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**Why do disparities in employment growth across metropolitan
and regional space occur?**

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1. Introduction

Over the last few decades there has been considerable change in the industrial and demographic composition of employment with substantial impacts on the spatial economy. There are significant disparities in employment growth rates across metropolitan and regional areas of Australia. These disparities are intrinsically linked to the persistence of unemployment rate differentials across the same spatial units and accompanying social disadvantage (Mitchell and Carlson, 2003). The capital cities typically fare better in terms of lower unemployment rates and higher employment growth and appear to be able to recover from recession more easily.

Demarcating the regions into Capital City and Rest of State with the Territories as single regions (based on ABS Labour Force categories) and employing an array of statistical techniques (multiple regression, contingency table analysis, causality analysis, vector autoregression, and cointegration analysis), Mitchell and Carlson (2003) examined the relative significance of national factors and region-specific factors in explaining these disparities. They concluded that a region's unemployment ranking is negatively influenced by its employment growth and this, in turn, is significantly influenced by aggregate (national) fluctuations. However, region-specific fluctuations were also found to be important. Mitchell and Carlson (2003) grouped the regions into high growth (both regions in WA and QLD, NT, ACT - see Appendix for regional mnemonics), moderate growth (both regions in VIC and NSW) and low growth (both regions in TAS and SA) in terms of employment outcomes. The spatial diversity of response to aggregate fluctuations and region-specific dynamics was notable with high growth regions able to resist negative impacts from national contractions more effectively than other regions. Low growth regions have stagnant labour markets and negative shocks appear to endure for long periods. The disaggregated data set used was a development on previous studies of regional unemployment, where States and Territories have defined the regional unit (for example, Dixon and Shepherd, 2001).

This research bears directly on the regional economic debate concerning the relative importance of regional-specific versus macroeconomic factors in determining regional employment outcomes. The theoretical impasse is also evident in regional development policy (Rissman, 1999). Keynesian macroeconomics typically argues that regional employment variations are caused by the national business cycle impacting on growth rates across industries and reflect changes in aggregate factors, such as fiscal and monetary policy settings, business and consumer confidence and productivity trends. Thus, the cyclical sensitivity of regional outcomes reflects the impact of common aggregate shocks on a specific regional industry mix. Regions dominated by goods-production allegedly lose employment share in recessions relative to service-providing regions. The solution is for aggregate policy to maintain strong growth with industry policy attenuating structural shifts.

The current Australian Government has pursued a different interpretation of the 'macro' view and has eschewed both stimulatory macro policy and specific regional policy. Its low-inflation policy with fiscal restraint is designed to create a macro environment within which economic growth will flourish. Supplementary microeconomic labour market and welfare reforms aim to provide market incentives to promote individual participation in economic activity. Rather than introduce regionally-targetted policies, this strategy places faith in market forces to redress the

regional problems - through labour mobility away from and firm relocation into areas of low labour utilisation response to falling wages and improved local labour skills.

While the national economy has demonstrated consistent output growth over the last decade, the regional disparities in labour market outcomes persist. The tight macro policy has sustained high unemployment and mobility patterns and relative wage movements have not promoted regional convergence (Martin, 1997; Debelle and Vickery, 1999). Disparities in regional incomes and employment are persistent and in many cases increasing (ALGA, 2002). For such reasons, the 'macro' view (irrespective of the guise it takes) is now under challenge.

There is also growing anecdotal evidence that regional development agencies are adopting a paradigm that has been termed 'new regionalism', which emerged in the mid-1980s and was inspired by case studies documenting economic successes in regions such as Silicon Valley and Baden Württemberg. Scott and Storper (1989) posited that regions had displaced nation states as sites of successful economic organisation and the emphasis should be on localised institutions and collaborations. Accordingly, the status of macroeconomic policy is considered peripheral to a particular region's growth potential (Castells and Hall, 1994; Cooke and Morgan, 1998). Despite the growing popularity of new regionalism, the claim that the region offers a convincing theoretical explanation of recent and future economic development is under-researched and has weak empirical underpinnings. There is little known about how the national economy and its regions interact. Further, no empirical evidence exists to verify assumptions of, first, the emergence of capitalism centred on spatialised, autonomous economies, and, second, a hollowed out, macro-weakened nation state (Lovering, 1999; Markusen, 1996).

In this paper we extend Mitchell and Carlson (2003) to develop a better understanding of the disparities in employment growth across regions which appear to account for observed persistence in regional unemployment disparities. There is very little research on this issue in Australia. The paper also seeks to determine whether metropolitan areas have benefited from favourable industry locations relative to 'de-industrialised' regional areas. Using dynamic shift-share analysis (Arcelus, 1984; Barff and Knight, 1988) we decompose regional employment growth into a national growth component, an industry mix component and a regional growth component and examine industry level data by full-time and part-time employment to relate these shares to observed employment growth differentials between metropolitan and regional labour markets. We also examine the regional impact of the increasing significance of part-time work in overall employment creation in Australia by decomposing employment dynamics into part-time and full-time components which helps us explore the spatial disparities more closely.

2. Data issues

The typical unit of analysis for Australian regional studies, particularly in cross-national studies, has been the State/Territory (see Dixon and Shepherd, 2001). However more detailed regional labour force data is available for 64 Major Statistical Regions collected through the Australian Labour Force Survey. To focus attention on industry employment movements the lowest disaggregation available is at capital city (metropolitan)/rest of state level. Accordingly, we define the regions by capital city (metropolitan) (denoted *_C*) and rest of State (denoted *_R*) with the ACT and NT treated as complete regions. The data are available from 1978 for standard labour

force categories and from 1985 for detailed employment data for the 17 ANZSIC industries (see Appendix for description of ANZSIC classification). The latter data are available for full-time, part-time and total employment by industry by region.

Using quarterly data, regional employment growth is defined as:

$$(1) \quad g_r = 100 * \log(E_{rt} / E_{rt-4})$$

where E_{rt} is employment at time t in region r . Similarly, annual national employment growth is defined as:

$$(2) \quad g_n = 100 * \log(E_t / E_{t-4})$$

where E_t is total national (n) employment at time t . Net regional employment growth is defined as $g_r^{net} = g_n - g_{nt}$ and indicates a region's changing share in total employment.

For the dynamic shift-share analysis in Section 5, annual industry employment data by region was used. Thus national employment growth is defined as:

$$(3) \quad g_n = (E_t - E_{t-1}) / E_{t-1}$$

The growth in employment in industry i at national level is defined as:

$$(4) \quad g_{in} = (E_{it} - E_{it-1}) / E_{it-1}$$

Finally, employment growth rate for industry i in region r is defined as:

$$(5) \quad g_{ir} = (E_{irt} - E_{irt-1}) / E_{irt-1}$$

3. Regional distribution of unemployment

3.1 Regional unemployment rankings

Dixon and Shepherd (2001) examine quarterly unemployment rates for six Australian states and two territories from 1978:Q2 to 1999:Q1 and find no evidence of common trends between regions but do identify common cycles among larger states with TAS and the Territories appearing to be disconnected. Their results suggest there is no tendency towards convergence in 'regional' unemployment rates even though, generally, they are all influenced by broader cyclical forces. This contrasts with Debelle and Vickrey (1999: 262) who find "evidence of permanent (or at least very persistent) differences between state unemployment rates" and consider state unemployment rates to be "largely explained by national (aggregate) factors rather than region-specific factors" (Dixon and Shepherd, 2001: 258).

In Table 1 ranked unemployment rates (lowest to highest) are presented along with accompanying annual employment growth for each region. Data are shown for the entire period 1978 to 2003 and for sub-periods 1983:2 to 1990:3 and 1991:4 to 2003:1 (the sub-periods correspond to dated business cycles identified in Mitchell, 2001). The sub-periods are used to highlight any differences between the two recessions (1982 and 1991) and the growth period following the 1990s recession. Over the entire period, the highest mean unemployment rates were in TAS, the regional areas of NSW and QLD and in Adelaide. The NT and the ACT had the lowest mean unemployment rates, followed by regional WA, Sydney, VIC, Melbourne and NSW.

When the data are examined for the separate periods, in general, the areas that were below the Australian average over the whole period were also below it in each sub-period. In all periods, the bottom positions are occupied by TAS, regional NSW, regional QLD and Adelaide. In the first sub-period (middle columns), the Australian unemployment rate was similar to that for the period as a whole. Of the metropolitan regions, only Sydney and Melbourne experienced below average unemployment in that period. In the 1990s growth phase, the fortunes of Perth and Melbourne are reversed. The position of VIC is striking. Through the whole period and between the two recessions, VIC as a whole (not shown) and Melbourne performed better than the national average. Since the 1991 recession however, Melbourne (unemployment from 6.30 per cent to 8.50 per cent) and regional VIC (unemployment from 7.37 per cent between recessions to 9.04 per cent after) has performed poorly. The 1991 recession had a very serious and prolonged negative impact on VIC_C and VIC_R relative to other regions. Queensland and Perth stand out due to the combination of above-average unemployment rates and employment growth rates, reflecting their very strong labour force growth rates.

3.2 Rank correlation tests

To examine the significance of the relationship between a region's unemployment rate and its employment growth rate (Table 1), the null of a monotonic relation between the rank correlations was tested. A plausible hypothesis is that stronger employment growth leads to lower unemployment rates (although structural shifts could promote a positive relationship as a consequence of increased variability in industrial and regional employment growth). The test is superior to a simple correlation coefficient because it does not rely on a linear relationship existing between the two variables. There is strong evidence that labour market relationships exhibit strong non-linearities (Mitchell, 2001).

The Spearman Rank Correlation Coefficient is given as $r_s = 1 - \left[\frac{6\Sigma V^2}{n(n^2 - 1)} \right]$, where n is the number of ranked pairs and V is the difference between the ranked values. The probabilities for the test at a given level of significance are taken from Olds (1938). In our case, for $n = 15$, we reject the null $\rho = 0$ in favour of $\rho \neq 0$ if the test statistic, $r_s > 0.411$ (at 5 per cent level for a one-sided test given our *a priori* conjecture of a negative relationship).

We tested the rankings (unemployment ranked from low to high and employment growth from high to low) for three periods shown in Table 1 and the results appear in Table 2. There is significant correlation between the ranks for the whole period which is driven by the strong correlation in the 1990s. In the 1980s growth cycle, there is no significant relationship between the regional rankings. We conclude that since the early 1990s, a region's unemployment ranking will be significantly (negatively) influenced by its employment growth ranking.

4. Regional employment patterns

4.1 Indexed employment levels

The analysis in Section 3 suggests that to understand the behaviour of regional unemployment we have to also understand regional employment dynamics. The employment levels for the regions indexed to 100 at February 1978 are shown in Figure 1. The distinct growth groupings identified by Mitchell and Carlson (2003) are

obvious: (a) high growth (NT, QLD, WA, and the ACT); (b) moderate growth (NSW and VIC); and (c) low growth (SA and TAS). With the exception of regional QLD, the capital cities have fared better than their regional areas over the period examined. The NT and ACT have the most erratic patterns of employment growth.

In general, the high growth group suffered relatively smaller contractions in size and duration during the 1982 and 1991 recessions. TAS and SA seem to have particularly suffered during these cyclical episodes. NSW and VIC also suffered during the 1982 recession. There are some differences apparent in the influence of the 1991 recession however, with VIC appearing to be much more affected than NSW at this time. The effect is particularly noticeable in regional VIC. In Section 5 we conduct dynamic shift-share analysis to explore these differences more closely.

