Avoiding Recessions and Australian Long-Term Unemployment

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Number 29

June 2000

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Executive Summary

While the unemployment rate has fallen significantly in the last several years, it is still around 7 per cent at the beginning of 2000 and remains very high relative to the experience from 1950 to the mid-1970s. Nearly 200,000 of today's unemployed have been in that state for 12 months or more. The duration of unemployment is a fundamental issue for policy and reduction in the numbers of those experiencing high unemployment duration is a continuing policy priority.

There are two reasons for governments to be concerned about long-term unemployment. It is well documented that members of the group are some of the least advantaged in the labour market, a group disproportionately made up of those with low formal skills and education. Moreover, those with high unemployment duration are by definition not accumulating labour market experience, one of the most important determinants of wage income.

Long-term unemployment is also fundamental to policy due to its impact on macroeconomic efficiency. A labour supply pool with a large proportion of long-term unemployed will be characterised by structural mismatch. Long-term unemployed workers will be considered to be irrelevant in firms' hiring decisions so that unemployment is higher than it would otherwise be. This has significant implications for the budget. In addition, structural mismatch decreases the potential for an economy to recover quickly from recession. As employers will be bargaining over a smaller pool of 'relevant' labour, wage inflation is more likely, even when unemployment is relatively high.

This paper examines the relationship between recessions and the size and persistence of long-term unemployment. The stock of unemployment exhibits a substantial and rapid rise at the onset of recession. Since the late 1970s the number of people unemployed for more than 12 months has approximately trebled, mostly at the expense of those unemployed for less than three months.

Using a well-established statistical method, this paper considers different outcomes for long-term unemployment as if the major recessions of 1983 and 1991 had been moderated. In those years employment fell by 2.17 per cent and 2.29 per cent respectively. Under Scenario A we assume that employment fell by a little under 2% instead of a little over 2% in those two recession years. In Scenario B we assume that employment fell by around 0.3% instead of by more than 2%.

The employment growth assumed in Scenario A resulted in a reduction in the number of people experiencing long-term unemployment by around 25 per cent at the end of the 1990s. Under Scenario B long-term unemployment would have been around 50 per cent lower by the end of the 1990s. These are very striking demonstration of the great value of recession avoidance.

The results should leave us in no doubt that just a few poor years of economic growth have very significant medium-term implications for long-term unemployment. They highlight strongly the policy importance of anticipating possible future poor

employment growth, and imply that there are considerable potential benefits to be had if governments are able to pre-empt downturns in economic activity.

The findings are apposite to the current debate over macroeconomic settings stimulated by recent rises in interest rates. The critical role of monetary policy in slowing growth should be recognised as having significant potential implications for future levels of long-term unemployment. There are obvious equity, budgetary and economic performance costs associated with this.

1.   Introduction and Background

1.1   Unemployment as a policy priority

Australian unemployment at the start of the 21st century remains a critical policy issue. While the unemployment rate has fallen significantly in the last several years, it is still around 7 per cent at the beginning of 2000 and remains very high relative to the experience from 1950 to the mid-1970s. The question of how best to reduce unemployment has been a significant part of the policy agenda for at least two decades.

Governments have not yet been able to solve the problem. In addition, researchers do not yet agree as to either the cause or the solution – there is an impasse, even if some important points of policy consensus have been forthcoming. In the interest of highlighting that there has been progress these points of agreement should be recognised.

The first is that high economic growth is a necessary condition to an eventual reduction in unemployment. This assumption underlay the former ALP Government's *Working Nation* strategy, and has been a consistent theme of the Coalition Government since its election in 1996. Further, all academic labour economists agree strongly with the proposition.

A second broad point of agreement is that unemployment duration is a fundamental issue for policy. Approaches to high unemployment duration have differed, but emphasis on the reduction in the numbers of those experiencing high unemployment duration is a continuing policy priority.[1] This paper examines this important dimension of the Australian unemployment experience. The significance of unemployment duration for the policy debate is now considered briefly.

1.2   The importance of unemployment duration for policy

There are two reasons for governments to be concerned with high duration unemployment. The first can be broadly labeled an issue of distribution, which can also be seen to be a matter of equity and social justice. The second concerns macroeconomic efficiency, and the implications for both forgone output and the budget.

With respect to the first, the case for attention being paid to the long-term unemployed is overwhelming. It is well documented that members of the group are some of the least advantaged in the labour market, and this group is disproportionately made up of those with low formal skills and education, Aboriginals and Torres Strait Islanders, and immigrants from non-English speaking backgrounds.[2]

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[1] Labor in government chose a job guarantee for those with very long (18 months or more) unemployment duration, and the Coalition offers relatively high remuneration to job placement firms placing those with high unemployment duration into jobs.

[2] See, for example, ABS (1994) and Chapman (1993).

Moreover, those with high unemployment duration are by definition not accumulating labour market experience, one of the most important determinants of wage income.[3] These combinations of disadvantage make the equity case for focussing policy attention on the long-term unemployed overwhelming.

