# CHAPTER 1

# The pathology of unemployment

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"The political revival of free-market ideology in the 1980s is, I presume, based on the market's remarkable ability to root out inefficiency. But not all inefficiencies are created equal. In particular, high unemployment represents a waste of resources so colossal that no one truly interested in efficiency can be complacent about it. It is both ironic and tragic that, in searching out ways to improve economic efficiency, we seem to have ignored the biggest inefficiency of them all." Alan Blinder (1987: 33)

## 1.1 Introduction

Unemployment rates in almost all OECD economies have risen and persisted at higher levels since the first OPEC shocks in the 1970s. The prevailing orthodoxy amongst economists and policy makers sources the persistently high unemployment in institutional arrangements in the labour market, such as wage setting mechanisms and trade unions, and/or faulty government welfare policies, which it is argued have encouraged people to engage in inefficient search or to embrace welfare dependence (for example, Layard, Nickell and Jackman, 1991). As a consequence, the major emphasis of policy has shifted to supply side measures aimed at overcoming these microeconomic constraints. However, after 25 years of harsh cutbacks and structural dislocation, unemployment remains persistently high, but is responsive to changes in aggregate demand (Mitchell, 2001a; see also Chapter 5).

In the midst of the on-going debates about labour market deregulation, minimum wages and taxation reform, the most salient, empirically robust fact that has pervaded the last two decades is that the actual Gross Domestic Product (GDP) growth rate has rarely reached the rate required to maintain, let alone achieve, full employment. The Economic Planning and Advisory Committee (EPAC,1996: 59) stated that "The most obvious labour market failure in Australia in recent years has been the high and sustained level of unemployment."

At the macroeconomic level, activist fiscal policy aimed at maintaining full employment is now eschewed. There are many arguments (fears) used to justify this reluctance, including the need to fight inflation and the need to avoid crowding out in the financial markets. Several chapters in this volume examine

the logic and the empirical validity of these arguments and conclude that there is no basis for restricting the level of net government spending below that which is required to generate full employment. The economies that avoided the plunge into high unemployment over this period maintained a "sector of the economy which effectively functions as an employer of the last resort, which absorbs the shocks which occur from time to time..." (Ormerod, 1994: 203). In Chapters 11 and 12 it is argued that the Federal Government should use public sector job creation to ensure there is an employer of last resort facility in the Australian economy. In this sense, the Government has to redefine its priorities and restore the achievement of full employment as its primary economic objective.

Given the deadweight losses associated with persistently high unemployment, the failure to pursue full employment is irrational. Watts and Mitchell (2000), amongst others, have shown that the costs of unemployment are substantial in terms of lost output and income and the social costs that accompany joblessness. These costs of unemployment dwarf the costs of the so-called microeconomic inefficiencies, which are used to justify the promotion of supply-side policies to increase structural efficiency.

Arthur Okun (1983: 171) argued that the "choice of an aggregate target of resource utilization remains one of the key issues facing policy makers and macroeconomists. Obviously, fuller utilization of labor and capital brings benefits in the form of extra incomes, output, and jobs: at the same time, it clearly imposes costs by increasing inflationary tendencies." It is the juxtaposition between unemployment and inflation that has haunted economic policy making since the Second World War. Prior to the mid 1970s, most economies allowed inflation to ebb and flow while maintaining demand at a level sufficient to fully employ the available labour force. After the mid-1970s, with the concepts of the natural rate and later the Non Accelerating Inflation Rate of Unemployment (NAIRU) dominating the macroeconomic debate, economic policy has abandoned full employment in order to keep inflation in a strait-jacket.

Defenders of this approach will argue that the level of unemployment that defines full employment has risen in most countries over this period, yet the empirical evidence to support this view is missing. This argument is examined in both conceptual and empirical terms in Chapters 5, 10, 11 and 12. The conclusion is consistent with recent developments in the literature, which highlight the problems of using the NAIRU as a guide to policy (see Mitchell, 2000a).

Okun (1983: 171) also popularised the notion "that unemployment was merely the tip of the iceberg that forms in a cold economy. The difference between unemployment rates of 5 percent and 4 percent extends far beyond the creation of jobs for 1 percent of the labor force. The submerged part of the iceberg includes (a) additional jobs for people who do not actively seek work in

a slack labor market but nonetheless take jobs when they become available; (b) a longer workweek reflecting less part-time and more overtime employment; and (c) extra productivity - more output per man-hour - from fuller and more efficient use of labor and capital."

The upgrading hypothesis and the related high-pressure economy model provided a coherent rationale for the adoption of Keynesian policy. Given the significant economic changes that have occurred over the last 25 years, particularly within the labour market, it is interesting to examine the nature of the submerged part of the iceberg associated with the persistently high unemployment that remains as a consequence of misguided government policy. A number of chapters in this volume reassess the notion of cyclical upgrading in the context of these changing labour market conditions.

According to Okun (1983), the consequence of deliberately running the economy at low pressure and tolerating persistently high unemployment is that the bonuses that lie below the tip of the iceberg are lost. Equity considerations also are paramount. Labour is downgraded when the economy is slack and this disadvantages the less-skilled or secondary workers. Workers with relatively more skill are bumped down into lower-productivity employment as the economy contracts and this squeezes out the workers who would normally have occupied these positions. Both groups lose.

It has been well documented that the degree of labour slack is understated by the official unemployment rate. When the probability of gaining employment falls, many unemployed workers abandon active search and wait until their prospects improve. These discouraged workers are officially counted as being not in the labour force even though they share the willingness to work with the official unemployed. These workers are thus better thought of as hidden unemployed.