4.2 Net regional employment growth rates

Consistent with trends shown in Figure 1, Mitchell and Carlson (2003) found strong econometric evidence that the national business cycle impacts directly on regional employment growth rates. However, the national economy may also indirectly influence regional outcomes. We thus consider changes in regional employment shares (see Section 2 for definition). A positive (negative) change indicates a growing (shrinking) regional share in the aggregate (movements across Australia net to zero). Do these regional shares behave in synchronicity with the national business cycle? This is a major issue because industry-level studies of employment indicate that goods-producing sectors lose share in a contraction to service-providing sectors. This is the conduit that many economists assert national cycles produce differential regional impacts.

From Figure 2, there are expansionary and contractionary cycles evident in the net regional employment growth cycles although it is difficult to relate the patterns in any systematic way to a national business cycle. The differences in resilience during recessionary periods between regions are striking. This is particularly notable in the early 1990s recession where most regions gained or maintained share at the expense of both VIC regions and Hobart, the former suffering significantly during that downturn. The evidence suggests there are substantial variations in regional employment growth (and shares) that are not synchronised with the national business cycle.

5 Dynamic shift-share analysis of regional employment

5.1 Industry-region decomposition

In this section dynamic shift-share analysis (Arcelus, 1984; Barff and Knight, 1988) is used to more closely examine the patterns of regional employment growth identified earlier. Specifically, we are interested in assessing the extent to which the disparate regional employment growth patterns outlined in Section 4 reflect industry composition and regionally-specific (locational) factors.

We decompose regional employment growth into three components: (a) a national share (growth) effect, *NS* being “that part of the change in total employment in a region ascribed to the rate of growth of employment in the nation as a whole” (Barff and Knight, 1988: 2); (b) an industry mix (proportional) effect, *IM* being “the change the region would have experienced had each of its industries grown at their national rates less the national growth effect” (Barff and Knight, 1988: 2); and a (c) regional

share (differential or competitive effect), RS being “the difference between the actual change in employment and the employment change to be expected if each industrial sector grew at the national rate (Barff and Knight, 1988: 2).

Total employment change for any region r and industry i is the sum of the three effects:

$$(6) \quad \Delta E_{ir} = NS_{ir} + IM_{ir} + RS_{ir}$$

A derivative measure, the total shift (TS) measures the net variation in total employment that is not predicted by the national share and equals the actual change in employment minus the national share (or $IM + RS$).

There are 14 regions in the study (as defined above, 6 metropolitan areas, 6 rest of state areas, and 2 Territories) and 17 ANZSIC industries. The components for each industry i in region r are defined as:

$$(7) \quad \begin{aligned} NS_{ir} &= E_{ir}^t g_n \\ IM_{ir} &= E_{ir}^t (g_{in} - g_n) \\ RS_{ir} &= E_{ir}^t (g_{ir} - g_{in}) \end{aligned}$$

where E_{ir}^t is employment in industry i in region r at time t (taken as the start of the period under scrutiny). The growth rates, g_n , g_{in} and g_{ir} are defined earlier. For each region, the individual industry components are summed to give NS_r , IM_r and RS_r . The decomposition is summarised in Table 3.

Dynamic shift-share methodology addresses some well-known problems of static shift-share analysis which examines employment changes over some lengthy time interval and thus considers the “conditions only at the beginning and end years of the time interval” (Barff and Knight, 1988: 1). Addressing the so-called choice-of-weights problem, Barff and Knight (1988: 2) outline two ways in which the choice of time period “influences the allocation of employment change” across the three components. First, the industrial mix component is computed based on the industrial mix prevailing at the start of the period and therefore ignores the changes in industrial mix that have occurred during the period. In times of rapid restructuring, this will lead to poor measures of the industry effect. Second, there is no accounting for on-going changes in the region’s total employment, which Barff and Knight (1988: 3) termed the “compounding effect because of the analogy to the compounding of interest.” Suppose a region grows more quickly (more slowly) than the overall economy over some time interval, then the comparative static shift-share analysis will under (over) allocate the employment growth to the national growth effect.

The solution is to compute the national growth effect over the shortest possible intervals. Barff and Knight (1988: 3) suggest that “the three shift-share effects ... [are computed] ... for every year of the study period ... [which] ... adjusts annually for the change in industrial mix, continuously updates regional employment total, and uses annual growth rates.” The dynamic approach thus “measures the extent to which industrial mix, updated annually influences total employment growth” and the “summation of the dynamic industrial mix effects over a period presents an accurate expression of the contribution of a continuously changing industrial mix to total job growth” (Barff and Knight, 1988: 3).

The results of the dynamic shift-share analysis are presented in Table 4 for different periods: 1985-2003, 1985-90, 1990-95, and 1995-2003. The shift-share components shown were derived as sums of the year-by-year components over the relevant time period.

A summary of the results (for the period from 1985 to 2003) is as follows:

1. The striking (and robust) result is that non-metropolitan areas (excluding Territories) all suffered negative industry mix effects which is in contradistinction to the good fortunes enjoyed by metropolitan areas. This means that industries that contribute the most employment in those regions have been declining relative to the national average. The large cities are thus gaining employment relative to regional areas as a consequence of their more favourable industry structure. We will examine more detailed industry breakdowns in Section 5.2 to identify the likely sources of these problems.
2. Some non-metropolitan regions (QLD_R, WA_R) have enjoyed strong local factors that have more than offset the negative industry mix components. The strong employment growth in QLD and WA (both metropolitan and rest of state) has been driven by substantial regional share effects, which for the metropolitan areas of these states, has reinforced the positive industry mix components.
3. Consistent with Figure 1, only QLD and WA have experienced stronger employment growth than would be predicted if the regions had grown proportional to the national average. All other regions “underperformed” (total shift negative) with the sum of their industry mix and regional share effects being negative. However, there is considerable heterogeneity among these regions in terms of the balance between these effects.

To help summarise these results, the classification proposed by Boudeville (1966) is useful as a guide to regional policy planners (Nagarahan, 1982). The classification criteria are presented in Table 5. Regions in Groups 1 to 3 enjoy employment growth in excess of the national average whereas regions in Group 4 to 6 trail behind the nation. For those suffering relatively unfavourable industrial mixes (*IM* negative) there is scope for the development of growth industries to replace the overrepresentation of static or failing industries. Conversely, where disadvantage is indicated by a negative regional share effect, policies to develop broad social and productive infrastructure would be a priority. Caution, however, is warranted because the implications of the trend to part-time work are ignored. For example, a favourable industry mix may reflect a strong part-time employment growth at the expense of full-time employment with concomitant implications for income growth in the region.

In Table 6 the results of the dynamic shift-share are summarised in terms of the regional classification developed in Table 5. The framework sorts the regions into 4 groups and provides a basis for assessing specific issues relating to regional development. An interesting result is that Sydney, Melbourne, Adelaide, Hobart, NT and ACT all have negative regional (local) shares and benefit from their changing industry structures. More research is needed to identify actual infrastructure factors that are important and to compare them to advantages enjoyed by regions in QLD and WA. The experience of regional QLD and WA may also help Group 6 regions (NSW_R, VIC_R, SA_R and TAS_R) which are also experiencing disadvantages from their industrial composition but fail to reap local offsetting advantages.

5.3 Detailed industry shift-share analysis

In Tables 7 to 20 we breakdown the dynamic shift-share results into individual industries for each region to try to better understand which sectors have been responsible for the variations shown. The results presented are very detailed but some interesting summary points can be made.

1. National employment grew by 41 per cent between 1985 and 2003. Four industries declined absolutely, Agriculture, Mining, Manufacturing and the Utilities. The below-average growth industries included Wholesale Trade (10 per cent growth), Transport and Storage (16 per cent growth), Communications (15 per cent growth), Finance and Insurance (27 per cent growth), Government and Defense (36 per cent growth). The above-average growth industries included Construction (42 per cent growth), Retail Trade (63 per cent growth), Accommodation, Cafes and Restaurants (103 per cent growth), Property and Business Services (150 per cent growth), Education (49 per cent growth), Health and Community Services (69 per cent growth), Cultural and Recreational Services (87 per cent growth) and Personal and Other Services (55 per cent growth).
2. The absolute national decline in manufacturing employment between 1985 and 2003 was resisted by QLD_C, QLD_R, WA_C and WA_R, NT and ACT due to advantageous regional effects offsetting the negative industry mix effects. All other regions suffered negative industry mix and regional share effects. VIC_C was particularly hard hit by the decline in manufacturing.
3. The absolute decline in traditional rural and regional industries impacted significantly on NSW_R, VIC_R, SA_R, WA_R and TAS_R, although there were some differences between these regions with respect to whether there were positive or negative regional factors for the two industries. QLD_R saw positive growth in employment for the sum of these two industries (agriculture increased and mining decreased) with both industries enjoying positive regional shares.
4. Among the strong employment growth service industries, Property and Business Services and Accommodation, Cafes and Restaurants have stood out. The regional shares for these two industries have been diverse. QLD_C and QLD_R enjoyed both positive industry mix and regional effects. In contrast, the regions in SA and TAS all demonstrated offsetting negative regional shares in the two industries, thus reducing positive industry mix effects. Regional NSW and VIC enjoyed very modest regional shares in the two industries and so the potential to build on their strong industry mix effects has been muted.
5. The regional share results are summarised in Table 21 and show that high growth regions generally had strong positive regional effects in above-average growth industries. The low growth regions (SA and TAS) not only exacerbated the negative industry mixes in their declining industries but also had negative regional shares for the growth industries.

6. Full-time and part-time employment

6.1 Trends in full-time and part-time employment in Australia

In addition to the vast sectoral changes noted in Section 5, there have also been substantial shifts in the employment mix between full-time and part-time across the regions since 1978 (see Figure 3 and Table 22). In 1985, 78 per cent of total

employment in Australia was full-time (5466 thousand). By March 2003, this share had fallen to 67 per cent (6677 thousand). Of the 2882 thousand jobs created since 1985 in Australia 58 per cent (1670 thousand) have been part-time. How have these changes manifested across the regions in our analysis? The question arises as to whether the spatial superiority of the cities in employment generation is overstated once we allow for part-time employment trend.

Table 22 indicates that the national trend towards increasing part-time employment (absolutely and as a share of total) is more pronounced in regional areas. In 1985 there were no substantial spatial differences in the full-time share in total employment with all regions lying around the national average. By 2003, considerable disparity is evident. In metropolitan regions (and Territories), 56 per cent of total employment change over 1985 to 2003 was part-time, whereas the corresponding proportion for non-metropolitan areas was 64 per cent. Tasmania stands out as having actually lost full-time employment between 1985 and 2003 and all its (modest) employment growth has been part-time. South Australia has also enjoyed very little full-time net job creation since 1985.

While not definitive it is interesting that the concentration of part-time employment growth in the regional areas is also accompanied by lower rates of employment growth overall and higher rates of unemployment, all signs of demand deficiency. More research is needed in this regard.

In Table 23, the trends in full-time and part-time employment by region are broken down further by industry. The changing patterns are hard to summarise but regional areas appear to have generated a higher proportion of part-time jobs in the growth industries (Retail Trade, Accommodation, Cafes and Restaurants, Communications, Property and Business Services, Education, Health and Community Services, Cultural and Recreational Services and Personal and Other Services) than metropolitan areas.