Long-term unemployment is also fundamental to policy due to its impact on macroeconomic efficiency. The basic point is that a labour supply pool with a large proportion of long-term unemployed will be characterised by structural mismatch; employers will prefer to bypass people with high unemployment duration in job hiring, for rational reasons. That is, information on the likely performance of prospective employees is likely to be critical to the hiring decision, and one indicator will be recent success in attaining employment.

The above suggests that members of the long-term unemployed group will have more difficulty in finding jobs, and many of them will be considered to be irrelevant in firms' hiring decisions. There is considerable evidence that the labour market works more efficiently when the unemployed are able to slot easily into vacancies when they emerge. Fahrer and Pease (1993), Chapman (1993), and Hughes (1987) all report empirical confirmation of this phenomenon.

The consequence of this structural mismatch in the labour market is that unemployment is higher than it would otherwise be, simply because a significant proportion of the pool has been unemployed for long periods, and this has implications for the budget. That is, because unemployment would be lower if the proportion of the unemployment pool that is long term were reduced, there is a loss of tax revenue and higher government outlays for social security. The possible extent of these budgetary losses has been documented in Piggott and Chapman (1995) who estimate that long-term unemployment in the early 1990s cost Australian taxpayers in the order of $1 billion per annum as a result of foregone taxes and additional unemployment benefit outlays.

In addition, there is considerable evidence that structural mismatch from long-term unemployment decreases the potential for an economy to recover quickly from recession,[4] because the skill losses associated with long-term unemployment imply that employers will be bargaining over a relatively small pool of 'relevant' labour. This, in turn, implies an increased probability of wage inflation, even in periods when measured unemployment is relatively high. A likely consequence is for governments to be more receptive to the adoption of restrictive demand management measures (such as higher interest rates) in response to concerns about potential inflation; this, in turn, means lower potential output.

The bottom line is that high duration unemployment is very costly, in equity, macroefficiency and budgetary terms. This has motivated the current exercise, with our principal contribution being to show that the avoidance of recession is probably the single most important thing a government can do. This is demonstrated through the use of a number of counter-factual scenarios related to employment growth.

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[3] There is a host of empirical work confirming this proposition. For a recent example see Borland, Hirshberg and Lye (1997).

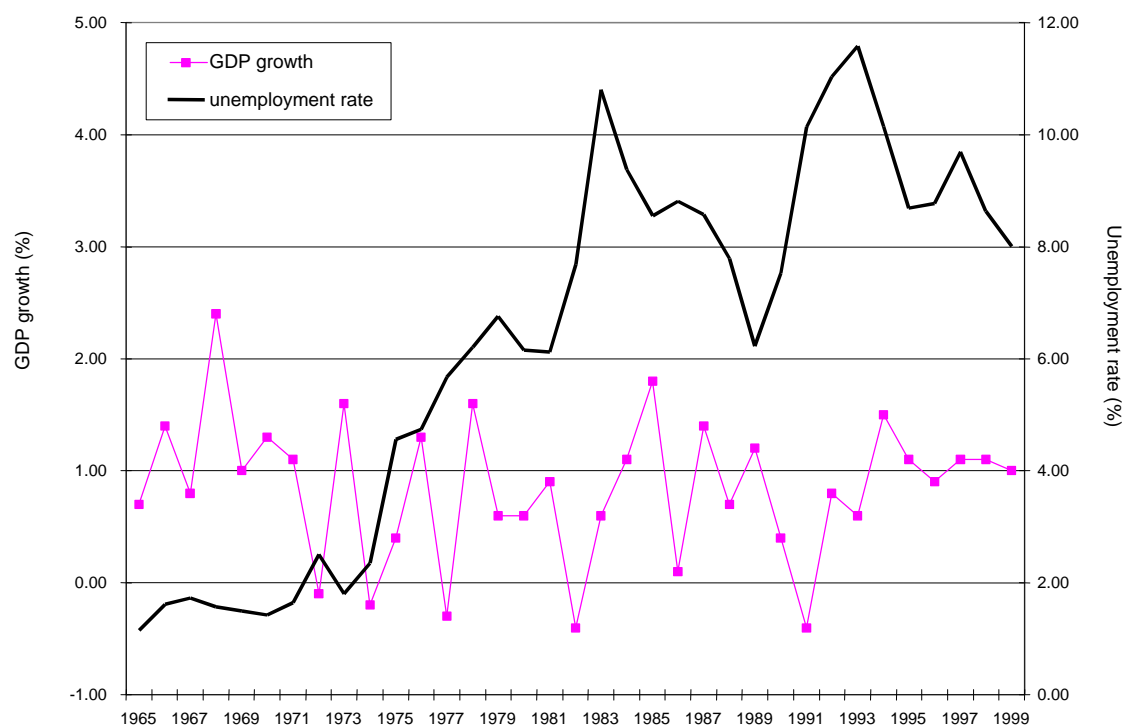[4] See Budd, Levine and Smith (1987) and Jackman and Layard (1991).