In Chapter 2 estimates of the extent of underutilisation arising from hidden unemployment across the major demographic groups are presented. The estimates suggest that hidden unemployment remains a significant problem in Australia despite the long period of employment growth since 1993. Hidden unemployment rises and falls with aggregate unemployment and may be addressed directly by policies, which reduce the latter. In Australia, the recorded unemployment rate in August 2001 was 6.8 per cent. Taking into account the estimated hidden unemployment in the same quarter, the adjusted unemployment rate (calculated by expressing the sum of hidden unemployment and recorded unemployment as a percentage of the potential labour force) would be 9.6 per cent. This gives a significantly different picture of the degree of macroeconomic slack and hence of the number of jobs that have to be created to absorb all the idle workers.

The mechanisms that would accompany higher levels of activity were also outlined by Okun (1983). He claimed that changes in the composition of output

and employment were towards higher productivity sectors. Thus, Okun (1983: 172) concludes that "the movement to full employment draws on a reserve army of underemployed as well as of the unemployed." Chapter 3 computes a range of measures of underutilisation and underemployment for Australia and the US. The measures augment the estimates of hidden unemployment in Chapter 2. Together they provide a richer picture of the state of the labour market than is gained if the official unemployment rate is relied upon as the sole measure. Most importantly, while the aggregate unemployment rate in Australia has returned to levels that existed in the late 1980s (after a severe recession in the early 1990s), the level of underemployment and the impact of marginal attachment have risen over that time. In 2000, around 19 per cent of willing labor resources were either underutilised or underemployed. This represents a much bleaker picture of the labour market than is revealed by the official aggregate unemployment rate and provides a strong case for the pursuit of full employment policies.

In Chapter 4, changing output and employment composition by industry over the cycle are examined. The evidence is mixed. In Australia and across the OECD economies generally, the low productivity service sector has been responsible for the bulk of employment growth since the late 1970s. The industries in this sector have high part-time employment shares and high rates of female and teenage participation. It is shown in Chapter 4 that the closure of the employment gap would be accompanied by a change in the demographic composition of industry employment, resulting from increases in the employment shares of teenagers and older workers. In other words, these groups would gain a larger share of the extra jobs than their current share in industry employment would predict. Prime-age males and females experience falling shares in most industries but still would gain substantial numbers of the extra jobs produced in the fully employed economy.

The projections accord with the explanation for the slowdown in productivity since the mid-1970s based on the increasing output shares of low productivity service industries. With more jobs projected to be created in the service sector than the goods producing sector, this trend towards lower productivity growth is likely to continue.

The results also suggest that the ratio of part-time to full-time employment will continue to increase as the aggregate employment gap is closed due to the long term increase in the incidence of female part-time employment across industries and occupations. This has been accompanied by an increase in the percentages of both part-time males and part-time females who are seeking more hours of work.

These developments cannot be construed as upgrading in the Okun sense. The new jobs are likely to be biased towards low-pay, fractional positions, rather

than a preponderance of better paid and higher productivity jobs. The upgrading thesis has to be questioned.

The increasing incidence of non-standard employment in the Australian economy is examined in Chapter 8. It is argued that as the proportion of standard jobs diminishes, those seeking employment will have less choice and will be forced into sub-optimal employment arrangements. Many jobs do not generate sufficient hours of work (and hence income); they are not associated with standard non-wage employment benefits; they have no expectation of continuity of employment; and they do not utilise existing skills and human capital attributes. The indication is that, with more and more new jobs being either temporary or part-time, the extent of underemployment and discouraged unemployment is likely to be increasing, not decreasing. The analysis in this Chapter extends Chapters 2 and 3 by demonstrating that the official unemployment rates understate the extent of labour underutilisation by assuming that those in jobs are exploiting their skills and expertise and are working according to their preferred arrangements, including their desired number of hours. We conclude that these trends lessen the upgrading bonuses suggested by Okun (1983).

The theme of policy failure noted above is developed more fully in Chapters 5, 9 and 11. The conclusion is that mass unemployment occurs because of deficient demand resulting from inadequate levels of net government spending. More detailed analyses of the policy failures in terms of youth (Chapter 6) and older male workers (Chapter 7) support this conclusion.

Chapter 6 reveals that high youth unemployment persists despite the plethora of supply-side policies that have been introduced to combat it. There is also evidence of increasing inequalities within the youth population, both in terms of employment prospects and earnings. Those with low levels of educational attainment are particularly disadvantaged. At risk are those outside formal education and training who are unemployed, in part-time or casual employment or not in the labour force. The current policy regime of mutual obligation, employer-based training schemes and a push to lower youth real wages does not address the problem of a lack of full-time jobs, diminished vocational based career training programs and temporary work traps.

Chapter 7 shows that the current policy of the Australian government, aimed at restricting access to the Disability Support Pension and the Mature Age Allowance, does not address the fundamental problem of a lack of jobs for older male workers. The major disincentive to labour force participation for this group does not appear to relate to pension availability. Most of these workers have abundant stocks of job skills but face a severely constrained labour market where they are particularly disadvantaged. The Chapter argues that rather than focus on supply-side policies, the policy debate should focus on the reasons for

deficient labour demand and should include job creation policy (O'Brien, 2001b).

