross-region borrowing and lending. However, constraints to labour mobility, unfavourable business

conditions and transportation barriers might lead to a spatial mismatch of labour and capital, thereby preventing the creation of *equal* labour market opportunities across regions (Ellwood, 1986).

A distinction needs to be made between labour mobility within local (urban) labour markets and mobility that entails relocation of the worker and her/his family. Most studies of labour mobility centre on inter-state mobility, yet intra-urban labour markets are characterised by considerable variation in unemployment rates, despite the relative ease of changing commuting patterns in response to a change in the spatial distribution of job opportunities. This issue is further addressed below.

The assumption that a high degree of labour mobility causes the convergence of regional unemployment rates underpins the government's approach to unemployment. However, a review of the recent empirical literature in the next section suggests that the explanation for persistent inter-state unemployment differentials is the presence of state fixed effects. These effects include the existence of asymmetric mobility costs (such as a positive differential between the price of metropolitan housing and non-metropolitan housing, see Kennedy and Borland, 1998). Further labour market reform and reductions in regional labour market programs, along with tight fiscal policy and low interest rates will not counter these underlying structural factors and could even be counterproductive.

3 EMPIRICAL EVIDENCE

In this section we explore the contemporary Australian literature about the mobility patterns of workers and the impact on levels of unemployment. In particular, we examine whether the longstanding variance of unemployment rates across regions can be attributed to intrinsic economic characteristics of the different regions, differences in mobility patterns or inadequate rates of mobility.

Cashin and Strappazon (1998, p. 6) assert that there are two robust conclusions from the empirical work on economic growth and the convergence of per capita income. First, interventionist regional policies are ineffective in speeding up convergence, because similar rates of convergence are observed across countries that adopt different policies. This assertion is premised on the explicit assumption that rates of convergence would be equal across countries in the absence of differences in policy.

Second, while the migration of persons from low-income to high income areas should assist in raising the speed of convergence of per capita income between poor and rich regions, tests across a range of countries fail to find such a result. Even in the USA a 10% per capita income differential is only sufficient to raise net migration to the high income area by an amount that raises population growth by about one quarter of 1% per year.

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[4] This suggests that the national NAIRU depends on the spatial distribution of unemployment.

Citing the Industry Commission study (1993), Cashin and Strappazon (1998, p. 6) argue that, in response to a regional employment shock[5], there is a small decline in wages relative to other regions, a slight, near permanent fall in participation rates and a weak temporary increase in out-migration. Regional wages and labour mobility are alleged to be much less responsive to adverse idiosyncratic shocks in Australia as compared to states of the USA. Cashin and Strappazon claim that there is little variation of regional unemployment rates in the USA, whereas in Australia regional unemployment rates remain permanently above the national average rate.

In short, under a system of centralised wage fixation, regional wages are not allowed to reflect regional productivity differentials, so that regional unemployment rates remain above average in below average productivity regions. The slow adjustment of participation and wage rates in response to adverse employment shocks in regional areas is alleged to signify the presence of a regional adjustment problem (Cashin and Strappazon, 1998, p.7). The authors imply that under a deregulated system of wage determination, wage adjustments would generate a greater incentive for relocation following an adverse employment shock.

The fallacy of this argument is that, through the emphasis on per capita income differentials, wage adjustment in a region subject to a shock is viewed as the pre-eminent influence on mobility, as opposed to inter-state differences in rates of unemployment. In their study of inter-state mobility, Debelle and Vickery (1998) demonstrate that wage adjustment appears to be a relatively minor factor in influencing mobility. Relative unemployment rates provide the main incentive both for inter-state mobility or departure from the labour market.

Debelle and Vickery (1998, p.5) quote Blanchard and Katz (1992) who argue that a state specific increase in US unemployment leads to labour migration that plays a role in reducing the unemployment differential. The trend rate of employment growth is restored but employment is at a lower level due to out-migration. Demand spillovers occur so that the permanent loss of employment is greater than the initial shock. Blanchard and Katz (1992) also argue that during the adjustment phase the regional nominal wage falls, but it makes little contribution to the adjustment process. Thus the state of the labour market influences the decision to migrate, rather than the fall in the nominal wage.

Debelle and Vickery (1998, p.8) note that in Australia people are more prepared to migrate from small states and those with poor labour markets, but the key problem is limited information and inadequate access to local job networks. They explore interstate migration using cointegration tests of the relationship between a state unemployment rate and the national unemployment rate. They conclude

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[5] Cashin and Strappazon (1998) argue that studies of per capita income differences show that state specific shocks are important, rather than fluctuations in national economy.

that labour market adjustment does operate to reduce inter-state unemployment differentials over time. The standard deviation of state unemployment rates has gone up in both Australia and the USA which suggests that labour mobility is similar in both countries. The distribution of state specific shocks could be greater in USA, thereby contributing to a higher standard deviation, but capital cities in Australia are further apart.[6]

After examining the relationship between net migration as a share of population and the relative state unemployment rate, they conclude (p.18) that

'Since state unemployment rates are highly correlated with aggregate unemployment; and given that labour migration works reasonably well in moderating state labour market differentials, it is questionable whether higher mobility would greatly reduce the national unemployment rate'.
This is an important claim, because Cashin and Strappazon (1998) and the Industry Commission (1993) appear to argue that the structure of incentives corresponding to a centralised wage system (and generous unemployment benefits) inhibits labour mobility in response to state specific shocks.