For example, in the strongest growing industry, Property and Business Services, the national trend towards increasing use of part-time work has been more evident in regional areas such as VIC_R, QLD_R, SA_R, WA_R (significant shift), and TAS_R. In metropolitan areas such as NSW_C, VIC_C, SA_C, and NT and ACT this shift, while apparent has been weaker. Tasmania has had substantial declines in the full-time ratio in this industry. It is also interesting to note that Brisbane (a Group 1 region) has seen substantial falls in the full-time ratio in key growth industries such as Retail Trade, Accommodation, Cafes and Restaurants, Property and Business Services.

Without detailed hours breakdowns and information concerning the preferences of part-time workers we cannot attribute any spatial content to the information available in ABS 6203.0 on underemployment which suggests an underemployment rate of around 5.7 per cent (September 2002).

6.2 Modified shift-share analysis to account for full-time and part-time trends

To account for the trends discussed in Section 6.1, we modify the shift-share model outlined in Section 5 to account for separate movements in full-time and part-time employment. The modified shift-share identity now explains total employment change for any region r and industry i and employment category s (where s is either full-time or part-time) as the sum of four effects:

$$(9) \quad \Delta E_{irs} = NS_{irs} + IM_{irs} + RS_{irs} + EC_{irs}$$

The previously defined components NS , IM and RS have the same meaning as before except now they can be computed for the two employment categories. The employment category shift, EC_{irs} indicates the shift in employment category s in industry i in region r due to faster or slower employment growth in that category relative to average employment growth in that industry and region.

The components for each industry i in region r and category s are now defined as:

$$(10) \quad \begin{aligned} NS_{irs} &= E_{irs}^t g_n \\ IM_{irs} &= E_{irs}^t (g_{in} - g_n) \\ RS_{irs} &= E_{irs}^t (g_{ir} - g_{in}) \\ EC_{irs} &= E_{irs}^t (g_{irs} - g_{ir}) \end{aligned}$$

where E_{irs}^t is employment in industry i in region r in category s at time t (the start of the period). The growth rates, g_n , g_{in} and g_{ir} are defined earlier. The category s employment growth in industry i and region r is defined as $g_{irs} = (E_{irst} - E_{irst-1}) / E_{irst-1}$. For example, if an industry in a region is experiencing faster growth in full-time employment relative to total industry employment in that region, the EC_{irs} component will be positive and measures the shift away from part-time employment. Obviously $EC_{irf} + EC_{irp} = 0$ (where f is full-time and p is part-time). However, this decomposition allows us to examine the impact of the shifting full-time/part-time ratio within a region on the other components NS , IM and RS . For an industry as a whole in any region the total change in employment is the sum of the change in the two s categories (f and p). For the region as a whole, these individual industry components are then summed to give NS_r , IM_r and RS_r .

The results of the dynamic shift-share applied to the four-shift model are presented for the period 1985 to 2003 (with dynamic sums being shown) in Table 24. We are now able to appreciate the impact of the shifting full-time/part-time ratio in a spatial sense. The various totals correspond to the total shares displayed in Table 4. The national shares are simply the employment change in full-time and part-time if they had both grown at the annual national employment growth rate without any changes in the industry mix or regionally-specific factors.

The negative industry mix effects noted earlier are now more transparent. The decline in the prominent industries in most regional areas has been accompanied by a substantial loss of full-time work (NSW_R, VIC_R, QLD_R, SA_R, WA_R, TAS_R) which has not been offset by positive part-time industry mix effects. The high growth regions (WA and QLD) were able to enjoy both positive full-time and part-time employment changes due changing industrial structure. In the traditional manufacturing city economies (NSW_C, VIC_C and SA_C) the loss in full-time work arising from the shifting industrial structure was more than compensated by growth in part-time work arising from changes in industrial composition. This suggests that the job generating potential of the growth industries in cities is superior to regional areas.

In terms of the breakdown of regional share effects, the growth in QLD and WA employment arising from local factors is heavily weighted towards full-time employment.

In total, the shifting full-time/part-time landscape has seen 878 thousand less full-time jobs than would have been the case if the full-time ratio had remained at its 1985 level. This is in the context of a change in total employment of 2.8 million over the 1985 to 2003 period. These are substantial shifts and the loss of full-time work has hurt regional areas more than metropolitan centres.

7. Conclusion

In this paper, dynamic shift-share analysis has been used to explore the disparate patterns of regional employment growth in Australia identified in our earlier econometric work (Mitchell and Carlson, 2003). It is clear that regions are divided by three broad types of employment experience: (a) high growth regions that not only seem capable of benefiting from changing industry mix but also have positive regional (local-specific) factors operating in their favour. More research is needed to determine the sources of these local advantages; (b) moderate growth regions that have benefited from industry shifts but typically through increasing the ratio of part-time to total employment. They also seem to have negative regional share effects that need explaining; and (c) low growth regions that have negative industry mix and regional share effects. These regions would appear to require targetted regional industry, infrastructure and job creation strategies.

The other classification that has some justification is the dichotomy between city labour markets and the rest of state labour markets. This dichotomy cuts across the moderate and low growth regions. The regional areas have all failed to take advantage of the shifting industry mix because they have not been able to offset substantial full-time employment losses with commensurate part-time employment growth. These areas would also benefit from targetted industry, regional infrastructure and job creation strategies.

In terms of the issues raised in the introduction, the results support the previous conclusions of Mitchell and Carlson (2003) who argued that neither traditional Keynesian nor new regionalist strategies were likely to provide a sound basis for sustained regional development. It is clear that national factors remain dominant in determining a region's labour market outcomes. However, changing industry structure and unspecified local factors also play a significant role in employment growth across the regions.

The results suggest that a new paradigm in policy which we term spatial Keynesianism is required. This policy approach requires that the Federal government ensure that there is no spending gap at the aggregate level (which generally would require positive net government spending or deficits) in the face of a desire to net save by the private sector (Mitchell and Mosler, 2002). However, indiscriminate Keynesian expansion without regard to its spatial distribution is unlikely to reverse the trends identified in this paper. To ensure that this spending is spatially distributed to regions that have declining industry and negative regional factors operating targetted regional development policies incorporating infrastructure and industry development are required. Moreover, the first step should be the introduction of widespread public sector job creation to ensure that regions can maintain their population bases in the light of increasingly polarised regional labour markets.

Appendix

The Australian and New Zealand Standard Industrial Classification (ANZSIC), Cat. No. 1298 uses the classification outlined in Table A1.

Table A1 The Australian and New Zealand Standard Industrial Classification

Industry	Mnemonic used in paper
Agriculture, Forestry and Fishing	AGR
Mining	MIN
Manufacturing	MAN
Electricity, Gas and Water Supply	EGW
Construction	CON
Wholesale Trade	WHO
Retail Trade	RET
Accommodation, Cafes and Restaurants	ACR
Transport and Storage	TAS
Communication Services	COM
Finance and Insurance	FAI
Property and Business Services	PBS
Government Administration and Defence	GAD
Education	EDU
Health and Community Services	HCS
Cultural and Recreational Services	CRS
Personal and Other Services	POS

Table A2 Regional mnemonics

Mnemonic	State/Territory
NSW	New South Wales
VIC	Victoria
QLD	Queensland
SA	South Australia
WA	Western Australia
TAS	Tasmania
NT	Northern Territory
ACT	Australian Capital Territory

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Table 1 Regional unemployment rates and employment growth rates

	1978:1-2003:1		1983:2-1990:3		1991:4-2003:1			
	UR	%E	UR	%E	UR	%E		
NT	6.06	3.21	NT	5.31	3.70	ACT	6.19	1.49
ACT	6.40	2.43	VIC_C	6.30	2.71	NT	6.30	2.23
WA_R	6.51	2.16	WA_R	6.55	2.79	NSW_C	6.82	1.77
NSW_C	6.74	1.67	NSW_C	7.24	2.43	WA_R	6.95	1.97
VIC_C	7.38	1.60	ACT	7.28	4.69	WA_C	7.95	2.51
AUS	7.70	1.83	VIC_R	7.37	2.81	AUS	8.12	1.71
SA_R	7.84	0.64	AUS	7.77	2.80	SA_R	8.28	0.27
VIC_R	7.90	1.25	QLD_C	8.40	3.31	QLD_C	8.43	2.92
QLD_C	8.08	2.84	SA_R	8.42	1.39	VIC_C	8.50	1.72
WA_C	8.14	2.62	WA_C	8.47	3.69	VIC_R	9.04	0.88
QLD_R	8.91	2.93	SA_C	8.83	2.45	QLD_R	9.38	2.46
TAS_C	9.11	0.76	TAS_C	8.94	2.58	SA_C	9.63	0.81
SA_C	9.17	1.03	QLD_R	9.42	4.14	NSW_R	9.69	1.05
NSW_R	9.28	1.48	TAS_R	9.75	2.44	TAS_C	9.89	0.35
TAS_R	9.64	0.73	NSW_R	10.04	2.04	TAS_R	10.65	-0.15

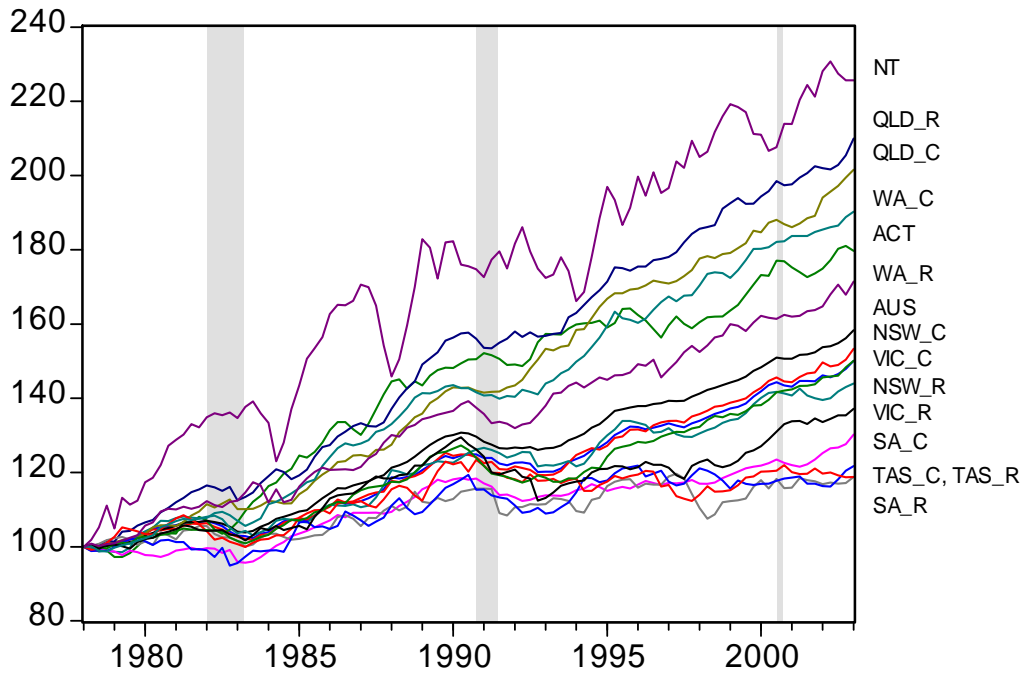
Note: *UR* is the unemployment rate in percent and *%E* is annual employment growth defined in Section 2. *_C* refers to the metropolitan region, while *_R* is the balance of the State. AUS is Australia.