Okun (1983: 172-73) also argued that a high pressure economy experiences a narrowing of skill differentials and industrial wage differentials. This is relevant for a key plank in the supply side agenda – the alleged need to widen the wage structure to enhance the employment prospects of the less skilled. The OECD's reform strategy emphasises on-going labour market deregulation to increase the responsiveness of wages and other employment benefits to market conditions. Chapter 9 presents evidence to show that more deregulated labour markets and lower levels of activity tend to be associated with greater wage inequality. The claim that the greater polarisation of hourly wages in Australia would promote the expansion of low wage employment is not supported by an analysis of the data. An analysis of occupational employment and wage distributions also fails to support OECD tenets. In occupations where wages have declined relative to the total hourly wage distributions, relatively low or even negative private sector employment growth has occurred. On the other hand, high wage occupations have enjoyed faster private sector employment growth. This suggests that significant structural change with respect to private sector employment has occurred. These changes have been compounded by the collapse of public sector employment in low skill occupations. The significant change in the composition of employment across occupations by educational attainment over the period 1987-96 suggests that, in a weak labour market, employers have been able to practise credentialism. Thus the skills and aptitudes of the unemployed have not constrained employment expansion.

These results support the broad theme of this volume by stressing that improved employment opportunities for the less skilled require a general expansion of employment. Persistently high unemployment is manifested in high rates of labour underutilisation, increased non-standard employment and high levels of polarisation of average weekly earnings. In this sense, unemployment is indeed the tip of the iceberg.

The remainder of this Chapter explores the empirical dimensions of the pathology of unemployment in Australia and other countries and provides background data for the rest of the volume.

## 1.2 Aggregate unemployment

Australia has now experienced the longest period of high unemployment in its history. Figure 1.1 plots the course of inflation and unemployment in Australia since 1970. The rapid rise in the unemployment rate in the mid-1970s has never been reversed. The recessions of the early 1980s and 1990s were both severe, but the economy eventually returned to the corresponding pre-recession unemployment rate. As noted in the introductory section, the shift in policy

towards maintaining low rates of inflation has been successful but at the huge cost of persistently high unemployment.

Figure 1.1 Inflation and unemployment, Australia, 1970-2000
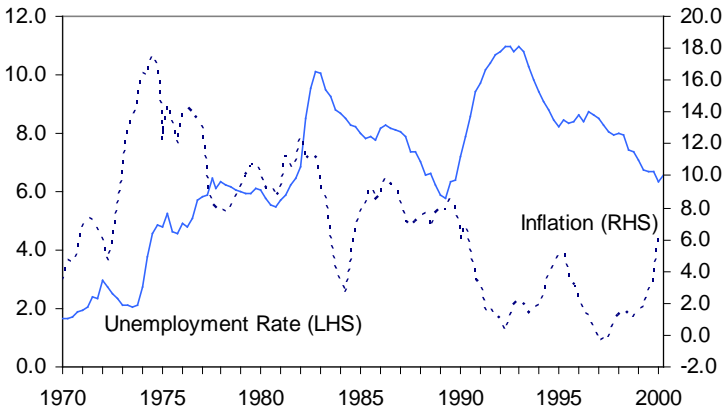


Source: ABS Treasury Model database.

The explanation for this history of unemployment should be based on the striking fact that since December 1974 the unemployment-unfilled vacancies ratio has averaged 11:1. Some aspects of this history are summarised in Table 1.1. Since February 1978, there have been around 3.1 million jobs created of which 54 per cent have been part-time. In that time, the labour force has grown by 3.3 million. The unemployment-vacancy ratio clearly indicates that there has been a persistent demand constraint imposed on the labour market.

Table 1.1 Labour force and employment, Australia, 1978-2001

|  | Labour Force (000s) | Full-time (000s) | Part-time (000s) | Total (000s) | FT/Total (ratio) |
|---|---|---|---|---|---|
| 1978 | 6468.5 | 5099.9 | 885.7 | 5985.6 | 0.85 |
| 2001 (a) | 9768.2 | 6543.6 | 2580.6 | 9124.2 | 0.72 |
| Change | 3299.7 | 1443.7 | 1694.9 | 3138.6 |  |

Source: ABS, *The Labour Force*, Cat. No. 6203.0.
(a) August 2001.

The increasing proportion of part-time work has often been interpreted as a reaction to the desire by workers for more flexible work arrangements. However, over the period 1980-2001, the number of part-time workers wanting

longer hours has risen four-fold indicating that the demand constraint and structural changes promoting the growth of part-time employment have been forced upon the work force. There is also a considerable number of hidden unemployed. Table 1.2 summarises the changes in fractional employment between 1980 and 2001.

Table 1.2 Summary Labour Market Statistics, Australia, 1980-2001

| Labour market measures | 1980 | 1985 | 1990 | 1995 | 2000 | 2001 (a) |
|---|---|---|---|---|---|---|
| Unemployment-Vacancy ratio | 10.6 | 9.2 | 10.0 | 10.4 | 5.5 | 7.1 |
| Emp-Pop ratio (%) | 57.4 | 55.8 | 59.3 | 58.3 | 59.4 | 59.2 |
| Part-time/Total Emp (%) | 16.0 | 18.0 | 21.0 | 25.0 | 26.0 | 28.0 |
| Part-time want more work (%) | 15.2 | 16.8 | 19.2 | 26.1 | 23.4 | 25.0 |
| Unemp want f-t work (%) | 84.0 | 84.0 | 81.0 | 82.0 | 76.0 | 75.0 |
| Hidden Unemployment (000s) | 200.3 | 306.7 | 257.0 | 350.0 | 267.3 | 276.7 |

Source: ABS *The Labour Force*, Cat. No. 6203.0; ABS *Underemployed Workers*, Cat. No. 6265.0; Hidden unemployment estimates from Chapter 2.
(a)  August 2001.