Debelle and Vickery develop structural VAR models with and without the inclusion of the ratio of the state to national average weekly earnings. The inclusion of the wage variable entails a longer period of adjustment and a permanently lower real wage, but yields broadly similar results to the model without the wage variable. Debelle and Vickery argue that a slow initial migration response and a long period of migration makes sense, given the inertia associated with the decision to move interstate and high costs of adjustment (p.26).

The authors find that the speed of adjustment is similar to that found by Blanchard and Katz (1992) in their US study (p.26). As noted, in the USA, the dynamics of adjustment appear to be different, with an overshooting of employment loss to double its initial magnitude and a long run loss of 1.3 times the initial magnitude. On the other hand, the initial loss of employment in Australia appears to be countered by internal adjustment. Wage adjustment in Australia is unlikely to make much of a contribution, as compared to the USA, because there is less wage flexibility in Australia. Debelle and Vickery view these comparative results as a puzzle.

Thus introduction of the wage variable appears to have little impact on employment and migration dynamics in either Australia or the USA, although Debelle and Vickery note that the federal award system may have played a role in Australia. They note that this result is consistent with the Harris-Todaro model in that risk averse workers would be more concerned with their relative employment opportunities than the prevailing wage in assessing their decision to migrate (p.28).

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[6] In a study of Germany, France and Italy, Puhani (1999) finds that labour mobility is most unlikely to act as a sufficient adjustment mechanism to counter asymmetric shocks.

In their dynamic state models Debelle and Vickery allow for permanent unemployment differences between the states through state fixed effects. This means that dynamic labour market adjustments between states in response to adverse shocks do not lead to a convergence of state unemployment rates. These effects reflect different underlying economic and social conditions across the states, such as participation rates, employment growth rates or growth rates in relative wages and lifestyle differences (Debelle and Vickery, 1998, p.28). The state models are dynamically unstable in the absence of these effects. The effects are assumed to be independent of shocks to employment. Otherwise specific shocks would permanently influence state unemployment rates.

In their conclusion Debelle and Vickery claim that most of the variation in state unemployment rates is the outcome of variations in the national unemployment rate, rather than state specific factors. The permanent differences between states could reflect lifestyle differences, a sequence of adverse shocks or the inability of internal migration to equalise labour market opportunities (Debelle and Vickery p.30). They note two important potential barriers to mobility, namely adjustment costs associated with housing and imperfect information about inter-state job opportunities.

Their results imply that supply side policies that are designed to increase the incentives underpinning labour market mobility may speed up the adjustment process but would be unlikely to reduce the long-standing unemployment disparities between states.

The Wage Curve

In an influential piece of research, Blanchflower and Oswald (1994) document the existence of a negative relationship between local unemployment and wages across a number of countries including Australia using microeconomic data. Thus local labour markets do not appear to operate in the classic textbook manner. A number of explanations are explored, including contract theory, efficiency wage models and bargaining models.

Kennedy and Borland (1998) confirm Blanchflower and Oswald's claim that there exists an inter-state wage curve in Australia. The standard formulation entails the regression of the log weekly earnings of individual i on her/his measured characteristics and the unemployment rate by gender/state group j. The authors adopt a number of specifications in an analysis of Australian pooled time series data and claim that their results are robust and confirm the presence of a wage curve with a coefficient on the unemployment rate that is not significantly different from minus unity. This order of magnitude coincides with that of other countries, including the USA. Kennedy and Borland (1998, p.25) conclude that the similarity of wage curves implies that differences in wage fixing institutions have not been influential in differences in regional level wage dynamics.

They emphasise that state-level fixed effects must appear in the specification to avoid the problem of omitted variable bias. Inclusion of these fixed effects reduced the absolute size of the coefficient on the unemployment rate (Kennedy and Borland, 1998, p.22).

The existence of the wage curve for Australian states suggests that investment and demand in general are not evenly distributed spatially. This could reflect the spatial distribution of transport costs, human capital and infrastructure investment, which in part reflect past policies, as well as natural advantages. These different underlying conditions between states generate different wage and employment outcomes with some states characterised by high wages and low unemployment and vice versa. Higher rates of mobility may not depress wage differentials due to labour market segmentation, the heterogeneity of labour and the difficulty of communicating excess supply.