2. Analysing Australian Unemployment Duration

2.1 Unemployment and recession

While unemployment is a well-documented research topic, it is useful to summarize a number of major points arising from an examination of the profile of unemployment over this period since 1978. An important issue relates to the relationship between unemployment and measures of economic growth, illustrated in Figure 1.

The figure shows growth rates of Gross Domestic Product (GDP), the acknowledged yardstick of the performance of an economy, juxtaposed with aggregate unemployment rates. It is clear from the data that the stock of unemployment exhibits a substantial and rapid rise at the onset of recession, which is understood to mean a very low rate of GDP growth.

Figure 1 GDP growth and unemployment rates, 1965 – 1999

Note: GDP growth rates are calculated as quarter-to-quarter changes with June values plotted in the graph.
Sources:
1. Unemployment: ABS, Labour Force, Australia, ABS Catalogue No, 6203.0 (various issues); Reserve Bank of Australia, Australian Economic Statistics, 1964-1978, Sydney.
2. GDP: ABS, National Income and Expenditure, Australia, ABS Catalogue No, 5206.0 (various issues).

There is, however, a noticeable lack of symmetry: during the expansionary phases of the business cycle the unemployment rate declines very slowly and in Australia has not generally fully come down to the pre-recession unemployment rate. This phenomenon, known as hysteresis, has ensured that the unemployment rate has trended upwards for almost a quarter of a century.

To illustrate differently how unemployment has increased over the last three decades it is useful to consider simple decade averages. During the sixties the unemployment rate averaged 1.5 per cent. In the seventies the average was 4.2 per cent, while in the eighties it jumped to an average of 8.1 per cent and increased further to an average of 9.6 per cent during the nineties. The early nineties saw a consistent period of double-digit unemployment rates with 1993 recording 11.6 per cent – the highest level of joblessness since the depression of the thirties.

Unemployment can be regarded as the outcome of economic (mis)fortunes, meaning that employment growth is considered to be one of the primary goals of economic management. It is worth at this point, therefore, to consider more closely the profile of employment growth since the mid-sixties. This is now shown in Figure 2.

Figure 2 Employment growth and GDP growth rates, 1965 – 1999

Note: GDP growth rates are calculated as quarter-to-quarter changes with June values plotted in the graph.
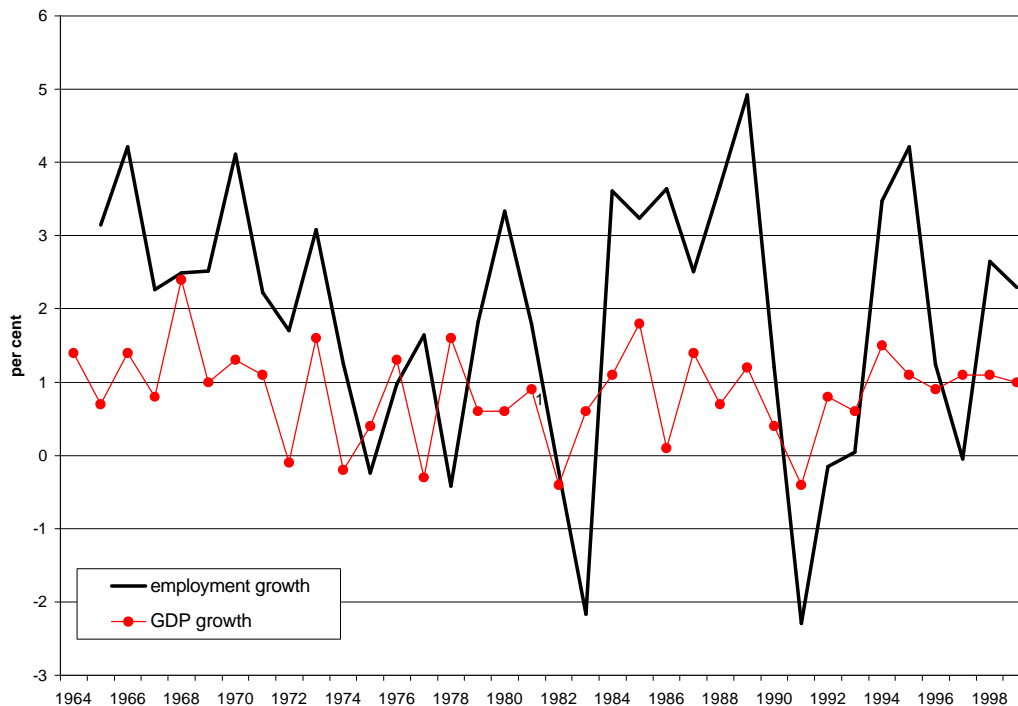Sources: as for Figure 1.

The important point from Figure 2 is that employment exhibits a very cyclical pattern of growth with negative rates during recessions (i.e. when GDP exhibits negative growth rates) and positive rates over other years. In other words, employment is primarily dependent on economic conditions (aggregate demand in the economy) rather than on the labour force (aggregate supply).