Table 2 Rank correlation tests between unemployment and employment growth

Time Period	Test Statistic	Conclusion
1978:1-2003:1	-0.47	reject null of no relationship
1983:2-1990:3	-0.31	accept null of no relationship
1991:4-2003:1	-0.52	reject null of no relationship

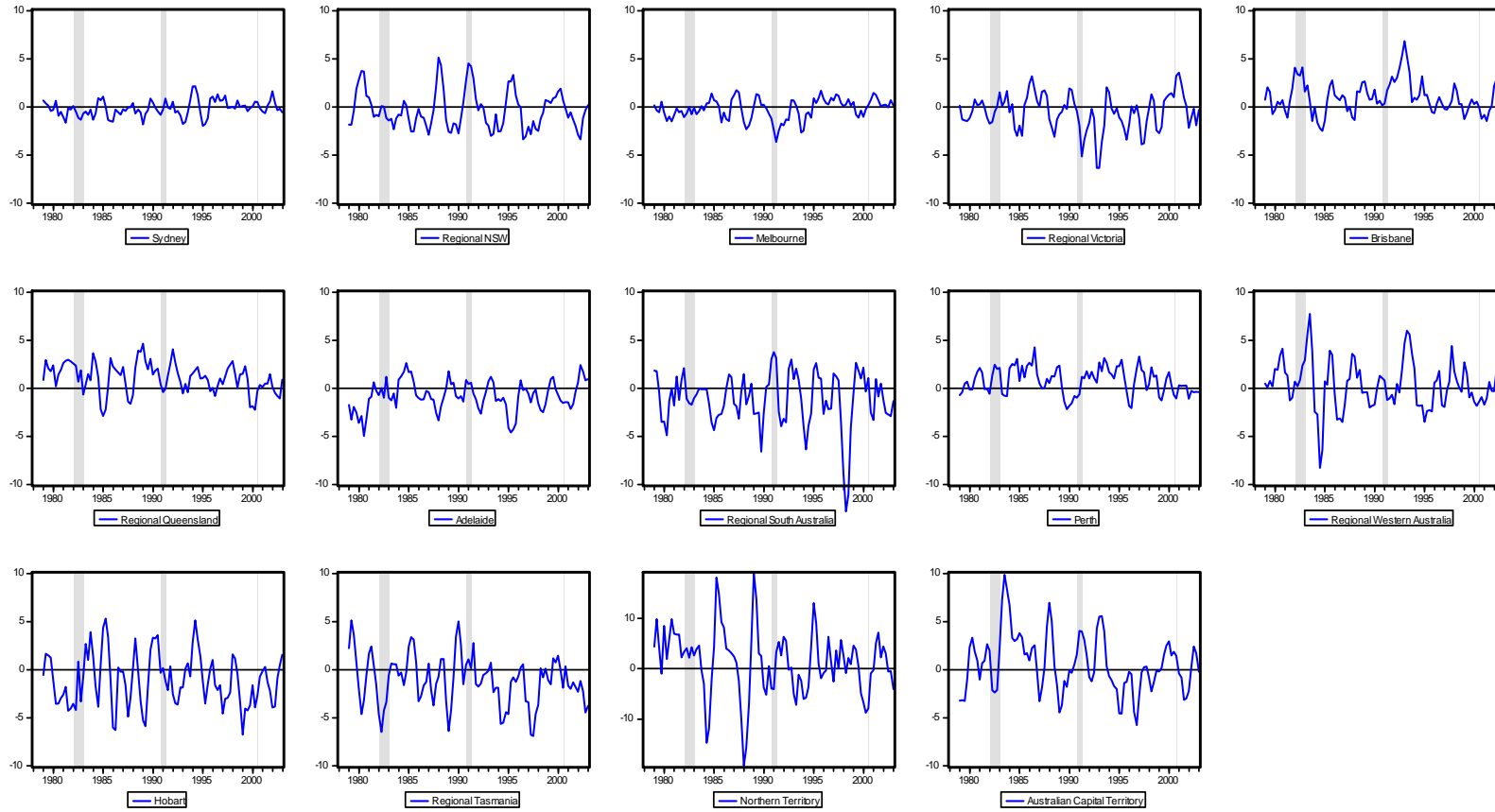
Critical value for $n = 15$ at 0.05 significance is 0.44.

Figure 1 Employment indexes, Cities and Regions, 1978:1 = 100



Source: ABS Labour Force. Shaded areas coincide with the 1982, 1991 recessions as dated in Mitchell (2001), whereas 2000 is the negative GDP growth for the December quarter.

Figure 2 Net annual regional employment growth, 1978:1 to 2003:1



Source: ABS Labour Force Survey. Net regional employment growth is the difference between regional employment growth and national employment growth.

Table 3 Decomposition of regional employment growth

Decomposition	Formula	Explanation
National share (national growth)	$NS = \sum E_{ir}^t g_n$	The regional employment change that would have occurred if industry employment in region r had grown at the same rate as the nation n . In other words, industry employment shares across regions are constant.
Industry mix (structural effect, composition effect, proportional effect)	$IM = \sum E_{ir}^t (g_{in} - g_n)$	The share of regional employment change attributable to local industry mix and reflects the degree to which the region specialises in industries that are either growing fast or slow nationally. A region with a lot of industries that are growing fast nationally will have a positive IM whereas a region with a concentration of industries that are growing slowly (or declining) nationally will have a negative IM .
Regional share (local-factor effect, competitive effect, differential effect)	$RS = \sum E_{ir}^t (g_{ir} - g_{in})$	The change in regional employment due to differences between local industry growth (decline) rate and the industry's national growth rate. This component indicates growth or decline in industries due to local factors. Berzeg (1978: 464) says that the regional share represents "how significantly the growth rates vary from one region to the next."
Total Shift	$TS = IM + RS$	The net variation in total employment that is not predicted by the national share
Total Change	$\Delta E_{ir} = NS + IM + RS$	Total change in employment in region r between the start date and end date.

Table 4 Shift-share components for Australian regions, various periods, 000's

	NSW		VIC		QLD		SA		WA		TAS		NTE	ACT
	City	Rest	City	Rest	City	Rest	City	Rest	City	Rest	City	Rest		
1985-03														
NS	639.7	327.1	541.2	195.1	237.9	268.6	170.1	61.1	208.4	78.1	29.2	40.6	29.9	54.2
IM	35.1	-37.8	17.5	-35.9	22.9	-17.6	12.1	-18.6	26.5	-18.7	3.0	-7.2	4.9	13.6
RS	-70.2	-20.4	-52.1	-19.2	106.1	154.2	-81.3	-16.6	42.2	24.9	-22.5	-24.5	-5.4	-15.1
Total	604.6	268.9	506.5	140.0	367.0	405.2	100.9	26.0	277.2	84.3	9.6	8.9	29.4	52.7
Growth %	38.0	33.0	37.0	28.0	70.0	69.0	22.0	16.0	59.0	45.0	12.0	8.0	41.0	42.0
1985-90														
NS	252.9	131.8	218.0	82.1	85.5	97.4	71.0	25.8	77.5	30.1	12.3	17.4	11.6	21.1
IM	14.8	-11.7	3.2	-10.6	6.0	-4.2	3.4	-4.9	7.8	-6.3	0.7	-1.9	1.1	2.6
RS	-61.5	-0.1	-12.6	17.0	16.7	58.9	-20.9	-4.3	7.3	4.2	-6.0	-2.6	-0.6	4.5
Total	206.2	119.9	208.6	88.5	108.1	152.1	53.5	16.7	92.6	28.0	7.0	12.9	12.0	28.2
1990-95														
NS	87.1	44.6	70.4	25.7	34.8	37.6	23.5	8.5	28.9	10.9	4.1	5.5	3.9	8.0
IM	7.8	-9.4	3.3	-9.8	6.0	-1.0	3.6	-4.6	6.3	-5.9	0.8	-1.9	0.7	4.1
RS	-6.7	15.4	-58.8	-44.2	63.3	35.5	-34.2	4.9	33.2	6.6	-4.8	-9.3	1.5	-2.3
Total	88.1	50.5	14.9	-28.3	104.0	72.2	-7.1	8.8	68.3	11.6	0.1	-5.7	6.1	9.8
1995-03														
NS	299.8	150.7	252.7	87.3	117.7	133.6	75.6	26.8	102.0	37.0	12.8	17.7	14.5	25.1
IM	12.5	-16.6	11.0	-15.4	11.0	-12.4	5.1	-9.1	12.4	-6.5	1.5	-3.4	3.1	6.9
RS	-2.0	-35.6	19.3	8.0	26.1	59.8	-26.3	-17.2	1.8	14.1	-11.7	-12.6	-6.3	-17.3
Total	310.2	98.4	283.0	79.8	154.8	181.0	54.4	0.5	116.2	44.7	2.5	1.7	11.3	14.7

Table 5 Shift-share groups, classification criteria and policy implications

Group	Total Share	Condition	Interpretation
1	Positive	Both IM and RS positive	Region growing faster than national average with industry composition and local factors providing advantages. No regional policy indicated.
2	Positive	Positive IM > negative RS	Region growing faster than national average due to a favourable composition of employment offsetting unfavourable local factors. Regional policy could focus on improving local infrastructure (such as transport systems).
3	Positive	Positive RS > negative IM	Region growing faster than national average with local factors offsetting the unfavourable industry mix. Regional policy should focus on developing growth industries to offset the concentration of industries that are either static or in decline.
4	Negative	Positive RS < negative IM	Region growing slower than national average, due to unfavourable industry mix but offset by advantageous local factors. Regional policy should focus on developing growth industries to offset the concentration of industries that are either static or in decline.
5	Negative	Positive IM < negative RS	Region growing slower than national average due to disadvantageous local factors but offset by favourable industry mix. Regional policy could focus on improving local infrastructure (such as transport systems).
6	Negative	Both IM and RS negative	Region growing slower than national average with local factors and industry mix providing disadvantage. Little potential. Needs development of growth industries and productive and social infrastructure.

Table 6 Classifications derived from dynamic shift share analysis, 1985-2003

Region	TS	IM	RS	Net Effect	Group
QLD_C	+	+	+	Pos IM and RS	1
WA_C	+	+	+	Pos IM and RS	1
QLD_R	+	-	+	Neg IM < Pos RS	3
WA_R	+	-	+	Neg IM < Pos RS	3
NSW_C	-	+	-	Pos IM < Neg RS	5
VIC_C	-	+	-	Pos IM < Neg RS	5
SA_C	-	+	-	Pos IM < Neg RS	5
TAS_C	-	+	-	Pos IM < Neg RS	5
NT	-	+	-	Pos IM < Neg RS	5
ACT	-	+	-	Pos IM < Neg RS	5
NSW_R	-	-	-	Neg IM and RS	6
VIC_R	-	-	-	Neg IM and RS	6
SA_R	-	-	-	Neg IM and RS	6
TAS_R	-	-	-	Neg IM and RS	6

TS = National Share – Total Actual Change = $IM + RS$.