The authors note that the macro-level evidence (Blanchard and Katz, 1992) suggests that the regional level adjustment of wages to demand shocks is greater in the USA than either Britain or Australia. This result appears inconsistent with the wage curve analysis. Kennedy and Borland (1998) also note that regional levels of unemployment appear to exhibit a greater degree of persistence in the latter countries. These results appear to demonstrate that less wage flexibility in Britain and Australia contributes to unemployment persistence in those countries as compared to the USA. However the Industry Commission (1993) shows that the extent of inter-regional migration is the critical factor and not differences in the extent of inter-regional wage adjustment. Kennedy and Borland (1998) speculate that the large distances between capital cities, regulations on the portability of unemployment benefits, entitlements to public housing and high levels of home ownership are possible factors as to why rates of out-migration are lower in response to shocks in Australia than in the USA.

Conclusion

A number of conclusions can be drawn about the empirical work on inter-state mobility and unemployment rate differentials. First, inter-state labour mobility in Australia is not significantly less responsive to unemployment rate differentials than workers in the USA. Second, flexible wages appear to play a small role in the process of adjustment in both countries. Finally, even if incentives are sharpened, unemployment differentials will persist across states, due to the presence of state fixed effects. These effects indicate the presence of state specific factors, that could include unequal stocks of skills and infrastructure, as well as lifestyle differences that predispose states to experience unequal unemployment rates, even in the long term. Further econometric work is required to identify these effects more precisely.

3   Intra-State Employment and Earnings

Income Inequality

The papers that analyse inter-state mobility are based on the assumption that intra-state mobility functions relatively well, but Debelle and Vickery acknowledge the work of Gregory and Hunter (1995) who explore urban poverty. Using Census data, Gregory and Hunter examine the significant increase in income inequality across smaller geographical areas (Collectors Districts) within urban centres over the period 1976-91. Gregory (1994) shows that in 1976 employment/population ratios lay between 0.65 and 0.69 across areas of different socio-economic status. The collapse of employment opportunities over this period in neighbourhoods of low socio-economic status, along with declining incomes, has been accompanied by increasing employment to population ratios and rising incomes in the high SES neighbourhoods. Now the relationship between socioeconomic status and employment /population ratio is strongly positive with the latter lying between just under 0.50 and 0.70. These outcomes are giving rise to a higher incidence of poverty in the low SES neighbourhoods and more inequality, due to bad neighbourhood pathologies (see also Sheehan and Gregory, 1998). Gregory (1994, p.111), quoted in Latham (1998, pp.102-104), concludes that:

'*In 1976, if you walked across Australia crossing from high socio-economic status areas to low socio-economic status you would notice that access to employment did not change very much. The income differences produced across areas were derived from different wages not from different levels of employment. If you walked across Australia along the same path in 1991 you would notice that the income differences among some areas have become exaggerated. The principal reason is the change in employment opportunities. The income of the poor areas is falling because of lack of jobs'.*

Wage Curve

The ABS produces unpublished data on employment, part-time and full-time status, participation and average weekly earnings and hours in the main job and all jobs across 58 Statistical Regions by gender. [7] We develop a modified wage curve for these Statistical Regions. The scatter diagram of average weekly earnings of persons in their main job and the unemployment rate suggest an inverse relationship (see Figure 1), but such a simple specification is beset with problems of heteroskedasticity and functional form.

In their examination of an inter-state wage curve, Kennedy and Borland (1998, pp.7-8) test whether the relationship is a disguised labour supply curve by the inclusion of the rate of labour force participation rate, LFP, as an independent variable. As the sole regressor, the participation rate is significant in the weekly earnings regression equation (not shown in Table 1), but it has poor explanatory power and the specification has diagnostic problems. With the inclusion of the

unemployment rate, the participation rate becomes insignificant with little change in the coefficient on the unemployment. In addition, the diagnostic performance of the specification significantly improves with only the first F test for heteroskedasticity being significant.