## 1.3 Duration

Figure 1.2 shows the aggregate unemployment rate (columns) and the average duration of unemployment in weeks (line) for the period 1980 to 2000. Duration exhibits a cyclical pattern but it is also trending upwards. It rises with the aggregate unemployment during major downturns but persists at that new level until the next jump upwards. By August 2001, the average duration of an unemployment spell was over 52 weeks. There were 144.8 thousand workers (21.6 per cent of the total unemployed) who had been unemployed for more than 52 weeks. These workers become increasingly disenfranchised from the labour market. Their human capital deteriorates and employers are likely to pass them over when a choice is available.

   Figure 1.3 decomposes unemployment data by gender and reveals some interesting results. Despite differences in earlier periods, male and female unemployment rates have almost converged. The graph shows that males were disproportionately affected by the early 1990s recession and that males suffer significantly longer average duration. At August 2001, there were 93.9 thousand males (24.1 per cent of total males unemployed) who had been unemployed for longer than 52 weeks. The corresponding figure for females was 51 thousand (18.1 per cent of total females unemployed).

Figure 1.2 Unemployment rate (per cent) and average duration (weeks), Australia, 1980-2000
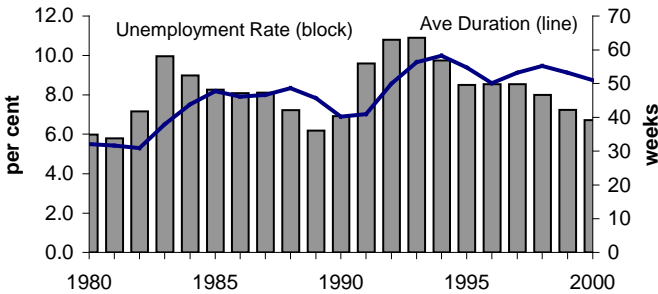


Source:  ABS, *The Labour Force*, Cat. No. 6203.0.

Figure 1.3 Unemployment rates and average duration by gender, Australia, 1978-2001
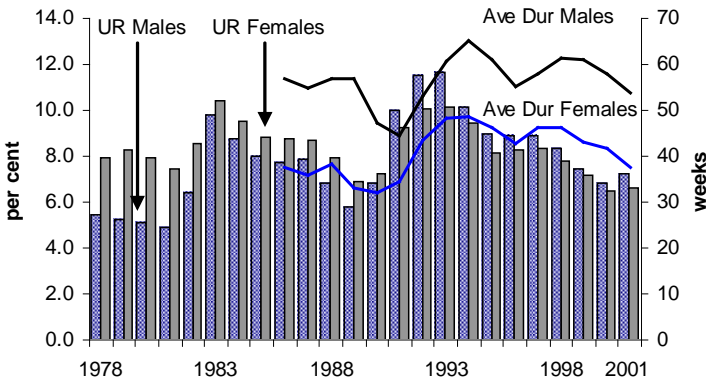


Source:  ABS, *The Labour Force*, Cat. No. 6203.0.

Figure 1.4 shows that the relationship between the proportion of long-term unemployment to total unemployment and the unemployment rate is very close. Several studies have found that a rising proportion of long-term unemployed (PLTU) is not a separate problem from that of the general rise in unemployment (Chapman *et* al., 1992; EPAC, 1996). This relationship is examined in more detail in Chapter 5.

Figure 1.4 Long-term unemployment and the unemployment rate, Australia,
 1978-2000
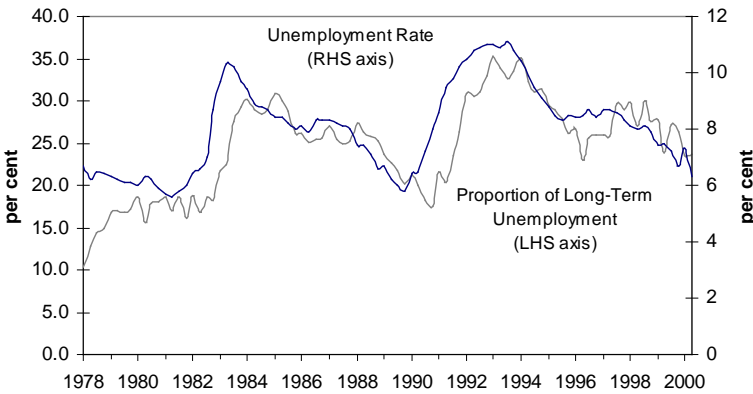


Source: ABS, *The Labour Force*, Cat. No. 6203.0.

## 1.4 Demography

### 1.4.1 Age-gender distribution

Figure 1.5 shows the distribution of unemployment by age and gender for: (a)
the cyclical peak at September 2001 and (b) the cyclical trough in September
1993. It is clear that in both periods the unemployment rate falls with age until
prime-age and then worsens for older workers. The comparison also shows that
recession impacts disproportionately on younger and older workers. The
outcomes for older males during the 1993 recession are striking. The results are
consistent with the upgrading hypothesis outlined in Section 1.1.

### 1.4.2 Compositional analysis

Perry (1970), seeking a "non-natural" explanation for the ostensible shift in the
Phillips curve during the late 1960s, popularised the idea that the full
employment unemployment rate had increased because the share of groups with
higher than average unemployment rates in the labour force had increased.
Mitchell (1984: 137) argues that "... if demographic factors are to blame for the
upward shift in Australia's unemployment rate, then the groups experiencing
high unemployment rates must have grown drastically as a proportion of the
work force. This has not been the case in Australia where conflicting tendencies
have been at work."