Table 7 Dynamic shift-share components NSW_C 1985-2003

	Employment (000s)		g_{ir}	g_{in}	Share Industry		NS	IM	RS	Total
	1985	2003	%	%	1985	2003	000's	000's	000's	Change
AGR	13.7	12.9	-0.05	-0.12	3.3	3.5	4.2	-5.7	0.8	-0.8
MIN	4.4	3.7	-0.16	-0.07	4.4	4.0	1.5	-2.3	0.1	-0.7
MAN	278.7	261.1	-0.06	0.00	24.8	23.2	93.8	-94.4	-17.0	-17.6
EGW	33.8	15.0	-0.56	-0.44	24.6	19.6	7.4	-20.2	-5.9	-18.8
CON	182.1	261.5	0.44	0.42	22.1	22.3	73.8	4.4	1.3	79.4
WHO	121.4	128.3	0.06	0.10	28.8	27.8	45.8	-35.6	-3.2	6.9
RET	195.0	294.0	0.51	0.63	21.5	19.9	80.8	35.2	-17.1	99.0
ACR	42.2	96.5	1.29	1.03	18.7	21.1	24.7	22.7	6.9	54.3
TAS	93.3	113.8	0.22	0.16	25.9	27.1	34.2	-18.8	5.1	20.5
COM	41.2	43.4	0.05	0.15	27.0	24.7	14.2	-8.1	-3.9	2.2
FAI	92.6	127.4	0.37	0.27	33.1	35.8	36.8	-11.2	9.2	34.7
PBS	130.5	298.8	1.29	1.50	29.8	27.3	70.1	111.8	-13.6	168.3
GAD	63.4	78.6	0.24	0.36	19.6	17.9	21.8	-3.0	-3.7	15.2
EDU	85.6	133.2	0.56	0.49	19.0	19.8	37.8	6.1	3.7	47.6
HCS	125.7	188.9	0.50	0.69	23.0	20.4	54.7	28.7	-20.2	63.2
CRS	37.0	59.8	0.62	0.87	29.7	25.7	15.7	10.7	-3.6	22.8
POS	51.7	80.0	0.55	0.77	23.7	20.7	22.4	14.9	-9.0	28.3
Total	1592.0	2196.6	0.38	0.41	22.6	22.1	639.7	35.1	-70.2	604.6

Table 8 Dynamic shift-share components NSW_R 1985-2003

	Employment (000s)		g_{ir}	g_{in}	Share Industry		NS	IM	RS	Total
	1985	2003	%	%	1985	2003	000's	000's	000's	Change
AGR	103.3	85.2	-0.18	-0.12	25.0	23.2	37.2	-48.8	-6.5	-18.1
MIN	28.1	15.0	-0.47	-0.07	28.2	16.2	7.2	-8.8	-11.5	-13.2
MAN	110.7	98.0	-0.11	0.00	9.8	8.7	39.2	-39.3	-12.6	-12.7
EGW	19.3	13.6	-0.30	-0.44	14.0	17.7	5.2	-15.4	4.5	-5.7
CON	95.6	130.5	0.37	0.42	11.6	11.1	35.3	1.0	-1.4	34.9
WHO	38.1	42.8	0.12	0.10	9.0	9.3	13.8	-10.2	1.1	4.7
RET	110.4	180.7	0.64	0.63	12.2	12.2	48.6	20.9	0.8	70.3
ACR	36.1	61.6	0.71	1.03	16.0	13.5	17.5	16.7	-8.6	25.6
TAS	42.9	35.8	-0.17	0.16	11.9	8.5	13.6	-8.0	-12.8	-7.2
COM	17.8	13.4	-0.25	0.15	11.6	7.6	4.9	-2.5	-6.8	-4.4
FAI	18.8	25.6	0.36	0.27	6.7	7.2	7.6	-2.0	1.2	6.8
PBS	32.7	84.8	1.60	1.50	7.5	7.7	18.6	30.9	2.6	52.1
GAD	28.4	47.1	0.66	0.36	8.8	10.7	12.5	-0.7	6.9	18.7
EDU	48.9	79.8	0.63	0.49	10.9	11.9	22.3	4.1	4.4	30.8
HCS	59.6	118.6	0.99	0.69	10.9	12.8	28.4	14.6	16.0	59.0
CRS	8.1	17.3	1.12	0.87	6.5	7.4	4.7	3.3	1.1	9.1
POS	21.8	40.1	0.84	0.77	10.0	10.3	10.3	6.6	1.4	18.2
Total	820.4	1089.3	0.33	0.41	11.6	11.0	327.1	-37.8	-20.4	268.9

Table 9 Dynamic shift-share components VIC_C 1985-2003

	Employment (000s)		gir	gin	Share Industry		NS	IM	RS	Total
	1985	2003	%	%	1985	2003	000's	000's	000's	Change
AGR	14.5	12.7	-0.12	-0.12	3.5	3.5	4.9	-6.5	-0.2	-1.8
MIN	3.0	5.3	0.80	-0.07	3.0	5.7	0.9	-1.0	2.4	2.4
MAN	307.3	278.7	-0.09	0.00	27.3	24.8	99.7	-99.7	-28.7	-28.7
EGW	22.0	8.2	-0.63	-0.44	16.0	10.7	4.7	-12.9	-5.6	-13.8
CON	139.7	221.8	0.59	0.42	16.9	18.9	57.1	3.7	21.2	82.0
WHO	90.4	94.1	0.04	0.10	21.5	20.4	34.3	-25.3	-5.4	3.6
RET	171.5	281.7	0.64	0.63	18.9	19.0	73.5	32.0	4.8	110.2
ACR	32.6	72.0	1.21	1.03	14.5	15.8	17.6	16.0	5.8	39.4
TAS	63.8	76.1	0.19	0.16	17.7	18.2	24.8	-13.9	1.4	12.3
COM	30.5	43.7	0.43	0.15	20.0	24.9	11.8	-6.9	8.2	13.1
FAI	63.3	79.9	0.26	0.27	22.6	22.5	25.9	-7.7	-1.6	16.6
PBS	95.9	237.2	1.47	1.50	21.9	21.7	55.5	90.2	-4.4	141.3
GAD	62.2	55.8	-0.10	0.36	19.2	12.7	20.8	-1.3	-25.9	-6.4
EDU	96.0	122.0	0.27	0.49	21.3	18.2	35.0	6.3	-15.3	26.0
HCS	97.6	164.6	0.69	0.69	17.9	17.8	43.9	23.3	-0.2	67.0
CRS	24.5	45.1	0.84	0.87	19.7	19.4	11.7	8.7	0.2	20.6
POS	42.5	65.2	0.53	0.77	19.5	16.8	19.1	12.4	-8.8	22.7
Total	1357.3	1863.9	0.37	0.41	19.3	18.8	541.2	17.5	-52.1	506.5

Table 10 Dynamic shift-share components VIC_R 1985-2003

	Employment (000s)		gir	gin	Share Industry		NS	IM	RS	Total
	1985	2003	%	%	1985	2003	000's	000's	000's	Change
AGR	84.2	58.5	-0.31	-0.12	20.3	16.0	27.3	-36.2	-16.8	-25.7
MIN	3.7	3.7	-0.02	-0.07	3.7	3.9	1.1	-1.4	0.2	-0.1
MAN	82.5	78.1	-0.05	0.00	7.3	6.9	26.4	-26.2	-4.7	-4.4
EGW	16.8	8.4	-0.50	-0.44	12.3	10.9	4.1	-11.5	-1.0	-8.5
CON	58.8	78.7	0.34	0.42	7.1	6.7	22.2	0.7	-3.0	19.9
WHO	17.6	24.8	0.41	0.10	4.2	5.4	7.8	-5.8	5.2	7.3
RET	61.2	96.1	0.57	0.63	6.7	6.5	28.2	12.2	-5.5	34.9
ACR	15.6	32.7	1.10	1.03	6.9	7.1	7.4	7.6	2.1	17.1
TAS	19.2	25.5	0.33	0.16	5.3	6.1	7.2	-4.5	3.6	6.3
COM	8.3	8.6	0.03	0.15	5.4	4.9	2.8	-2.0	-0.6	0.3
FAI	10.9	15.2	0.39	0.27	3.9	4.3	4.5	-1.4	1.2	4.3
PBS	14.7	43.4	1.95	1.50	3.4	4.0	9.2	14.9	4.5	28.7
GAD	24.0	28.8	0.20	0.36	7.4	6.5	8.2	-0.4	-3.0	4.8
EDU	34.1	47.9	0.41	0.49	7.6	7.1	13.1	2.7	-2.0	13.8
HCS	37.5	62.4	0.67	0.69	6.9	6.8	16.4	9.0	-0.5	25.0
CRS	6.2	11.4	0.85	0.87	4.9	4.9	3.0	2.6	-0.3	5.3
POS	12.5	23.8	0.90	0.77	5.7	6.1	6.2	3.7	1.4	11.2
Total	507.7	647.7	0.33	0.41	7.2	6.5	195.1	-35.9	-19.2	140.0

Table 11 Dynamic shift-share components QLD_C 1985-2003

	Employment (000s)		g_{ir}	g_{in}	Share Industry		NS	IM	RS	Total
	1985	2003	%	%	1985	2003	000's	000's	000's	Change
AGR	4.2	6.3	0.51	-0.12	1.0	1.7	2.1	-3.1	3.0	2.1
MIN	3.8	3.5	-0.10	-0.07	3.8	3.7	1.1	-1.2	-0.3	-0.4
MAN	75.3	97.8	0.30	0.00	6.7	8.7	31.0	-30.8	22.3	22.5
EGW	7.7	4.8	-0.38	-0.44	5.6	6.2	2.0	-5.7	0.7	-2.9
CON	69.5	95.0	0.37	0.42	8.4	8.1	27.5	1.5	-3.6	25.4
WHO	40.7	43.2	0.06	0.10	9.7	9.3	16.0	-12.3	-1.2	2.5
RET	73.8	132.2	0.79	0.63	8.1	8.9	34.8	15.1	8.4	58.4
ACR	15.7	35.2	1.25	1.03	6.9	7.7	8.7	7.9	2.9	19.6
TAS	29.6	46.3	0.56	0.16	8.2	11.0	12.5	-6.8	10.9	16.7
COM	12.3	17.4	0.41	0.15	8.1	9.9	4.7	-2.9	3.3	5.1
FAI	24.0	29.1	0.22	0.27	8.6	8.2	9.1	-3.0	-0.9	5.2
PBS	37.8	115.4	2.05	1.50	8.6	10.5	23.9	39.5	14.2	77.6
GAD	24.8	53.3	1.15	0.36	7.7	12.1	11.1	0.5	16.9	28.5
EDU	36.5	65.8	0.80	0.49	8.1	9.8	16.8	2.5	10.0	29.3
HCS	43.2	82.8	0.92	0.69	7.9	9.0	22.3	11.4	5.9	39.6
CRS	7.7	19.9	1.58	0.87	6.2	8.5	5.1	4.4	2.7	12.2
POS	17.0	42.7	1.52	0.77	7.8	11.0	9.3	5.8	10.7	25.8
Total	523.4	890.4	0.70	0.41	7.4	9.0	237.9	22.9	106.1	367.0