Figure 1 Scatter of AWE in Main Job against the Unemployment Rate for Statistical Regions, August 1998
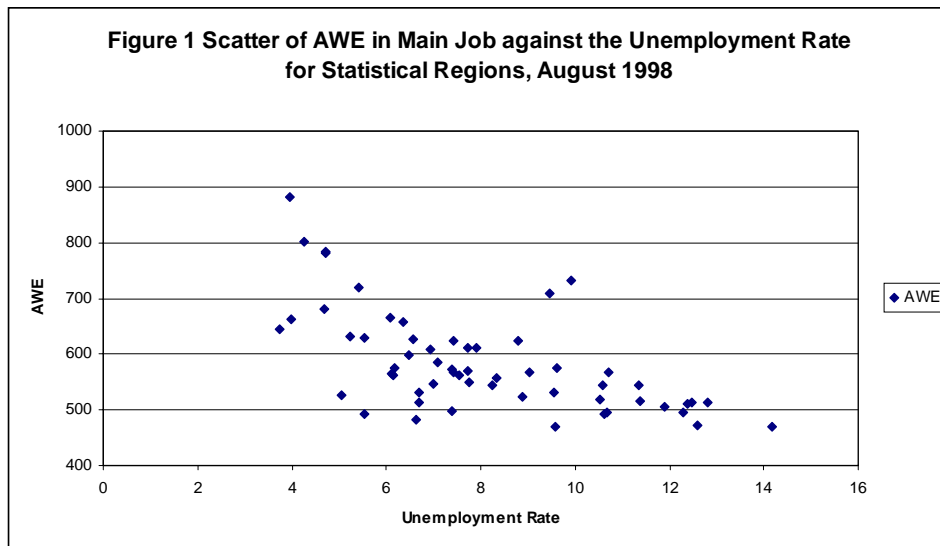
The Australian evidence (eg Gregory 1991) reveals that labour force participation is subject to the discouraged worker effect. Thus the unemployment rate is an inadequate measure of the volume of unemployed labour resources. Using the employment to working age population ratio as a proxy for employed labour resources yields a significant positive relationship but with less explanatory power.[8] The inclusion of the participation rate variable appears to cause misspecification in both earnings equations with the coefficient on the employment to population ratio exhibiting more than a three-fold increase and the participation variable appearing with a negative coefficient.

The use of average weekly earnings introduces some spurious correlation because it can be expected that average weekly hours worked and the unemployment rate are inversely related. A similar pattern of results was generated using average hourly earnings as the dependent variable with the rate of labour force participation and the unemployment rate or the employment to population ratio as the independent variables. The equations exhibited less explanatory power but the diagnostic tests are

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[7] Tasmania was treated as a single observation in the absence of wage and hours data for the Balance of Tasmania. Northern Territory and ACT are also treated as single observations with the South Eastern SR, that is not reported separately, being combined with the Illawarra, rather than the ACT.

[8] Using these data, the regional cross sectional regression of the participation rate against the employment to population ratio also suggests the presence of the discouraged worker effect.

satisfied, except for heteroskedasticity. Again the inclusion of the participation rate with the employment to population ratio leads to significant change in the coefficient on the latter.[9]

These specifications cannot be construed to represent different versions of a wage curve because the data consist of regional aggregates, rather than individuals' wages, labour market status and personal characteristics. However the results do cast some light on the signals facing job seekers who are considering migration to another Statistical Region. According to the Harris-Todaro model, wages should be high in high unemployment areas to compensate migrants for the reduced probability of employment, yet the results demonstrate that weekly earnings and the unemployment rate are inversely related.[10] It can be also argued that a snapshot at a point in time provides no guidance as to dynamics of labour mobility and firm relocation over time. Yet the failure of wages and unemployment outcomes to converge after a period of sustained, albeit modest, recovery since the recession of the late 1980s and early 1990s raises the question as to whether these mechanisms are sufficient. Further analysis of the wage curve relationship is required.

If the analysis is underpinned by the idealised state of equalised employment opportunities across regions, then the estimated relationship is inconsistent with a common production function and a misallocation of labour under perfect competition, because there should be an inverse relationship between wages and employment. High wage regions may have experienced high rates of capital accumulation in the past. The claim that underlying economic conditions differ across regions is consistent with the presence of fixed effects that were found in the models of inter-state mobility. These fixed effects would ensure that unemployment rates do not converge and could reflect natural economic advantages in regions, such as superior infrastructure (eg. transportation), past government policy and a highly educated workforce, as well as other factors such as housing prices, lifestyle etc.

The inverse relationship between average earnings and the unemployment rate reveals a strong set of signals for the unemployed in high unemployment areas to migrate. Further, if the availability of cheap labour was the main factor driving firms' location decisions, then they would have the incentive to relocate to the high unemployment areas. The results based on this modified wage curve can also be interpreted as signifying the presence of positive feedback with declining regions suffering both wage and employment cuts that would threaten their long term capacity to achieve high employment levels.

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[9] The possible existence of multicollinearity between labour force participation and the labour market has not been investigated.

[10] Stone (1997) notes that the apparent inconsistency of the wage curve with the Harris-Todaro model can be overcome, because in the presence of state specific effects movements of wages and unemployment around the mean can be negatively related while the permanent relationship between these variables is positive. Region specific effects have not been incorporated so this argument does not hold.