In terms of poor employment growth over the last three decades there are two years which stand out: 1983 and 1991. These two years are distinguished by the magnitude of the contraction of the stock of jobs: -2.1 per cent in 1983 and -2.3 per cent in 1991.
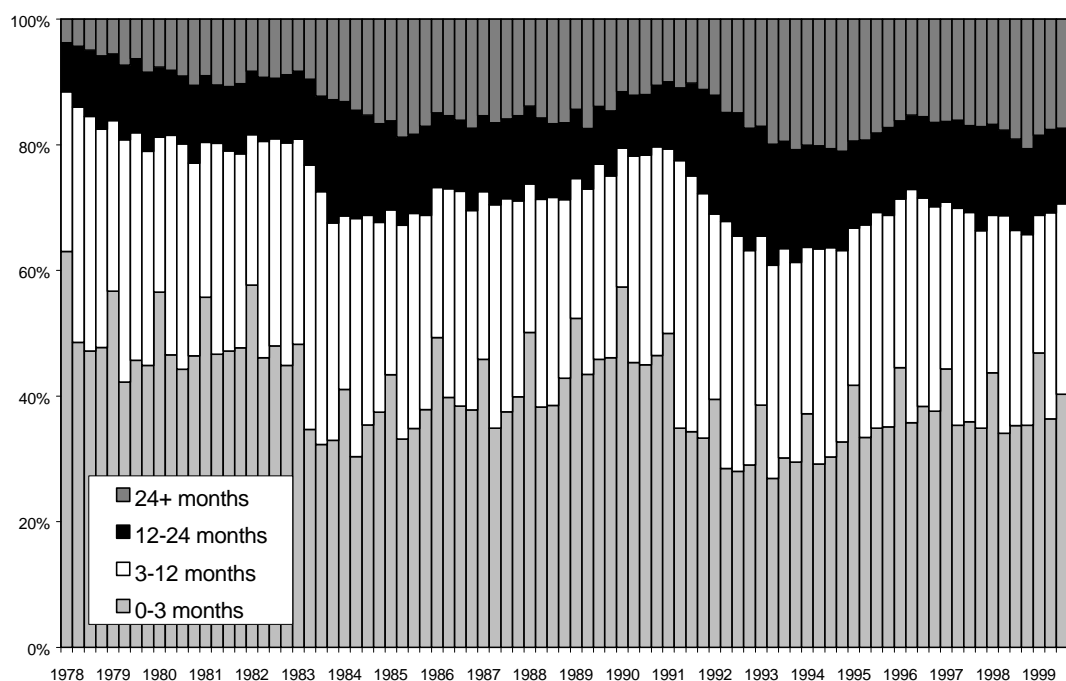
These compare with an average growth of employment over our sample period of around 1.9 per cent.

Such significant declines in the employment stock are obviously rare and, as such, provide a clue to the possible importance of avoiding recessions. Further, they are pivotal for the counterfactual simulations presented below.

2.2   Recession and unemployment duration

The stock of unemployment is not a homogenous collection of people looking for work. Disaggregation of the unemployment stock by broad duration categories allows a focus on the impact of recessions on specific groups. These disaggregations are presented in Figure 3.

Figure 3 Distribution of unemployment durations, 1978Q1– 1999Q4

Source: ABS, Labour Force, Australia, ABS Catalogue No, 6203.0 (various issues).

The major point from the figure is that since the late 1970s the addition of the number of people unemployed for more than 12 but less than 24 months, and the number of people unemployed for 24 months or more (very long-term unemployment -VLTU) has approximately trebled, mostly at the expense of the shortest duration category (those unemployed for less than 3 months). The change, however, has been much more pronounced in the VLTU than for those unemployed between 12 and 24 months: the percentage of the unemployed which is VLTU rose from 3.7 per cent at the beginning of

1978 to 19.2 per cent at the end of 1999. During the same period the share of the 12 to 24 months unemployed increased from 7.8 per cent to 11.7 per cent.[5]

The rising share of longer unemployment durations in the total stock of unemployment is reflected in an increase in the average duration of unemployment, now illustrated in Figure 4. The figure shows the stocks of LTU and VLTU and the average duration of unemployment.

Figure 4 Components of high duration unemployment and the average duration of unemployment, 1978Q1–1999Q4

Source: ABS, Labour Force, Australia, ABS Catalogue No, 6203.0 (various issues).

As is evident from this graph, average unemployment duration has more than doubled over the last two decades: from just under 20 weeks in 1978 to 56 weeks in 1999. The latter data mean that people becoming unemployed in 1999 spent, on average, a year and one month unemployed.

2.3   Projections of long-term unemployment

To provide a link between economic (employment) growth and its association with high duration unemployment, we can utilize techniques developed by Chapman, Junankar and Kapuscinski (1992). These techniques and the empirical relationships uncovered form the basis of the analysis reported in the following section and, consequently, require some explanation and justification.