Table 12 Dynamic shift-share components QLD_R 1985-2003

	Employment (000s)		g_{ir}	g_{in}	Share Industry		NS	IM	RS	Total
	1985	2003	%	%	1985	2003	000's	000's	000's	Change
AGR	81.4	83.3	0.02	-0.12	19.7	22.7	29.8	-40.8	13.0	1.9
MIN	14.8	14.2	-0.04	-0.07	14.8	15.4	5.4	-7.5	1.5	-0.6
MAN	55.2	81.8	0.48	0.00	4.9	7.3	25.1	-25.9	27.4	26.7
EGW	10.1	8.6	-0.15	-0.44	7.4	11.2	2.9	-7.7	3.3	-1.6
CON	78.9	135.7	0.72	0.42	9.6	11.6	35.3	2.4	19.1	56.8
WHO	27.7	37.3	0.35	0.10	6.6	8.1	11.6	-9.8	7.8	9.6
RET	82.9	160.4	0.93	0.63	9.1	10.8	41.0	17.7	18.8	77.5
ACR	25.6	60.6	1.36	1.03	11.4	13.3	16.0	14.2	4.7	34.9
TAS	34.9	38.3	0.10	0.16	9.7	9.1	13.9	-7.6	-2.9	3.4
COM	11.8	13.0	0.10	0.15	7.7	7.4	3.6	-1.9	-0.6	1.2
FAI	13.2	18.3	0.39	0.27	4.7	5.1	5.6	-2.2	1.7	5.1
PBS	28.6	83.9	1.93	1.50	6.5	7.7	17.8	28.8	8.7	55.3
GAD	24.0	39.6	0.65	0.36	7.4	9.0	8.9	-1.4	8.1	15.6
EDU	35.3	64.1	0.82	0.49	7.8	9.5	17.0	3.1	8.7	28.8
HCS	39.6	89.8	1.27	0.69	7.2	9.7	20.3	10.6	19.3	50.2
CRS	9.4	28.8	2.06	0.87	7.6	12.4	5.8	4.8	8.8	19.4
POS	16.2	37.3	1.31	0.77	7.4	9.6	8.6	5.5	7.0	21.1
Total	589.4	994.6	0.69	0.41	8.4	10.0	268.6	-17.6	154.2	405.2

Table 13 Dynamic shift-share components SA_C 1985-2003

	Employment (000s)		g_{ir}	g_{in}	Share Industry		NS	IM	RS	Total
	1985	2003	%	%	1985	2003	000's	000's	000's	Change
AGR	5.2	8.1	0.57	-0.12	1.2	2.2	2.2	-2.9	3.7	3.0
MIN	3.8	1.9	-0.49	-0.07	3.8	2.1	0.9	-1.0	-1.7	-1.9
MAN	83.1	73.7	-0.11	0.00	7.4	6.6	27.0	-27.8	-8.6	-9.4
EGW	7.4	3.8	-0.48	-0.44	5.4	5.0	2.0	-5.6	0.1	-3.6
CON	53.9	58.1	0.08	0.42	6.5	5.0	18.3	0.6	-14.6	4.3
WHO	27.6	25.3	-0.08	0.10	6.6	5.5	9.7	-6.5	-5.5	-2.3
RET	60.1	80.6	0.34	0.63	6.6	5.4	23.9	10.6	-14.0	20.6
ACR	13.7	21.7	0.58	1.03	6.1	4.7	6.4	6.0	-4.5	8.0
TAS	19.9	21.6	0.08	0.16	5.5	5.1	6.6	-3.7	-1.2	1.7
COM	9.6	11.7	0.21	0.15	6.3	6.6	3.0	-1.6	0.6	2.0
FAI	17.3	20.0	0.16	0.27	6.2	5.6	6.3	-1.6	-2.0	2.7
PBS	28.8	59.3	1.06	1.50	6.6	5.4	15.0	25.0	-9.5	30.5
GAD	17.9	26.0	0.46	0.36	5.5	5.9	6.5	0.1	1.5	8.2
EDU	31.0	38.1	0.23	0.49	6.9	5.7	12.1	1.7	-6.7	7.1
HCS	46.2	65.7	0.42	0.69	8.5	7.1	19.3	10.1	-9.9	19.5
CRS	8.2	13.2	0.61	0.87	6.6	5.6	3.8	3.8	-2.6	5.0
POS	16.4	22.2	0.35	0.77	7.5	5.7	7.1	4.8	-6.2	5.8
Total	449.7	550.6	0.22	0.41	6.4	5.5	170.1	12.1	-81.3	100.9

Table 14 Dynamic shift-share components SA_R 1985-2003

	Employment (000s)		g_{ir}	g_{in}	Share Industry		NS	IM	RS	Total
	1985	2003	%	%	1985	2003	000's	000's	000's	Change
AGR	40.5	36.0	-0.11	-0.12	9.8	9.8	14.3	-18.2	-0.5	-4.5
MIN	4.3	5.2	0.20	-0.07	4.3	5.6	0.9	-1.3	1.3	0.9
MAN	23.5	20.5	-0.13	0.00	2.1	1.8	7.7	-7.9	-2.8	-3.0
EGW	2.6	1.6	-0.41	-0.44	1.9	2.0	0.7	-2.2	0.5	-1.1
CON	15.2	17.9	0.18	0.42	1.8	1.5	5.5	0.2	-3.0	2.7
WHO	6.5	7.1	0.09	0.10	1.5	1.5	2.4	-1.6	-0.2	0.6
RET	19.1	28.8	0.50	0.63	2.1	1.9	7.6	3.3	-1.2	9.6
ACR	6.2	9.0	0.46	1.03	2.7	2.0	2.6	2.5	-2.3	2.8
TAS	7.2	6.1	-0.15	0.16	2.0	1.5	2.4	-1.4	-2.1	-1.1
COM	2.8	1.2	-0.57	0.15	1.8	0.7	0.9	-0.4	-2.0	-1.6
FAI	3.1	3.1	0.01	0.27	1.1	0.9	1.1	-0.5	-0.6	0.0
PBS	3.6	10.1	1.79	1.50	0.8	0.9	2.5	4.2	-0.3	6.5
GAD	3.0	5.5	0.82	0.36	0.9	1.3	1.5	0.0	1.0	2.5
EDU	9.5	8.7	-0.08	0.49	2.1	1.3	3.9	0.6	-5.4	-0.8
HCS	10.3	17.5	0.69	0.69	1.9	1.9	4.9	2.3	0.0	7.2
CRS	1.6	2.4	0.52	0.87	1.2	1.0	0.8	0.6	-0.6	0.8
POS	3.3	7.9	1.36	0.77	1.5	2.0	1.8	1.2	1.5	4.5
Total	162.2	188.1	0.16	0.41	2.3	1.9	61.1	-18.6	-16.6	26.0

Table 15 Dynamic shift-share components WA_C 1985-2003

	Employment (000s)		g_{ir}	g_{in}	Share Industry		NS	IM	RS	Total
	1985	2003	%	%	1985	2003	000's	000's	000's	Change
AGR	8.6	10.9	0.26	-0.12	2.1	3.0	2.9	-3.9	3.3	2.3
MIN	6.8	20.2	1.96	-0.07	6.8	21.8	3.8	-3.3	12.8	13.4
MAN	62.3	78.3	0.26	0.00	5.5	7.0	23.6	-23.6	16.0	16.1
EGW	6.9	6.2	-0.09	-0.44	5.0	8.1	2.2	-6.0	3.2	-0.6
CON	58.3	90.1	0.55	0.42	7.1	7.7	25.7	2.3	3.8	31.8
WHO	28.6	35.0	0.22	0.10	6.8	7.6	12.7	-9.2	2.9	6.3
RET	66.7	116.6	0.75	0.63	7.3	7.9	31.0	13.6	5.3	49.9
ACR	15.2	30.6	1.01	1.03	6.7	6.7	8.0	7.4	-0.1	15.4
TAS	24.1	28.4	0.18	0.16	6.7	6.8	9.4	-5.2	0.1	4.3
COM	8.9	13.6	0.53	0.15	5.8	7.8	3.4	-1.9	3.3	4.7
FAI	21.0	24.2	0.16	0.27	7.5	6.8	8.1	-2.4	-2.4	3.3
PBS	37.9	95.4	1.52	1.50	8.7	8.7	21.9	36.4	-0.8	57.5
GAD	18.4	27.4	0.49	0.36	5.7	6.2	8.0	-0.3	1.3	9.0
EDU	32.4	53.2	0.64	0.49	7.2	7.9	14.3	2.7	3.8	20.8
HCS	46.1	69.4	0.51	0.69	8.4	7.5	19.8	10.4	-6.9	23.3
CRS	9.8	18.5	0.89	0.87	7.9	7.9	5.2	4.2	-0.7	8.7
POS	18.7	30.0	0.60	0.77	8.6	7.7	8.5	5.3	-2.6	11.3
Total	470.4	747.6	0.59	0.41	6.7	7.5	208.4	26.5	42.2	277.2

Table 16 Dynamic shift-share components WA_R 1985-2003

	Employment (000s)		g_{ir}	g_{in}	Share Industry		NS	IM	RS	Total
	1985	2003	%	%	1985	2003	000's	000's	000's	Change
AGR	39.8	34.2	-0.14	-0.12	9.6	9.3	13.9	-17.6	-2.0	-5.6
MIN	19.9	15.8	-0.21	-0.07	20.0	17.0	6.4	-7.8	-2.7	-4.1
MAN	13.9	23.0	0.66	0.00	1.2	2.0	6.0	-6.2	9.4	9.1
EGW	3.4	2.7	-0.21	-0.44	2.5	3.5	1.0	-2.8	1.1	-0.7
CON	20.2	34.2	0.69	0.42	2.5	2.9	9.2	0.9	3.8	13.9
WHO	6.9	9.7	0.40	0.10	1.6	2.1	3.0	-2.4	2.1	2.8
RET	23.3	41.3	0.77	0.63	2.6	2.8	9.6	4.1	4.2	18.0
ACR	7.8	13.0	0.67	1.03	3.5	2.8	3.7	3.5	-2.0	5.2
TAS	10.1	9.1	-0.10	0.16	2.8	2.2	3.5	-2.0	-2.5	-1.0
COM	2.7	2.8	0.05	0.15	1.8	1.6	0.9	-0.6	-0.2	0.1
FAI	3.2	2.6	-0.20	0.27	1.1	0.7	1.2	-0.5	-1.4	-0.7
PBS	5.3	18.9	2.59	1.50	1.2	1.7	3.7	6.2	3.6	13.6
GAD	5.4	9.4	0.73	0.36	1.7	2.1	2.6	0.5	0.9	4.0
EDU	10.4	18.8	0.81	0.49	2.3	2.8	4.8	0.8	2.8	8.4
HCS	10.1	18.7	0.86	0.69	1.8	2.0	4.9	2.5	1.2	8.7
CRS	1.8	2.6	0.46	0.87	1.4	1.1	0.9	0.9	-1.0	0.8
POS	4.0	16.0	3.01	0.77	1.8	4.1	2.9	1.6	7.5	12.0
Total	187.9	272.2	0.45	0.41	2.7	2.7	78.1	-18.7	24.9	84.3