Figure 1.5 Unemployment rates by age and gender, Australia, September 2001 and September 1993
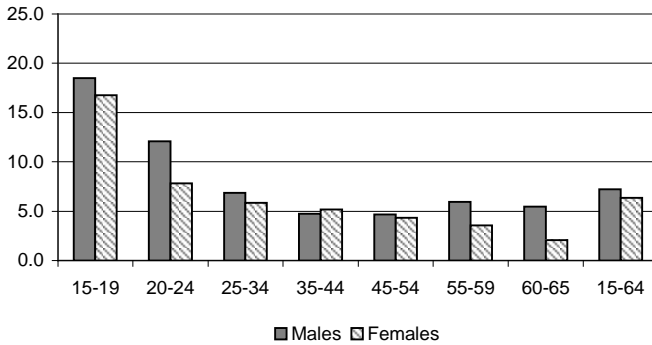


(a) September 2001 Peak
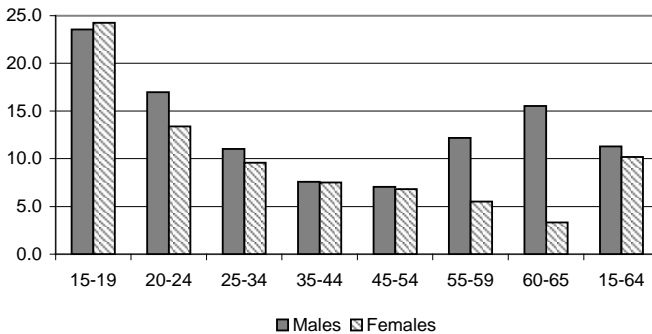


(b) September 1993 Trough

Source: ABS, *The Labour Force*, Cat. No. 6203.0.

Mitchell (1987b) examined the proposition that the full employment unemployment rate had risen from around 2 per cent in the 1960s to 8 per cent in the 1980s. He used an adjusted unemployment rate (the unemployment rate which would have existed in November 1985 if the composition of the labour force with respect to age and sex had been the same as it was in November 1968) to explore this issue (Perry, 1970). It was found that compositional changes in the labour force had not been responsible for anything but the smallest increase in the aggregate unemployment rate (based on age-sex participation adjustments) over that time period. In this section, we update that

analysis to explore the longer-term impacts of changes in labour force composition by age-gender.

Table 1.3 Labour force weights and unemployment rates by age and gender, Australia, various years

|  | 1968 | 1978 | | 1989 | | 1998 | | 2000 (a) | |
|---|---|---|---|---|---|---|---|---|---|
|  | Weight | Weight | UR | Weight | UR | Weight | UR | Weight | UR |
| **Males** | | | | | | | | | |
| 15-19 | 9.0 | 9.9 | 16.3 | 8.8 | 12.9 | 7.0 | 19.7 | 8.1 | 19.4 |
| 20-24 | 13.0 | 13.1 | 8.8 | 12.3 | 8.0 | 11.3 | 13.0 | 10.9 | 10.1 |
| 25-34 | 22.0 | 26.9 | 3.9 | 27.1 | 5.1 | 25.2 | 7.9 | 24.0 | 6.1 |
| 35-44 | 22.0 | 19.8 | 3.3 | 24.4 | 3.5 | 24.7 | 5.8 | 24.2 | 4.8 |
| 45-54 | 19.0 | 17.7 | 3.3 | 16.4 | 3.0 | 20.5 | 5.4 | 20.7 | 4.6 |
| 55-59 | 9.0 | 7.0 | 3.7 | 5.8 | 4.6 | 6.2 | 7.4 | 6.5 | 4.9 |
| 60-64 [(b)] | 5.0 | 4.1 | 3.1 | 3.8 | 7.2 | 3.2 | 8.4 | 3.4 | 4.6 |
| 65+ | | 1.7 | 2.5 | 1.4 | 1.2 | 1.9 | 1.8 | 2.0 | 1.5 |
| Total | 100.0 | 100.0 | 5.5 | 100.0 | 5.4 | 100.0 | 8.2 | 100.0 | 6.8 |
| **Females** | | | | | | | | | |
| 15-19 | 19.0 | 15.7 | 17.2 | 11.7 | 14.6 | 8.8 | 17.3 | 10.1 | 16.1 |
| 20-24 | 19.0 | 17.2 | 9.6 | 15.1 | 7.9 | 12.8 | 10.6 | 12.4 | 8.7 |
| 25-34 | 17.0 | 24.8 | 6.4 | 26.7 | 5.8 | 24.5 | 6.3 | 23.6 | 5.0 |
| 35-44 | 20.0 | 19.7 | 4.2 | 25.9 | 3.9 | 25.1 | 6.0 | 24.4 | 4.4 |
| 45-54 | 17.0 | 15.3 | 4.0 | 15.0 | 4.1 | 21.2 | 5.1 | 21.3 | 3.8 |
| 55-59 [(b)] | 8.0 | 4.6 | 3.4 | 3.4 | 2.6 | 4.8 | 5.9 | 5.2 | 4.9 |
| 60-64 | | 1.8 | 1.0 | 1.5 | 2.6 | 1.9 | 2.8 | 2.0 | 2.1 |
| 65+ | | 0.9 | 1.4 | 0.7 | 1.3 | 1.0 | 0.2 | 0.9 | 1.5 |
| Total | 100.0 | 100.0 | 7.6 | 100.0 | 6.2 | 100.0 | 7.3 | 100.0 | 6.1 |
| **Persons** | | | | | | | | | |
| 15-19 | 13.0 | 12.0 | 16.8 | 10.0 | 13.7 | 7.8 | 18.1 | 9.0 | 17.8 |
| 20-24 | 15.0 | 14.6 | 9.1 | 13.5 | 7.9 | 11.9 | 11.9 | 11.6 | 9.4 |
| 25-34 | 21.0 | 26.1 | 4.7 | 27.0 | 5.4 | 24.9 | 7.2 | 23.9 | 5.6 |
| 35-44 | 21.0 | 19.7 | 3.6 | 25.0 | 3.7 | 24.9 | 5.9 | 24.3 | 4.6 |
| 45-54 | 19.0 | 16.8 | 3.5 | 15.8 | 3.4 | 20.8 | 5.3 | 21.0 | 4.3 |
| 55-59 | 7.0 | 6.1 | 3.6 | 4.8 | 4.0 | 5.6 | 6.8 | 5.9 | 4.9 |
| 60-64 | 4.0 | 3.3 | 2.7 | 2.8 | 6.2 | 2.6 | 6.6 | 2.8 | 3.9 |
| 65+ | | 1.4 | 2.3 | 1.1 | 1.2 | 1.5 | 1.3 | 1.5 | 1.5 |
| Total | 100.0 | 100.0 | 6.2 | 100.0 | 5.7 | 100.0 | 7.8 | 100.0 | 6.5 |