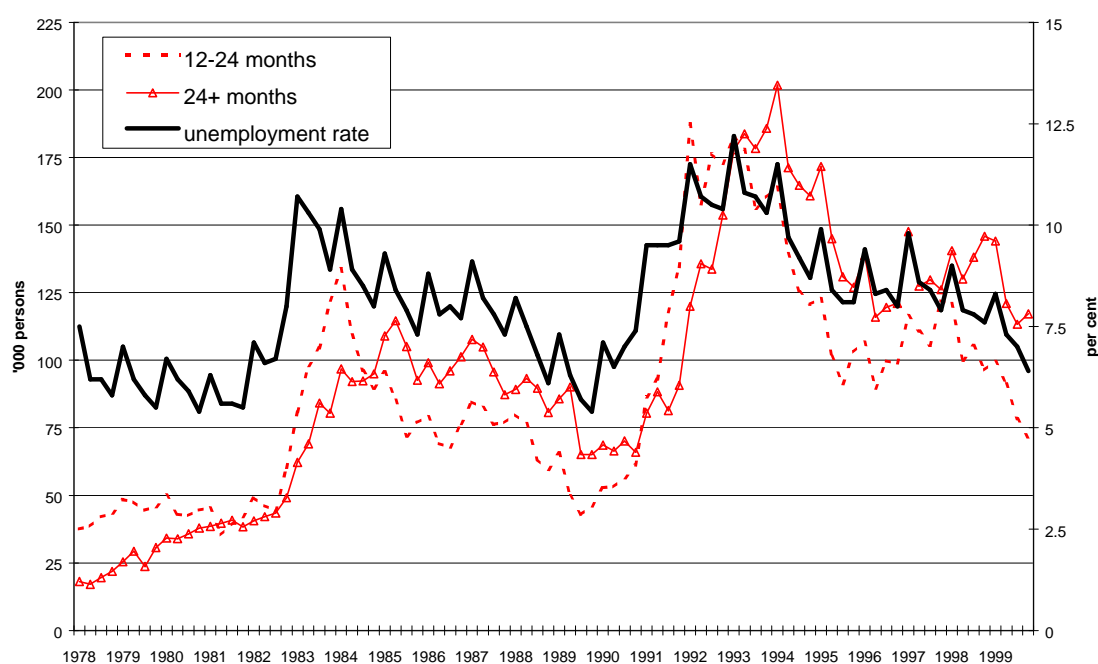The Chapman *et al* methodology estimates time-series models with respect to the proportion of the unemployment stock that is LTU (i.e., exceeding 12 months) on the basis of both different lags in the unemployment rate and the past history of long-term

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[5]   There clear seasonal patterns in the data because we have used the seasonally unadjusted series. There are no significant implications for the analysis from this choice.

unemployment. Results reported in Chapman *et al*. (1992) as well as in Junankar and Kapuscinski (1998) have demonstrated the robustness of this methodology and the very good fit of the estimated models. In other words, the technique provides a sound empirical basis for forecasting LTU levels given different hypothetical scenarios of the future course of the aggregate unemployment rate.

Figure 5 offers an illustration of the nature of the relationships uncovered, and shows that there is a very close association between movements in the unemployment rate and the profiles of both LTU and VLTU. The equations on which these relationships are based are shown in Appendix 1.

**Figure 5 High duration unemployment and the unemployment rate,
1978Q1–1999Q4**

Source: ABS, Labour Force, Australia, ABS Catalogue No, 6203.0 (various issues).

The important point for what follows is that there is a credible method available to address the question of what would have happened with respect to high duration unemployment if Australia's employment growth experience had been different. That is, we are able to illustrate empirically the importance of recession avoidance.

3. The Consequences of Recession Avoidance for High Duration Unemployment

3.1 Describing the experiment: employment growth

We utilise the two annual outliers in the profile of employment growth, the troughs of the recessions of the early 1980s and 1990s (1983 and 1991), as the points of interest. Our counter-factual experiments then consist of evaluating the impact of alternative scenarios of employment growth on the profiles of LTU and VLTU. In particular, we use two hypothetical profiles (scenarios) of employment growth, which are as follows:

1)   The first (scenario A) adds to the actual values of employment growth in 1983 and 1991 the average employment growth rate of all years in the 1966 to 1999 period in which employment grew below the average of the period. The annual employment growth average for the years of poor employment growth is 0.38 per cent, and this is added to the 1983 and 1991 employment growth figures of -2.17 per cent and -2.29 per cent respectively to create the scenario A new employment growth rates of -1.79 and -1.91.

2)   The second (scenario B) assumes that instead of the actual experience in 1983 and 1991, in these years employment growth was higher by the average annual employment growth of the last three decades, which was 1.93 per cent. Thus in scenario B the assumed employment growth rates for 1983 and 1991 are -0.24 per cent and -0.36 per cent respectively (instead of 1.93 per cent lower).