Table 1 Modified Wage Curves for Australian Statistical Regions, August 1998								
Dependent Variable	**Average Weekly Earnings**				**Average Hourly Earnings**			
	Independent Variables							
Constant	753.120 (24.60**)	635.730 (3.64**)	115.890 (1.11)	475.00 (3.22**)	21.56 (26.39**)	18.48 (3.97**)	6.94 (2.56*)	14.95 (3.79**)
Unemployment Rate	-20.949 (5.78**)	-19.064 (4.17**)			-0.48 (4.91**)	-0.43 (3.49**)		
Employment/Population			8.116 (4.52**)	31.12 (4.23**)			0.19 (4.00**)	0.70 (3.57**)
Labour Force Participation		1.630 (0.68)		-26.91 (3.21**)		0.04 (0.67)		-0.60 (2.69**)
R Squared	0.37	0.38	0.27	0.38	0.30	0.31	0.22	0.31
AR Autocorrelation F test	1.186 [0.31]	2.072 [0.14]	7.224** [0.00]	2.084 [0.13]	1.257 [0.29]	1.987 [0.15]	5.805** [0.01]	1.908 [0.16]
ARCH 1 heteroskedasticity F test	0.274 [0.60]	0.482 [0.49]	5.890* [0.02]	0.265 [0.61]	1.889 [0.18]	2.798 [0.10]	12.932** [0.00]	2.061 [0.16]
Normality of residuals Chi test	6.154* [0.05]	5.457 [0.07]	10.365** [0.01]	5.303 [0.07]	3.878 [0.14]	3.553 [0.17]	6.348* [0.04]	3.527 [0.17]
Heteroskedasticity Xi^2 F test	3.917* [0.03]	2.585* [0.05]	2.788 [0.07]	2.142 [0.09]	5.207** [0.01]	2.951* [0.03]	3.043 [0.06]	2.400 [0.06]
Heteroskedasticity Xi*Xj F test	3.917* [0.03]	2.239 [0.07]	2.788 [0.07]	2.676* [0.03]	5.207** [0.01]	2.386 [0.05]	3.043 [0.06]	2.582* [0.04]
Functional form RESET F test	4.160* [0.05]	3.373 [0.07]	0.333 [0.57]	2.434 [0.12]	3.433 [0.07]	2.849 [0.10]	0.281 [0.60]	2.028 [0.16]

*,** denotes significance at the 5% and 1% level, respectively.

Econometric estimation through use of PCGIVE.

The OECD suggests that the adverse employment effects of a legal minimum wage can be minimised by indexing minimum wages to prices and differentiating them by age and region to prevent the minimum wage from harming employment prospects for young people or low-productivity regions (OECD 1994, p.46). Region specific minimum wages and any other labour market reforms that further shift the balance of power with respect to wage bargaining from workers to employees could reinforce the positive feedback. Like the inter-state analysis above this analysis is predicated on the labour market functioning well within statistical regions. Accordingly we now turn to a brief examination of statistical local areas.

Statistical Local Areas

The Department of Employment, Workplace Relations and Small Business publishes the *Small Area Labour Market* quarterly.[11] It contains data on regional labour forces, unemployment levels and rates at varying degrees of disaggregation. There is a consistent annual dataset consisting of 1270 Statistical Local Areas (SLAs) for 1990-96 (June). SLAs in Australia are normally equivalent to Local Government areas.

The speed of convergence of these SLAs was estimated by regressing the deviation of the SLA unemployment rate from the overall rate against lagged values of the deviations for 1270 SLAs for annual observations between June 1990 and June 1996. The coefficient on the lagged deviation was always in excess of 0.90, or if a second lag was employed the sum of the coefficients exceeded 0.90. This implies very slow convergence.[12] In addition, some of the specifications revealed problems of functional form that could signify the presence of SLA specific effects that prevent the convergence of unemployment rates. The inclusion of state specific effects in the form of dummy variables for NSW (including the ACT), Queensland, Victoria, South Australia, Western Australia and Tasmania, with the Northern Territory as the default, did not improve the results of the diagnostic tests. The Queensland and Tasmania dummy variables were consistently significant and positive. Thus for Queensland and Tasmania, the steady state unemployment rates appear to be higher than for the other states.[13]

In an earlier study by the Department of Health, Housing, Local Government and Community Services (1993) for the period 1985-91 a similar equation was estimated and again the estimated coefficient on the lagged unemployment rate deviation was found to be high, indicating slow convergence. No diagnostic tests are reported, so it is possible that the equation is misspecifed and should include state or region fixed effects.

Finally an analysis of variance was undertaken across the 1270 SLAs based on their classification by state for the years 1990-96. The results demonstrate that the classification of SLAs by state is statistically significant at the 0.01 level, so that there is some convergence of unemployment rates within states.

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[11] It was originally published by the Department of Employment, Education and Training.

[12] This implies that it takes 7 years for half an unemployment deviation to disappear through mobility.

[13] The estimated equation takes the form $Udev = a + cUdev_{-1}$, where $Udev$ denotes the deviation of the SLA rate of unemployment from the national rate, and $c<1$. The steady state unemployment deviation can be written as $a/(1-c)$ which is an increasing function of a, for a given value of c.