Source: ABS, *The Labour Force*, Cat. No. 6203.0.
(a) As at December, 2000. (b) For 1968, the 60-64 age group for males includes 64+, and for females the 55-59 age group includes 60+.

Table 1.4 Weighted unemployment rates and percentage contribution to December 2000 unemployment by age and gender

| | 2000 (a) | Weighted Unemployment Rate | | | | Percentage contribution 2000 Unemployment Rate | | | |
|---|---|---|---|---|---|---|---|---|---|
| | UR | 1978 Weight | 1989 Weight | 1998 Weight | 2000 Weight | 1978 Weight | 1989 Weight | 1998 Weight | 2000 Weight |
| | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) |
| **Males** | | | | | | | | | |
| 15-19 | 19.4 | 1.9 | 1.7 | 1.4 | 1.6 | 22.1 | 20.3 | 16.9 | 23.2 |
| 20-24 | 10.1 | 1.7 | 1.6 | 1.5 | 1.1 | 18.0 | 18.7 | 18.0 | 16.3 |
| 25-34 | 6.1 | 2.1 | 2.2 | 2.0 | 1.5 | 24.5 | 25.1 | 24.5 | 21.6 |
| 35-44 | 4.8 | 1.2 | 1.4 | 1.4 | 1.2 | 17.6 | 16.6 | 17.6 | 17.3 |
| 45-54 | 4.6 | 1.0 | 0.9 | 1.1 | 1.0 | 13.7 | 10.4 | 13.7 | 14.1 |
| 55-59 | 4.9 | 0.5 | 0.4 | 0.5 | 0.3 | 5.6 | 5.0 | 5.6 | 4.7 |
| 60-64 | 4.6 | 0.4 | 0.3 | 0.3 | 0.2 | 3.3 | 3.7 | 3.3 | 2.4 |
| 65+ | 1.5 | 0.0 | 0.0 | 0.0 | 0.0 | 0.4 | 0.3 | 0.4 | 0.4 |
| Total | 6.8 | 8.8 | 8.6 | 8.2 | 6.8 | 100.0 | 100.0 | 100.0 | 100.0 |
| **Females** | | | | | | | | | |
| 15-19 | 16.1 | 2.7 | 2.0 | 1.5 | 1.6 | 32.5 | 25.7 | 20.8 | 26.7 |
| 20-24 | 8.7 | 1.8 | 1.6 | 1.4 | 1.1 | 21.7 | 20.4 | 18.5 | 17.7 |
| 25-34 | 5.0 | 1.6 | 1.7 | 1.5 | 1.2 | 18.5 | 21.3 | 20.9 | 19.5 |
| 35-44 | 4.4 | 1.2 | 1.6 | 1.5 | 1.1 | 14.1 | 19.8 | 20.5 | 17.6 |
| 45-54 | 3.8 | 0.8 | 0.8 | 1.1 | 0.8 | 9.3 | 9.7 | 14.7 | 13.4 |
| 55-59 | 4.9 | 0.3 | 0.2 | 0.3 | 0.3 | 3.2 | 2.6 | 3.8 | 4.2 |
| 60-64 | 2.1 | 0.1 | 0.0 | 0.1 | 0.0 | 0.6 | 0.5 | 0.7 | 0.7 |
| 65+ | 1.5 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.2 |
| Total | 6.1 | 8.4 | 7.9 | 7.3 | 6.1 | 100.0 | 100.0 | 100.0 | 100.0 |
| **Persons** | | | | | | | | | |
| 15-19 | 17.8 | 2.2 | 1.8 | 1.4 | 1.6 | 25.5 | 22.1 | 18.1 | 24.6 |
| 20-24 | 9.4 | 1.7 | 1.6 | 1.4 | 1.1 | 20.5 | 19.5 | 18.3 | 16.9 |
| 25-34 | 5.6 | 1.9 | 2.0 | 1.8 | 1.3 | 22.2 | 23.7 | 23.1 | 20.7 |
| 35-44 | 4.6 | 1.2 | 1.5 | 1.5 | 1.1 | 13.7 | 18.0 | 18.9 | 17.4 |
| 45-54 | 4.3 | 0.9 | 0.8 | 1.1 | 0.9 | 10.5 | 10.2 | 14.2 | 13.8 |
| 55-59 | 4.9 | 0.4 | 0.3 | 0.4 | 0.3 | 4.9 | 4.0 | 4.9 | 4.5 |
| 60-64 | 3.9 | 0.2 | 0.2 | 0.2 | 0.1 | 2.6 | 2.3 | 2.3 | 1.7 |
| 65+ | 1.5 | 0.0 | 0.0 | 0.0 | 0.0 | 0.2 | 0.2 | 0.3 | 0.4 |
| Total | 6.5 | 8.5 | 8.2 | 7.8 | 6.5 | 100.0 | 100.0 | 100.0 | 100.0 |