These two scenarios of employment growth in 1983 and 1991 describe what are arguably realistic, even modest, boundaries of possible outcomes if international circumstances and/or domestic demand management had been more propitious for employment in these two years. That is, even a slightly better employment growth environment should be expected to deliver at least 0.4 per cent more jobs per annum. In defence of our claim that the scenarios are conservative it should be noted that even in the optimistic scenario employment growth in both 1983 and 1991 is still negative, which represent very low annual employment growth outcomes by Australian historical standards.[6]

3.2 Describing the experiment: labour force participation rate responses

In a situation in which employment growth is assumed to be higher than it otherwise would have been, labour force participation would accordingly also be higher. That is, measured unemployment is simultaneously determined through the interactions between the supply of and the demand for labour. This means that our hypothetical employment growth scenarios cannot be used in isolation to derive the unemployment rates that drive the forecasting equations; we must take into account the likely participation rate responses.
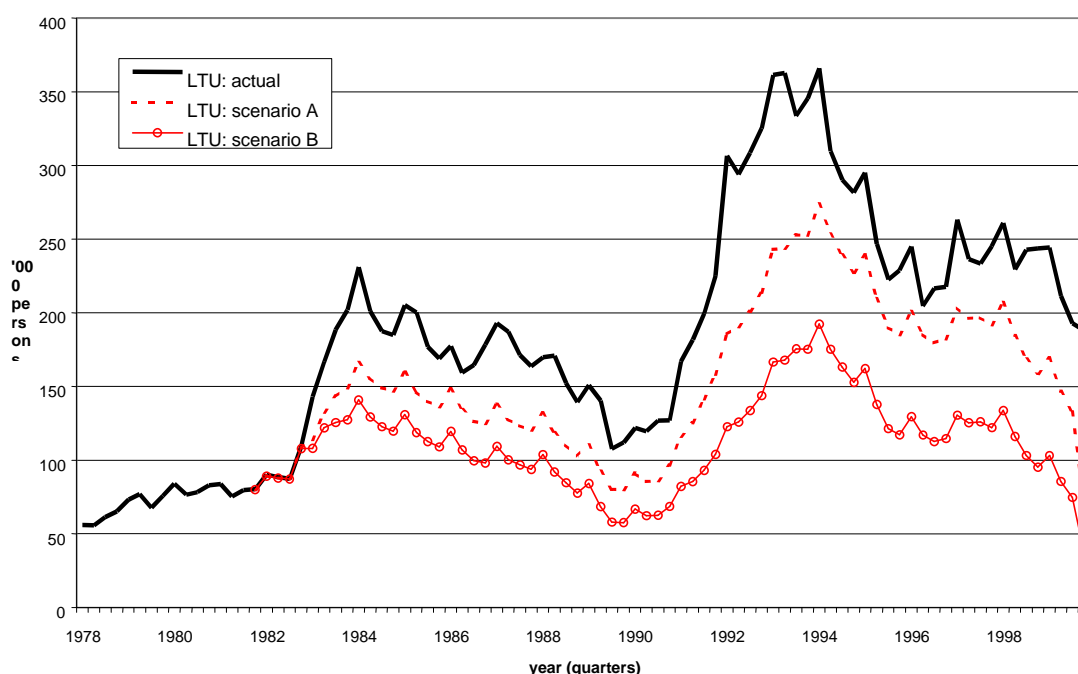
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[6] Over the 35-year period there were only five years of negative employment growth and, apart from 1983 and 1991, most of these were very close to zero.

In response to this issue we estimated an auxiliary equation linking the growth of the labour force with current and lagged growth rates of employment and a time trend, and the results are shown in Appendix 2. This equation was then used to predict labour force growth (and, hence, the size of the labour force) for both scenarios of employment growth and, subsequently, allowed us to derive the unemployment rates that would have ensued under scenarios A and B.

3.3 The results of the experiment: levels of high duration unemployment

The results of our experiments are presented in Figure 6 for LTU and Figure 7 for VLTU.