4   AN ASSESSMENT OF GOVERNMENT POLICY

Introduction

The Federal Government has not addressed the persistent dispersion of inter-state and intra-state unemployment rates through the development of an array of policies targeted at regions. Instead, national economic growth, and, in turn, national declines in the rate of unemployment are considered to offer the best possible solution for regional imbalances. The Coalition has eschewed the use of active demand management policies to stimulate employment growth, however,[14] although several recent Government reports have challenged this rising tide theory of economic growth (see Productivity Commission 1999 and Treasury 1998).

The Minister for Transport and Regional Development, now Deputy Prime Minister is quite clear

> *'the Federal Government's primary focus in assisting Australia's regions to realise their enormous potential has been to deliver sound macro and micro-economic management'* (Anderson 1999).

It is noted in the budget papers, however, that sound economic management must be accompanied by industrial relations, welfare and tax reform:

> '*Reducing unemployment in a sustained way will require a continuing focus on integrating sound macroeconomic policies and workplace relations reform with policies to ensure that the welfare system, and its interaction with the tax system, does not discourage people from seeking jobs'* (Treasury, 1999).

The Coalition Government has also supported the ongoing implementation of National Competition Policy and a minor role for regional policy.

Industrial Relations Reform

The reform of the industrial relations system, as represented by the Workplace Relations Act 1996, is ostensibly to increase 'flexibility' in the deployment of labour and to redefine the role of unions in the bargaining process. The Department of Industrial Relations (1996) supported the WRA because it was alleged to lead to a more direct and balanced relationship between employers and employees, with a reduced role for third party intervention.

Further reforms to the industrial relations system are designed to consolidate those that have already been implemented (see DEWRSB, 1999). Amendments to the current unfair dismissal laws and the preservation and extension of age-based junior wage rates are designed to overcome perceived restrictions on employment growth. Other initiatives being pursued to enhance productivity and to streamline enterprise bargaining include the further simplification of awards, the reduction in the role of third parties in making agreements and voluntary union membership (Treasury, 1999).

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[14] For example, a 'fiscal consolidation' program was implemented in 1996 when unemployment was still over 9%.

Even if these policies are successful in reducing the national rate of unemployment and the variance of regional unemployment rates, since unemployment rates are bounded, it is unlikely to reduce the coefficient of variation of unemployment rates. The wage curve estimates do not support the view that further downward pressure on the level of wages will enhance the generation of employment opportunities. Further, an industrial relations system that sanctions the payment of low wages is likely to promote dynamic inefficiency (Stegman, 1997, Watts, 1999). Firms will tend to compete on the basis of cost cutting, via wage cuts relative to labour productivity, rather than by enhancing productivity through new investment.[15]

Welfare Reform

Through the introduction of the principle of mutual obligation, the Coalition Government's reform of the welfare system in July 1998 is designed to provide job seekers with incentives to find work and disincentives to remain dependent on welfare payments. Young workers who are unemployed for more than 6 months can satisfy their mutual obligation in various ways, including participation in a training program and Work for the Dole (see Burgess et al, 1999).

Training programs in areas of high unemployment are likely to be inefficient, unless firms agree to relocate to such areas. The current Federal government has shown no inclination to broker such arrangements under its regional policies (see below). The assumptions underlying the reforms of the labour market are that labour is highly mobile and/or firms will relocate to areas of high unemployment.

National Competition Policy

The adoption of National Competition Policy is designed to boost employment through improved productivity, but the Coalition Government has ignored the spatial distribution of costs and benefits (Denniss, 1999, Denniss and Toner 1999). The NCP has had a large adverse effect on many non-metropolitan regions (Treasury, 1998 and Productivity Commission, 1999). This is despite legislation, such as the NSW State Owned Corporations Act, 1999, that specifies the 'principal objectives' of SOCs as operating 'as efficiently as any comparable business; and to maximise the net worth of the State's investment'. The principal objectives are however broader than this, and require an SOC 'to exhibit a sense of social responsibility to the interests of the community in which it operates', and have regard to 'ecologically sustainable development' and 'regional development and decentralisation'. All objectives are deemed by the Act to be 'of equal importance' (Cl..20E.(1)). In practice, however, the objective of

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[15] Mitchell (1996) has pointed to the key role of investment in the achievement of a low rate of unemployment.

economic efficiency, narrowly defined, and the maximisation of dividends to the State Government appear to take precedence (see Denniss and Toner, 1999).

The design of NCP is predicated on the belief that increases in microeconomic efficiency will lead to an improvement in macroeconomic performance through productivity increases and increased international competitiveness. It has always been conceded that there will be winners and losers from such a process (see Industry Commission, 1995, Productivity Commission, 1999 and Treasury, 1998). As long as the long-term gains in output and employment were considered to be much greater than the short-term losses in employment, then the adoption of NCP was considered desirable.