Table 17 Dynamic shift-share components TAS_C 1985-2003

	Employment (000s)		g_{ir}	g_{in}	Share Industry		NS	IM	RS	Total
	1985	2003	%	%	1985	2003	000's	000's	000's	Change
AGR	1.5	2.3	0.50	-0.12	0.4	0.6	0.6	-0.8	1.0	0.8
MIN	0.3	0.2	-0.50	-0.07	0.3	0.2	0.0	0.0	-0.1	-0.2
MAN	8.3	6.6	-0.20	0.00	0.7	0.6	2.9	-3.0	-1.5	-1.7
EGW	2.8	1.1	-0.60	-0.44	2.0	1.4	0.6	-1.6	-0.6	-1.7
CON	11.5	8.4	-0.27	0.42	1.4	0.7	3.4	0.2	-6.7	-3.1
WHO	3.6	3.1	-0.16	0.10	0.9	0.7	1.2	-0.8	-1.0	-0.6
RET	10.1	13.4	0.33	0.63	1.1	0.9	4.2	1.8	-2.6	3.3
ACR	3.3	5.0	0.53	1.03	1.5	1.1	1.4	1.4	-1.1	1.7
TAS	2.7	2.6	-0.04	0.16	0.7	0.6	1.0	-0.5	-0.6	-0.1
COM	1.8	1.2	-0.31	0.15	1.1	0.7	0.6	-0.3	-0.9	-0.6
FAI	3.8	3.3	-0.14	0.27	1.4	0.9	1.1	-0.4	-1.3	-0.5
PBS	4.0	8.6	1.16	1.50	0.9	0.8	2.1	3.6	-1.1	4.6
GAD	6.6	7.3	0.11	0.36	2.0	1.7	2.5	-0.4	-1.4	0.7
EDU	5.2	9.1	0.75	0.49	1.1	1.3	2.2	0.4	1.2	3.9
HCS	8.1	10.0	0.23	0.69	1.5	1.1	3.2	1.9	-3.2	1.9
CRS	2.3	2.8	0.22	0.87	1.8	1.2	0.8	0.7	-1.0	0.5
POS	3.6	4.2	0.14	0.77	1.7	1.1	1.4	0.9	-1.7	0.5
Total	79.2	88.8	0.12	0.41	1.1	0.9	29.2	3.0	-22.5	9.6

Table 18 Dynamic shift-share components TAS_R 1985-2003

	Employment (000s)		g_{ir}	g_{in}	Share Industry		NS	IM	RS	Total
	1985	2003	%	%	1985	2003	000's	000's	000's	Change
AGR	14.3	13.4	-0.06	-0.12	3.4	3.7	5.1	-6.9	1.0	-0.9
MIN	3.1	1.7	-0.46	-0.07	3.1	1.8	0.8	-1.0	-1.2	-1.4
MAN	17.2	16.1	-0.06	0.00	1.5	1.4	5.6	-5.8	-0.9	-1.1
EGW	3.6	0.7	-0.82	-0.44	2.6	0.9	0.6	-1.5	-2.0	-2.9
CON	13.0	12.2	-0.07	0.42	1.6	1.0	4.3	-0.1	-5.0	-0.9
WHO	5.3	6.0	0.13	0.10	1.2	1.3	1.9	-1.2	0.0	0.7
RET	14.0	19.8	0.41	0.63	1.5	1.3	5.8	2.6	-2.6	5.8
ACR	4.2	5.6	0.35	1.03	1.8	1.2	1.8	1.9	-2.2	1.5
TAS	6.0	5.1	-0.14	0.16	1.7	1.2	1.9	-1.0	-1.7	-0.9
COM	2.0	0.9	-0.55	0.15	1.3	0.5	0.5	-0.5	-1.1	-1.1
FAI	2.8	2.8	-0.03	0.27	1.0	0.8	0.9	-0.3	-0.7	-0.1
PBS	4.6	7.0	0.53	1.50	1.0	0.6	1.8	3.0	-2.4	2.4
GAD	2.8	4.3	0.55	0.36	0.9	1.0	1.3	-0.2	0.4	1.5
EDU	6.3	7.9	0.24	0.49	1.4	1.2	2.7	0.6	-1.7	1.5
HCS	8.8	11.5	0.31	0.69	1.6	1.2	3.7	2.0	-3.0	2.7
CRS	1.6	2.4	0.52	0.87	1.3	1.0	0.7	0.5	-0.4	0.8
POS	2.9	4.1	0.40	0.77	1.3	1.1	1.2	0.8	-0.8	1.2
Total	112.2	121.1	0.08	0.41	1.6	1.2	40.6	-7.2	-24.5	8.9

Table 19 Dynamic shift-share components Northern Territory 1985-2003

	Employment (000s)		g_{ir}	g_{in}	Share Industry		NS	IM	RS	Total
	1985	2003	%	%	1985	2003	000's	000's	000's	Change
AGR	2.2	2.1	-0.05	-0.12	0.5	0.6	1.1	-1.6	0.4	-0.1
MIN	3.7	2.4	-0.36	-0.07	3.7	2.5	1.0	-1.6	-0.7	-1.3
MAN	2.6	4.1	0.59	0.00	0.2	0.4	1.2	-1.1	1.5	1.5
EGW	0.6	0.8	0.25	-0.44	0.4	1.0	0.2	-0.4	0.4	0.2
CON	12.3	11.1	-0.10	0.42	1.5	0.9	4.3	0.2	-5.7	-1.2
WHO	3.3	2.2	-0.33	0.10	0.8	0.5	1.1	-0.8	-1.4	-1.1
RET	7.4	13.8	0.85	0.63	0.8	0.9	3.8	1.6	0.9	6.3
ACR	3.5	5.0	0.43	1.03	1.5	1.1	1.6	1.7	-1.7	1.5
TAS	2.8	6.9	1.45	0.16	0.8	1.6	1.4	-0.8	3.5	4.1
COM	1.6	1.3	-0.17	0.15	1.0	0.7	0.5	-0.2	-0.6	-0.3
FAI	2.1	2.1	-0.01	0.27	0.7	0.6	0.6	-0.2	-0.4	0.0
PBS	4.1	7.9	0.94	1.50	0.9	0.7	2.0	3.5	-1.8	3.8
GAD	10.0	14.1	0.40	0.36	3.1	3.2	3.7	1.2	-0.9	4.0
EDU	5.8	9.2	0.60	0.49	1.3	1.4	2.3	0.4	0.8	3.5
HCS	4.5	10.2	1.25	0.69	0.8	1.1	2.4	1.1	2.2	5.7
CRS	2.0	2.7	0.36	0.87	1.6	1.1	0.9	0.8	-1.0	0.7
POS	2.9	5.2	0.76	0.77	1.3	1.3	1.8	1.1	-0.8	2.2
Total	71.2	100.6	0.41	0.41	1.0	1.0	29.9	4.9	-5.4	29.4

Table 20 Dynamic shift-share components Australian Capital Territory 1985-2003

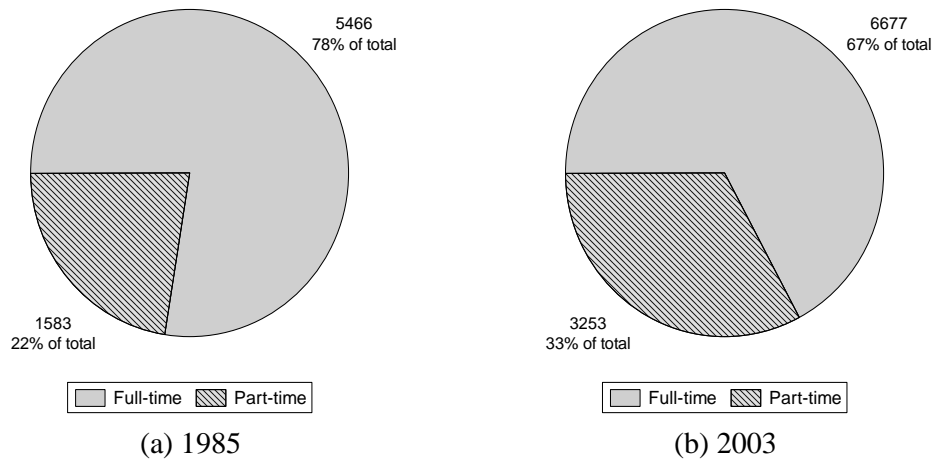
	Employment (000s)		g_{ir}	g_{in}	Share Industry		NS	IM	RS	Total
	1985	2003	%	%	1985	2003	000's	000's	000's	Change
AGR	0.7	0.6	-0.17	-0.12	0.2	0.2	0.3	-0.4	0.0	-0.1
MIN	0.1	0.1	0.33	-0.07	0.1	0.1	0.0	-0.1	0.1	0.0
MAN	5.3	5.5	0.03	0.00	0.5	0.5	1.7	-1.8	0.3	0.2
EGW	0.5	1.3	1.60	-0.44	0.4	1.7	0.3	-0.9	1.4	0.8
CON	15.9	16.3	0.03	0.42	1.9	1.4	6.3	0.2	-6.1	0.4
WHO	4.0	3.3	-0.17	0.10	0.9	0.7	1.6	-1.1	-1.1	-0.7
RET	12.4	21.6	0.74	0.63	1.4	1.5	6.5	2.8	-0.1	9.2
ACR	3.9	8.7	1.22	1.03	1.7	1.9	2.4	2.3	0.0	4.8
TAS	3.9	3.8	-0.01	0.16	1.1	0.9	1.5	-0.7	-0.8	-0.1
COM	1.6	3.4	1.19	0.15	1.0	1.9	0.7	-0.2	1.3	1.9
FAI	3.6	2.6	-0.27	0.27	1.3	0.7	1.4	-0.5	-1.8	-1.0
PBS	9.5	24.5	1.58	1.50	2.2	2.2	5.7	9.1	0.2	15.0
GAD	33.1	43.0	0.30	0.36	10.2	9.8	12.8	-0.8	-2.1	9.9
EDU	13.3	14.3	0.08	0.49	2.9	2.1	4.8	0.6	-4.4	1.1
HCS	8.6	14.3	0.66	0.69	1.6	1.5	4.2	2.2	-0.6	5.7
CRS	4.6	6.3	0.38	0.87	3.7	2.7	2.0	1.5	-1.7	1.8
POS	4.9	8.9	0.83	0.77	2.2	2.3	2.2	1.4	0.4	4.0
total	125.6	178.3	0.42	0.41	1.8	1.8	54.2	13.6	-15.1	52.7

Table 21 Regional shares for industry grouped by growth relative to national average

Region	Negative growth 000's	Above-average growth 000's	Below-average growth 000's	PBS/ACR 000's
NSW_C	-22.0	-51.6	3.4	-6.7
NSW_R	-26.2	16.3	-10.5	-5.9
VIC_C	-32.1	3.2	-23.2	1.4
VIC_R	-22.3	-3.3	6.4	6.6
QLD_C	25.8	51.3	29.0	17.1
QLD_R	45.1	95.0	14.1	13.3
SA_C	-6.6	-68.1	-6.6	-14.0
SA_R	-1.5	-11.2	-3.9	-2.5
WA_C	35.3	1.9	5.1	-0.9
WA_R	5.8	20.2	-1.1	1.7
TAS_C	-1.3	-16.1	-6.7	-2.1
TAS_R	-3.2	-18.2	-3.2	-4.6
NTE	1.6	-7.1	0.1	-3.5
ACT	1.8	-12.4	-4.5	0.2

Note: PBS/ACR refers to the sum of Property and Business Services and Accommodations, Cafes and Restaurants.