Source: see Table 1.
(a) As at December, 2000.

Table 1.3 shows the labour force weights and unemployment rates by age and gender from 1968 to the present. The 15-24 age group for both males and females have the highest unemployment rates. Their share of the labour force has declined substantially since 1968. These trends are contrary to the compositional argument. Further, prime-age females (25-54 year olds), who have expanded their share significantly over the last 30 years, experience lower unemployment rates than equivalent-aged males.

Table 1.4 uses this information to calculate different measures of the unemployment rate in December 2000 using different weights. The unemployment rate shown in Column 2 is the specific unemployment rate for the group in question as at December 2000. The aggregate unemployment rate (total) is the weighted-average of these specific rates using the December 2000 labour force weights. Columns (3) to (6) calculate the weighted-average of the specific unemployment rates for December 2000, using the weights of the various periods shown. For example, the male unemployment rate for December 2000 in total was 6.8 per cent (using the actual December 2000 weights). If we had weighted the actual December 2000 unemployment rates (by age) with the 1978 labour force weights, the unemployment rate for males would have been 8.8 per cent. Both the male and female unemployment rates would have been higher if the labour force composition had remained as it was in 1978. The aggregate unemployment rate would have been substantially higher (around 2 percentage points) if the composition of the labour force had remained unchanged since 1978.

Columns (7) to (10) convert the weighted unemployment rates for each age-gender group into a measure of the percentage contribution of each group to the December 2000 unemployment rate. It is clear that groups with the high relative unemployment rates have reduced their impact on the overall unemployment rate. The offsetting nature of the compositional changes is also shown. For example, the 15-19, 20-24 and 25-34 age groups now contribute less to the aggregate unemployment rate while the two older groups 35-44 and 45-54 now contribute relatively more.

The conclusion from this analysis is clear. The changing composition of the labour force has not, in itself, generated higher unemployment rates.

## 1.5 Regional distribution

The regional distribution of unemployment highlights another aspect of the unequal incidence of unemployment. Table 1.5 shows employment, labour force participation rates and unemployment rates for the 19 DEWRSB Small Area Labour Markets at the June quarter 2001. Sydney and Melbourne account for 41 per cent of national employment and both exhibit lower than average unemployment rates and above-average participation rates. The Northern

Territory and the Australian Capital Territory both have notably higher participation rates and average to below-average unemployment rates.

Table 1.5 Regional labour market indicators, Australia, June 2001 (a)

| | Employment | | Labour Force Participation | Unemployment Rate |
|---|---|---|---|---|
| | (000s) | % of Total | (%) | (%) |
| Sydney | 2029.3 | 22.2 | 64.7 | 5.1 |
| Hunter and North Coast | 429.6 | 4.7 | 57.1 | 9.2 |
| Illawarra and SE NSW (b) | 256.0 | 2.8 | 58.1 | 5.9 |
| Western NSW (b) | 215.5 | 2.4 | 60.2 | 4.7 |
| Riverina | 134.9 | 1.5 | 65.2 | 5.6 |
| Melbourne  (b) | 1717.3 | 18.8 | 64.7 | 6.2 |
| Western Victoria (b) | 374.5 | 4.1 | 62.0 | 6.2 |
| Eastern Victoria | 223.4 | 2.4 | 60.6 | 6.6 |
| Brisbane | 1141.9 | 12.5 | 65.1 | 9.0 |
| Southern Queensland | 199.1 | 2.2 | 61.9 | 9.1 |
| Central and Northern QLD | 356.9 | 3.9 | 68.0 | 8.0 |
| Adelaide (b) | 493.3 | 5.4 | 59.7 | 7.8 |
| South Australia Country (b) | 180.4 | 2.0 | 61.1 | 6.1 |
| Perth | 688.9 | 7.5 | 66.1 | 7.1 |
| Southern Western Australia | 128.2 | 1.4 | 64.5 | 8.4 |
| Greater Western Australia | 118.4 | 1.3 | 75.3 | 6.8 |
| Tasmania | 200.3 | 2.2 | 58.6 | 8.2 |
| Northern Territory | 96.2 | 1.1 | 72.7 | 6.8 |
| Australian Capital Territory | 167.4 | 1.8 | 72.6 | 5.5 |
| Australia | 9151.4 | 100.0 | 63.8 | 6.8 |

Source: DEWRSB, Small Area Labour Markets - Australia - June 2001.
(a) In April 2001, the ABS revised the definition of employment and unemployment used in the monthly Labour Force Survey. Estimates at the State/Territory level have been backcast by ABS to April 1986. Accordingly, the estimates in this table for Tasmania, the two Territories and Australia are not strictly comparable with those for the other Labour Market Regions.
(b) While the boundaries of these regions align as closely as possible to the boundaries of ABS labour force regions, there are a number of minor differences.