In the design of competition policy, the inter-temporal tradeoff between costs and benefits was considered, but no equivalent spatial calculations were undertaken. Following an adverse shock, such as large scale redundancies in a GBE, labour is implicitly assumed to leave the region and be employed in new jobs that are created elsewhere in the economy as a result of the lower input prices resulting from their redundancy. Also firms relocate to the region in the light of low wages and high unemployment. However, the evidence outlined above points to modest rates of migration and the presence of fixed effects. It is therefore unlikely that, following a regional shock, unemployment rates will converge.

Furthermore, if, following a further restructuring of incentives, workers exhibit greater regional mobility then their departure with their families and their welfare payments would create further reductions in regional demand and employment. When populations fell below 'hurdle' levels for services, such as high schools or public transport, discontinuous declines in employment would occur. Thus the removal of large numbers of jobs from a region in the short term may create a demand spillover or 'spiral of decline', signifying the presence of positive rather than negative feedback effects. The presence of a wage curve across Statistical Regions points to the disinclination of firms to relocate to regions with low wages.

Even in the presence of perfect information about the availability of, and returns from, employment opportunities elsewhere, relocation costs impose a wedge between long run unemployment rates across regions, in the absence of a pattern of employment growth across regions that matches regional labour force growth. Uncertainty about the nature of the non-economic costs and benefits of relocation is also likely to reduce mobility.

Whilst the government, through the contracting out of labour market services, has sought to improve the flow of information concerning jobs and job applicants, the break up of the centralised CES into smaller, competing, organisations, has led to less information being shared. Also, profit seeking employment agencies will not set up in areas that are not viable due to the small likelihood of matching

applicants to jobs. An agency that is not driven by the profit motive would facilitate the more efficient dissemination of labour market information.

In conclusion, the uneven distribution of employment and investment opportunities that have resulted from the implementation of the NCP is likely to raise the NAIRU. Whilst there could be long term growth in employment, there is little chance that it will compensate for earlier losses of regional employment.[16] Cost benefit analysis may show a net gain to society of such an approach, but it will conceal a substantial redistribution of employment opportunities. If this redistribution is to be avoided then a comprehensive set of regional policies must be implemented.

Regional Policy

The Federal Government's regional strategy that was launched in 1998 identified its key priorities as:

- improving regional services;
- fostering employment and business initiatives;
- enhancing regional infrastructure, particularly telecommunications infrastructure;
- improving family and community lifestyles; and
- achieving environmental sustainability (Anderson 1999).

Whilst the provision of services, such as Health and Education, to people in regional communities helps to create employment in those areas, this is true for the provision of these services everywhere and so does not contribute directly to inter-regional unemployment differentials. Given the longstanding unemployment and per capita income differences across regions, the analysis will focus on policies that are designed either to shift government resources towards regional areas or to provide incentives for the private sector to direct their resources to regional areas.

The main plank of the government's regional policy is the Regional Assistance Programme (RAP) and the development of Area Consultative Committees (ACCs). In the 1999-2000 Budget, $40.8 million was provided for the development of ACC operations and RAP. These funds, however, are also to be used for funding national emergencies affecting regional Australia.

The projects to be funded under RAP also include those to:
- expand job and training opportunities for local people;
- improve the community's understanding of the regional economy, workplace relations and labour market structural change;
- enable communities to access Government initiatives such as small business development;

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[16] Macro models of the economy such as TRYM, implicitly assume that labour will flow smoothly from regions of high unemployment towards regions of high employment growth (see Treasury 1996). The same assumption is implicit in claims about the benefits of the NCP.

- develop regional skills surveys and industry profiles to assist in improving the skills base to better meet emerging skills needs; and

- respond to structural adjustments, economic or business downturns and natural disasters (Anderson 1999).

In addition, policies to encourage the employment of apprentices in rural areas ($51.3 million over 4 years) and to encourage tourism in regional areas ($8.1 million) were also announced. Despite the lack of direct job creation, these projects are likely to have positive results for regional economies, but the projects amount to an expenditure of less than $60 million per annum. In March 1999 there were 306.1 thousand unemployed persons living in regional areas outside capital cities and the ACT that represents 40.4% of total unemployment. Total government expenditure is $45 billion. Thus the government's regional policies are tokenistic, particularly when these initiatives have been accompanied by expenditure cuts in some regional areas.[17]

5 POLICY PRESCRIPTION & CONCLUDING COMMENTS

Drawing on recent empirical studies and some preliminary work on intra-state mobility, the paper has shown that regional unemployment rates do not converge to a uniform level in Australia, despite rates of labour mobility in response to unemployment differentials that are similar to those in the USA. Further, due to the presence of these (state) specific effects, policies directed towards increasing labour mobility through intensifying the structure of incentives is unlikely to be successful (Debelle and Vickery, 1998). The orthodox model of mobility is founded on the dominance of negative feedback, but there is good reason to believe that, following negative region specific shocks, demand spillovers may occur that may threaten the long-term viability of these local economies.