Figure 6 Projections of long-term unemployment: the role of recession avoidance
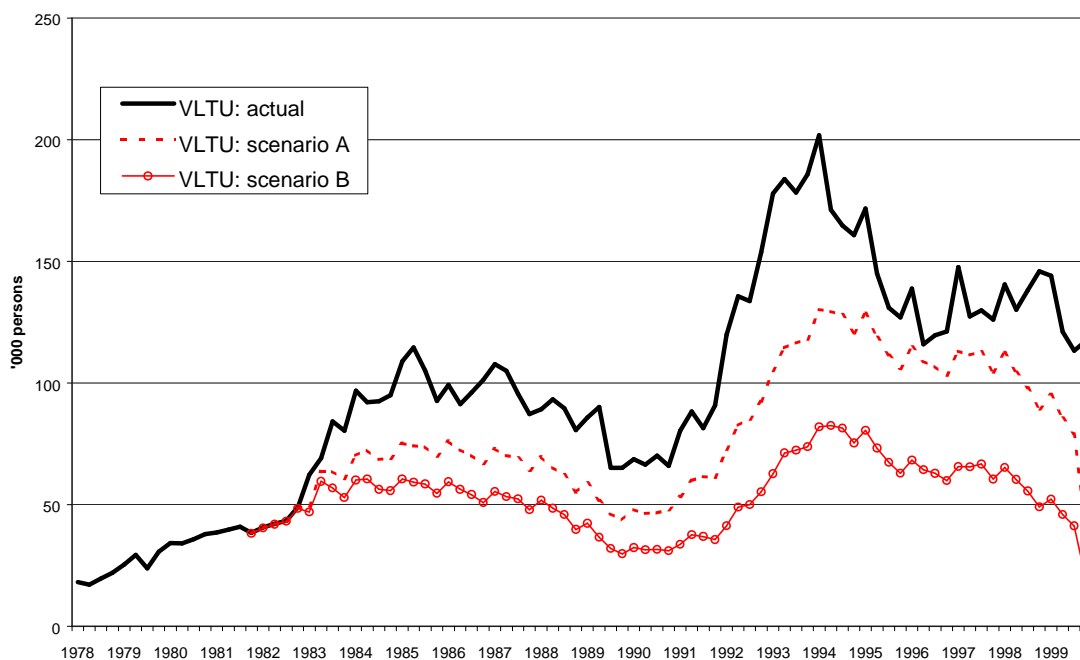

Source: As for Figure 1 and authors' calculations.

The data from Figure 6 show clearly that higher employment growth in 1983 and 1991 would have resulted in a considerably lower level of LTU. At the end of the 1990s, for example, LTU would have been not much more than 100,000 if employment growth in 1983 and 1991 had been just 0.38 per cent per annum higher, and around 50,000 if these years had instead experienced an increase in employment growth equal to the average annual employment growth of the whole period.

What actually transpired was an LTU of well over 200,000 in the last half of the 1990s. This suggests that better employment growth in only two years could have reduced LTU by around 50 to 80 per cent. These constitute very large reductions.

Figure 7 Projections of very long-term unemployment: the role of recession avoidance

Source: As for Figure 1 and authors' calculations.

Figure 7 shows a similar story for those unemployed for over two years. At the end of the 1990s, for example, VLTU would have been around 50,000 under scenario A (an increase of only 0.38 per cent per annum), and around 30,000 if these years had instead experienced an increase in employment growth equal to the average annual employment growth for the whole period.
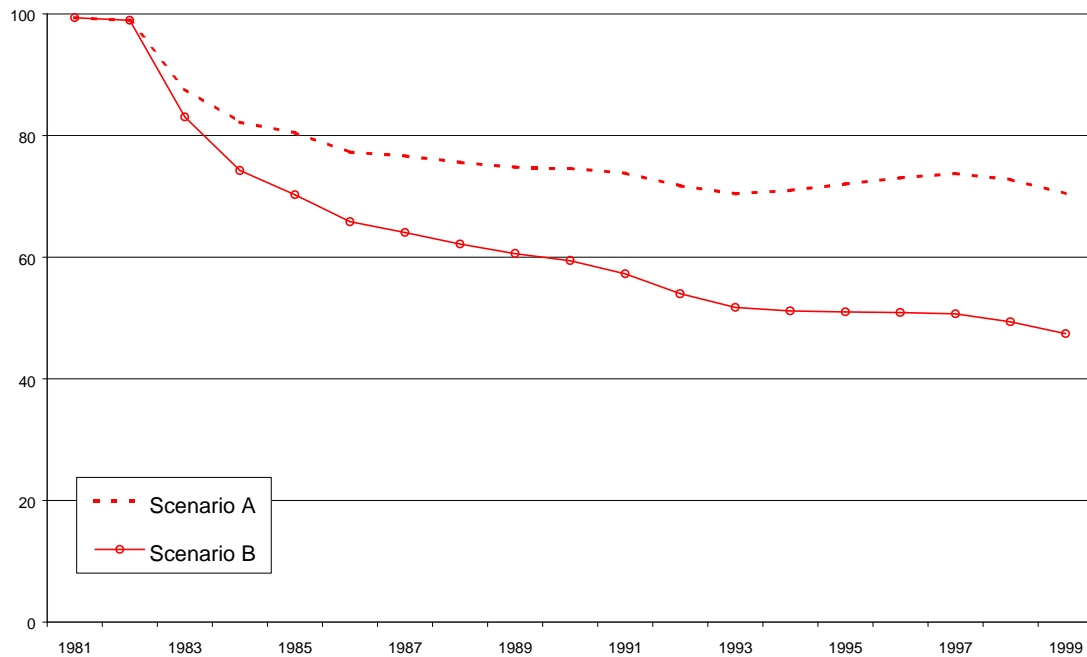
What actually transpired was a VLTU of about 120,000 in the last half of the 1990s. This suggests that better employment growth scenarios in only two years could have reduced VLTU by between 60 and 75 per cent. Again, these constitute very large reductions.