Figure 3 Full-time and part-time employment in Australia, 1985 and 2003



Source: ABS Labour Force Survey, Australia

Table 22 Trends in employment generation, 1985, 1990, 1995 and 2003.

	Full-time as a % of Total Employment				1985-2003			
	1985 %	1990 %	1995 %	2003 %	Total Δ 000's	Full-time Δ 000's	Part-time Δ 000's	Δ PT % of Total
NSW_C	79.7	75.9	74.4	70.4	604.6	278.1	326.5	54.0
NSW_R	77.2	72.8	69.9	63.7	268.9	60.3	208.6	77.6
VIC_C	78.8	74.9	72.9	67.6	506.5	189.8	316.7	62.5
VIC_R	76.3	72.3	68.9	65.8	140.0	38.8	101.2	72.3
QLD_C	76.5	74.8	70.8	66.3	367.0	190.5	176.5	48.1
QLD_R	76.1	71.9	70.0	65.4	405.2	202.0	203.2	50.1
SA_C	75.0	73.4	70.6	67.3	100.9	33.3	67.7	67.0
SA_R	76.5	72.4	69.2	67.4	26.0	2.7	23.3	89.8
WA_C	75.0	72.8	69.5	66.3	277.2	142.7	134.5	48.5
WA_R	76.6	73.0	70.2	65.7	84.3	34.9	49.5	58.7
TAS_C	76.9	74.5	70.0	67.0	9.6	-1.4	11.0	114.5
TAS_R	77.6	74.4	69.6	67.4	8.9	-5.5	14.4	161.6
NTE	80.3	79.4	73.4	69.5	29.4	12.8	16.7	56.7
ACT	74.3	76.2	71.4	70.6	52.7	32.5	20.3	38.4
AUST	77.5	74.1	71.5	67.2	2881.2	1211.3	1669.9	58.0

Source: ABS Labour Force Survey. The operator Δ refers to the absolute change.

Table 23 Full-time employment shares by region and industry, 1985 and 2003

	NSW		VIC		QLD		SA		WA		TAS		NT	ACT	AUS
	City	Rest	City	Rest	City	Rest	City	Rest	City	Rest	City	Rest			
	% of Total Employment in Region (1985 first row, 2003 second row)														
AGR	78.4	81.7	72.0	79.5	78.3	83.1	70.9	81.2	74.1	83.0	78.3	81.2	94.3	58.6	80.8
	79.8	73.9	67.3	71.3	67.2	77.7	70.4	79.7	71.0	75.7	73.3	76.9	88.1	25.0	74.9
MIN	100.0	98.8	96.6	94.6	95.4	98.1	97.3	96.5	96.3	98.7	75.0	99.2	97.3	100.0	97.9
	94.6	93.6	80.2	100.0	100.0	97.2	100.0	94.2	96.5	99.0	100.0	93.9	100.0	100.0	95.8
MAN	92.8	94.1	92.9	92.4	90.5	91.6	93.0	94.1	90.4	91.5	96.4	95.9	94.2	80.8	92.6
	88.5	88.8	90.3	88.8	87.6	88.4	89.4	92.4	86.7	86.3	89.4	88.8	91.5	74.5	88.8
EGW	98.6	98.3	99.8	99.4	98.7	98.5	99.3	100.0	99.6	99.3	96.4	97.9	91.7	95.0	98.9
	96.3	95.6	98.2	92.2	97.9	95.3	96.1	93.5	95.2	94.3	90.9	100.0	86.7	88.5	95.4
CON	50.4	48.3	47.5	50.1	49.8	46.5	48.5	50.9	49.3	46.3	49.0	51.0	43.1	38.9	48.6
	44.6	44.2	45.3	51.8	43.9	42.3	47.5	38.9	43.8	42.9	46.0	53.1	36.0	44.3	44.8
WHO	90.2	89.2	90.9	88.0	87.5	88.4	88.1	84.5	89.3	89.8	94.5	91.0	99.2	88.7	89.6
	82.1	80.8	83.6	81.9	84.4	80.2	81.8	85.1	81.0	88.1	91.8	85.7	95.5	84.8	82.6
RET	71.1	70.8	69.2	66.0	64.7	70.1	64.7	71.2	64.4	71.9	73.4	73.9	68.4	56.0	68.7
	54.2	51.2	50.6	54.6	49.7	55.8	52.4	57.7	54.7	59.2	54.9	57.0	64.7	52.4	53.2
ACR	64.0	57.4	57.3	56.1	53.0	62.6	48.8	50.8	55.9	58.5	58.8	41.0	77.5	57.7	58.1
	55.3	45.6	50.9	49.8	42.2	56.4	45.0	31.8	50.2	45.6	39.0	48.2	61.6	48.6	50.2
TAS	92.2	88.9	93.5	89.2	91.5	91.1	93.6	85.8	91.2	87.9	90.6	87.0	91.1	91.6	91.4
	84.9	81.5	84.8	80.6	83.9	80.8	86.5	77.9	79.0	83.0	66.7	82.4	83.2	76.3	83.2
COM	94.7	87.9	95.2	89.5	96.5	92.4	91.7	91.9	91.8	80.4	92.9	90.0	90.5	98.4	93.0
	93.8	71.9	88.1	75.4	83.6	76.5	95.7	70.8	83.5	83.9	87.5	66.7	84.6	86.8	86.1
FAI	90.9	88.8	90.7	88.3	86.7	87.3	87.4	82.1	88.3	82.0	89.5	82.3	85.5	81.7	89.2
	87.2	75.3	81.9	68.1	75.8	79.8	79.2	59.7	76.2	52.9	80.3	65.5	80.5	86.5	81.1
PBS	79.4	71.3	81.0	81.8	84.1	78.1	76.9	73.6	79.1	72.9	79.1	80.8	84.6	79.4	79.3
	76.6	69.8	74.8	68.2	70.8	71.9	74.7	71.1	71.2	63.4	69.0	59.0	79.0	76.3	73.3
GAD	94.7	98.2	87.9	82.0	97.9	95.4	92.3	90.9	95.5	93.1	95.1	89.2	97.3	96.3	93.1
	82.9	84.4	78.0	79.7	88.9	75.3	87.5	86.4	87.2	87.7	87.7	87.2	68.7	92.3	83.6
EDU	72.6	66.0	73.3	75.6	70.0	68.4	69.8	65.9	72.4	60.6	74.4	72.3	92.6	75.1	71.4
	68.4	56.3	65.3	69.4	63.6	62.2	66.9	63.6	65.8	64.4	70.7	65.0	66.3	70.3	64.9
HCS	74.4	74.4	67.2	66.2	75.0	74.7	64.4	61.7	68.5	61.2	65.6	67.7	86.2	62.5	70.5
	63.2	56.9	53.9	47.2	55.7	55.0	49.1	46.7	54.3	51.1	58.3	46.3	68.1	57.0	55.7
CRS	73.0	61.5	65.1	61.4	64.6	66.8	58.4	61.3	63.5	52.9	81.1	69.8	85.9	72.0	67.3
	69.1	49.9	54.3	47.8	55.5	63.0	63.5	48.9	56.8	52.9	67.3	52.1	67.9	62.7	59.8
POS	77.1	72.4	77.4	77.0	74.3	70.6	75.3	66.2	73.5	63.5	73.8	67.5	82.1	66.7	74.8
	73.9	64.5	72.0	66.7	71.8	75.2	66.1	79.6	68.8	44.8	73.5	78.0	79.6	70.2	70.2
ALL	79.7	77.2	78.8	76.3	76.5	76.1	75.0	76.5	75.0	76.6	76.9	77.6	80.3	74.3	77.5
	70.4	63.7	67.6	65.8	66.3	65.4	67.3	67.4	66.3	65.7	67.0	67.4	69.5	70.6	67.2

Table 24 Shift-share components for Australian regions, by full-time and part-time, 1985-2003, 000's

	NSW_C	NSW_R	VIC_C	VIC_R	QLD_C	QLD_R	SA_C	SA_R	WA_C	WA_R	TAS_C	TAS_R	NTE	ACT	AUST
NS															
Full-time	480.7	234.0	399.1	137.6	170.5	189.3	121.2	43.2	146.0	55.9	20.6	29.0	22.6	39.6	2089.3
Part-time	159.0	93.1	142.0	57.4	67.5	79.4	48.9	17.9	62.4	22.2	8.6	11.6	7.3	14.6	791.9
Total	639.7	327.1	541.2	195.1	237.9	268.6	170.1	61.1	208.4	78.1	29.2	40.6	29.9	54.2	2881.2
IM															
Full-time	-9.5	-56.6	-23.6	-40.3	2.9	-31.1	-4.5	-18.9	6.2	-20.8	0.2	-8.5	1.9	8.1	-194.5
Part-time	44.6	18.9	41.1	4.4	20.0	13.5	16.7	0.3	20.3	2.1	2.8	1.3	3.0	5.5	194.5
Total	35.1	-37.8	17.5	-35.9	22.9	-17.6	12.1	-18.6	26.5	-18.7	3.0	-7.2	4.9	13.6	0.0
RS															
Full-time	-55.7	-20.0	-57.0	-12.2	85.4	112.3	-54.7	-10.9	37.3	17.1	-15.0	-16.1	2.5	-10.5	0.0
Part-time	-14.5	-0.4	4.9	-7.0	20.7	41.9	-26.7	-5.7	4.9	7.8	-7.5	-8.4	-7.9	-4.3	0.0
Total	-70.2	-20.4	-52.1	-19.2	106.1	154.2	-81.3	-16.6	42.2	24.9	-22.5	-24.5	-5.4	-14.8	0.0
FTPT															
Full-time	-137.4	-97.0	-128.7	-46.3	-68.3	-68.5	-28.7	-10.7	-46.9	-17.4	-7.2	-9.9	-14.4	-4.6	-683.5
Part-time	137.4	97.0	128.7	46.3	68.3	68.5	28.7	10.7	46.9	17.4	7.2	9.9	14.4	4.4	683.5
Total	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.3	0.0
Total Change															
Full-time	278.1	60.3	189.8	38.8	190.5	202.0	33.3	2.7	142.7	34.9	-1.4	-5.5	12.8	32.5	1211.3
Part-time	326.5	208.6	316.7	101.2	176.5	203.2	67.7	23.3	134.5	49.4	11.0	14.4	16.7	20.3	1669.9
Total	604.6	268.9	506.5	140.0	367.0	405.2	100.9	26.0	277.2	84.3	9.6	8.9	29.4	52.7	2881.2
Total Shift															
Full-time	-202.6	-173.7	-209.3	-98.8	20.0	12.8	-87.9	-40.6	-3.3	-21.1	-22.0	-34.5	-9.9	-7.1	-878.0
Part-time	167.5	115.5	174.6	43.7	109.1	123.9	18.7	5.4	72.1	27.3	2.4	2.8	9.4	5.6	878.0
Total	-35.1	-58.2	-34.6	-55.1	129.0	136.6	-69.2	-35.2	68.7	6.2	-19.5	-31.7	-0.5	-1.5	0.0

¹ The authors are Professor of Economics and Director of the Centre of Full Employment and Equity and Senior Research Fellow, Centre of Full Employment and Equity, University of Newcastle, respectively. They thank Victor Quirk for excellent assistance. All errors remain the authors' responsibility.