Kennedy and Borland (1998) show that state specific effects are related to housing costs that are correlated with inter-state rates of unemployment. These fixed effects could also reflect a lack of willingness to search for and accept reasonable offers of work that could reflect lifestyle considerations. In the terminology of the Employment Minister Tony Abbot, it could be argued that country people are more 'work-shy' and are more likely to be 'job-snobs'. However mobility for workers in regional areas typically requires relocation, whereas for workers in metropolitan areas, a different pattern of commuting is often required. Yet, despite the relative ease of intra-urban mobility, the dispersion of intra-urban unemployment rates remains high (see below).[18] Also, if increased labour market 'flexibility' has reduced job security through the growth of non-standard employment and the dilution of unfair

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[17] For example, annual public funding of Newcastle University the second biggest employer in the Hunter Region has fallen $22.4m over the period 1997-2000 with 293 positions being lost so far.

[18] It is unclear how the model of labour mobility is supposed to operate within metropolitan areas. How is excess supply emanating from a high unemployment area conveyed to an adjacent area enjoying high wages and low unemployment?

dismissal legislation, then the expected benefits of relocation will be reduced, and mobility will be reduced. The reduction in the flow of information between regions resulting from changes in the operation of the employment services 'market', will also tend to reduce inter-region labour flows. Certainly further research is required to identify the determinants of the (state) fixed effects, because their identification will assist with the development of policy.

The uneven distribution of employment opportunities, plus the intrinsic economic and social characteristics of different areas, provide a more consistent explanation of regional unemployment disparities than the simple NAIRU framework, along with the claim that labour mobility is too low.[19]

Sydney and non-metropolitan NSW have identical institutional frameworks, but it is difficult to see how further labour market reforms, such as removing unfair dismissals legislation or reducing payroll tax, will be effective in reducing the *differentials* in unemployment rates, even if there is an improvement in overall unemployment. National competition policy has stripped jobs out of regional areas and passed on savings to metropolitan areas. There is no attempt to redirect the benefits of NCP back to the regions that generated them.

Population and employment increases in large cities tend to generate negative externalities, such as congestion and the need to duplicate infrastructure that is underutilised in non-metropolitan areas. Woollahra SLA, for example, had low inflation and rate of unemployment of 2.3% in June 1999 (DEWRSB, 1999). Further job creation is currently unnecessary in Woollahra, but Australia's unemployment rate was 7.2% and Fairfield in suburban Sydney had an unemployment rate of 13.3%. Thus the current spatial distribution of employment opportunities is sub-optimal and leads to a higher NAIRU, the 'sustainable' rate of unemployment. The most likely outcome of current government policy, that focuses on spatially irrelevant deregulation policies, is the perpetuation of and possible increase in, regional employment and income disparities.

Consequently, by targeting economic growth in regions with excess labour and infrastructure, such as non-metropolitan Australia, output and employment could increase more rapidly without increasing inflationary pressures. Local councils have the knowledge and expertise to identify pressing social needs and employment agencies can readily establish the extent of idle labour. The creation of employment opportunities should follow the principles of the Buffer Stock Employment model in which the Government acts as an employer of last resort (see, for example, Mitchell 1998). Such a program will generate a high rate of social return on public expenditure.

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[19] The Department of Health, Housing, Local Government and Community Services (1993, p.8) emphasise the importance of population and locality characteristics in influencing regional unemployment rates and hence the need for general employment, education and training programs targeted at individual disadvantage.

The physical infrastructure is underutilised in regional areas suffering population decline. The continued relocation of workers and their families to large urban centres will impose a large external cost in the form of duplicate housing, transport, social and utility infrastructure (see Denniss and Toner 1999). The better use of existing infrastructure will help to prevent the formation of production bottlenecks and in turn increase the rate of growth that can be achieved without accelerating inflation.

Finally, policy analysts need to develop a much more sophisticated view of the operation of the Australian labour market. The underlying social and economic conditions in regional areas will influence the location of job opportunities. The heavy reliance on NCP as the engine of employment creation is likely to have dire consequences for regional Australia, because dependence on negative feedback via wage adjustment to redress the repercussions of the sub-optimal spatial distribution of jobs is misguided. Australia's unemployment problem is predominantly a regional unemployment problem. Whilst national economic growth is needed to create more jobs, the spatial distribution of those jobs must not be ignored. Consequently the failure of the private sector to provide sufficient jobs to solve the national unemployment problem signifies the need for an increased role in employment creation by all levels of Government.

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