3.4   The results of the experiment: cumulative measures of high duration unemployment

These data can be presented differently by considering LTU in the following way. The average total number of people who were unemployed for a year in any given year can be labeled 'LTU person years'; for example, from Figure 6 there were around 250,000 LTU person years in 1998. With this approach it is possible to derive a measure of the total cumulative LTU for a given period; for example, this figure was well over 3 million in the 1983 to 1999 period.

Our counter-factual simulations can be used to derive estimates of LTU person years for the two different scenarios, and these can be compared with actual experience. Figure 8 plots the cumulative sum of projected levels of LTU person years from the two scenarios as a proportion of the cumulative sum of the actual level of cumulative LTU person years.

Figure 8 Cumulations of the projected stocks of long-term unemployment as a proportion of the cumulated stock of actual long-term unemployment, 1981–1999

Source: As for Figure 1 and authors' calculations.

The data can be interpreted as follows. The employment growth assumed in scenario A resulted in a reduction in the number of people experiencing LTU by around 25 per cent at the end of the period. A more successful employment outcome for 1983 and 1991 is estimated to reduce total LTU person years by around 50 per cent. These are very striking results and are a highly pertinent representation of the great value of recession avoidance.

4. Conclusion

Unemployment remains Australia's major economic challenge, and long-term unemployment in particular is a persistent and costly phenomenon. Most of the policy debate[7] focuses on the important issue of solutions to the problem. We have taken a different tack through consideration of the benefits of avoiding its emergence.

Specifically, we address the issue of the consequences for high duration unemployment under different scenarios of employment growth. It is important to note that our counter-factuals are modest. History has only been re-run for the two poorest years of employment growth over the last few decades, 1983 and 1991, and the two adjustments made to employment are, in the first case, small and, in the other, optimistic but still realistic.

The results are clear, indeed they are arguably very powerful. Even in the small adjustment scenario there are very significant decreases in the number of people who would have experienced unemployment for long periods. The more speculative counter-factual eventually results in falls of high duration unemployment by up to 80 per cent.

The experiment does not inform the Australian contemporary unemployment debate with respect to the solution to the current high duration unemployment malaise. But it should leave us in no doubt that just a few poor years of economic growth has very significant medium term implications for high duration unemployment.

The analysis strongly reinforces the notion that there are significant potential dangers from restrictive macroeconomic management. The challenge lies in avoiding policies that increase the likelihood of recessions, given that they are so expensive. Prevention, apparently, is better than cure.

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[7] For example, on the role of earned income tax credits and labour market programs.

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Appendix 1 Unemployment and long-term unemployment results

Regressor	LTU equation		VLTU equation	
	Coefficient	t-ratio	Coefficient	t-ratio
	Parameter estimates			
PLTU(-1)	0.55	3.43 ***		
PLTU(-2)	0.12	0.89		
VLTU(-1)			0.60	3.90 ***
VLTU(-2)			0.21	1.50
UR(-1)	-0.07	-0.14	-0.46	-1.29
UR(-2)	1.35	2.01 **	1.02	2.62 **
D4UE	0.25	0.31	-0.83	-1.36
Q1	-3.09	-3.34 ***	-0.62	-0.92
Q2	0.31	0.30	1.70	2.36 **
Q3	-2.21	-3.61 ***	-0.41	-0.88
Constant	0.07	0.06	-1.45	-1.45
	Summary diagnostics			
Adj. R-square	0.93		0.91	
Reset (2)	0.01		0.03	
LM (1)	0.83		0.98	
LM (4)	1.36		2.50	

Notes: PLTU is the proportion of LTU in the total unemployment.

VLTU is the proportion of VLTU in the total unemployment.

UR is the unemployment rate.

D4UE is a dummy variable equal to unity if lagged growth in the unemployment rate is positive.

Q1, Q2, Q3 are quarterly dummies.

Adj. R-square is the adjusted regression coefficient of determination.

LM (1) and LM (4) are the LM tests for serial correlation of order one and four, respectively. The critical value at 1 per cent level is 2.57.

Reset (2) is a regression misspecification test. The critical value at 1 per cent level is 7.31.

Appendix 2 Participation rate estimates

Model estimates
Labour force growth equation and equations used to forecast LTU and VLTU

Regressor	Labour force growth	
	Coefficient	t-ratio
	Parameter estimates	
Time trend	0.12	1.18
Time squared	-0.01	-1.61
Emp. Growth	0.39	5.59 ***
Emp. Growth (-1)	0.11	1.64
Constant	0.71	1.34
	Summary diagnostics	
Adj. R-square	0.70	
Reset(2)	1.06	
LM(1)	1.86	

Notes: Adj. R-square is the adjusted regression coefficient of determination.

LM (1) is the LM tests for serial correlation of order one. The critical value at 1 per cent level is 2.57.

Reset (2) is a regression misspecification test. The critical value at 1 per cent level is 7.31.