The problem areas appear to be Adelaide, Brisbane, the states of Queensland and Tasmania and the regions of the Hunter and North Coast and South Western Australia. The diversity of these regions makes it hard to construct a simplified explanation, such as one based on an urban-regional dichotomy.

Using the 186 DEETYA administrative regions, EPAC (1996: 68) concluded that the "lowest unemployment rates were typically recorded in wealthier areas of the big cities and some rural areas… The highest unemployment rates typically occurred in poorer areas of the big cities and a range of fast-growing coastal centres. Interestingly, few were in the inland areas although many of these suffer form narrow economic bases."

## 1.6 Persistence of unemployment

Mitchell (1993) represented the Natural Rate Hypothesis (NRH) characterised as a trend-stationary process and the Hysteresis Hypothesis (HH) as a unit root process. He juxtaposed the two competing versions of labour market dynamics in terms of their implications for using aggregate demand policies to reduce unemployment. He introduced the concept of unemployment persistence to show that while there are clear conceptual differences between these representations, on a practical basis the divide is somewhat blurred. Mitchell (2001b: 3) said "In analytical terms, persistence is a special case of the NRH. An economy with strong persistence takes many periods to adjust back to equilibrium following a shock. So even if the NRH is a true model of the economy, persistence means that the effects of shocks have long memories and that short-term macroeconomic policy can be effective."

Table 1.6 shows the AR(1) coefficients on the lagged unemployment rate for regressions, which also included a constant. The full samples periods are shown in column 2 and later columns should be interpreted within that constraint (see notes accompanying the Table). The results are indicative only, because the AR(1) specification may not be the best representation of the underlying data generating processes. With that qualification in mind, the results reveal that, in general, the degree of persistence captured by the AR(1) coefficient has shifted over time. In most cases (where estimation was possible), there was a noticeable rise following the first oil shock in 1974. This was a sharp rise in Australia, Japan, Norway, Spain, the United Kingdom, and a less severe rise in Austria, Canada, Finland and Germany. The rising trend was reversed somewhat in the 1990s for Australia, Finland, Japan and Norway. In the cases of Italy and the United States, the degree of persistence appeared to fall after the oil shocks and continued to do so over the 1990s. The results still convey high degrees of persistence in most countries (Italy, Japan, and Norway are probably exceptions).

Table 1.6 Shifting autoregressive parameters for OECD unemployment rates

| Country | Full Sample | | Pre-oil | Post-oil | 1970s | 1980s | 1990s |
|---|---|---|---|---|---|---|---|
| | | | 61:4 73:1 | 74:1 89:4 | 70:1 79:4 | 80:1 89:4 | 90:1 00:4 |
| Australia | 1961:4 2000:4 | 0.970 | 0.760 | 0.900 | 0.980 | 0.963 | 0.940 |
| Austria | 1961:4 2000:4 | 0.995 | 0.974 | 0.987 | 0.825 | 0.942 | 0.911 |
| Belgium | 1980:4 2000:4 | 0.919 | | | | 0.850 | 0.969 |
| Canada | 1961:4 2000:4 | 0.988 | 0.959 | 0.947 | 0.894 | 0.954 | 0.990 |
| Denmark | 1971:4 2000:4 | 0.961 | | 0.824 | 0.956 | 0.845 | 1.026 |
| Finland | 1961:4 2000:4 | 0.984 | 0.918 | 0.961 | 0.990 | 1.098 | 0.917 |
| France | 1980:1 2000:4 | 0.947 | | | | 0.927 | 0.973 |
| Germany | 1963:4 2000:4 | 0.989 | 0.909 | 0.927 | 0.970 | 0.918 | 0.967 |
| Italy | 1961:4 2000:4 | 0.986 | 0.937 | 0.982 | 0.918 | 0.954 | 0.808 |
| Japan | 1961:4 2000:4 | 1.005 | 0.697 | 0.885 | 0.949 | 0.922 | 1.008 |
| Netherlands | 1971:4 2000:4 | 0.948 | | 0.888 | 0.895 | 0.939 | 1.037 |
| Norway | 1973:4 2000:4 | 0.954 | | 0.929 | 0.554 | 0.959 | 0.972 |
| Portugal | 1985:1 2000:4 | 0.945 | | | | 0.976 | 0.947 |
| Spain | 1966:1 2000:4 | 0.991 | 1.046 | 0.964 | 1.002 | 0.884 | 1.020 |
| Sweden | 1971:4 2000:4 | 0.991 | | 0.975 | 0.910 | 0.992 | 0.922 |
| Switzerland | 1984:4 2000:4 | 0.989 | | | | 1.039 | 0.936 |
| UK | 1961:4 2000:4 | 0.987 | 0.925 | 0.949 | 0.969 | 0.910 | 1.028 |
| United States | 1961:4 2000:4 | 0.988 | 0.949 | 0.939 | 0.855 | 0.984 | 1.018 |

Source: Original data OECD Main Economic Indicators; these calculations Mitchell (2001b). The full samples are defined in column 2. In terms of the samples indicated in columns 4 to 8, starting dates for estimation are determined from the full sample starting dates. For example, for Switzerland, the 1980s starts at 1984:4. Missing values indicate no data for that sample. Some results were not reported because of too few observations (Switzerland and Portugal in the 1980s).

Mitchell (2001b) also computes the measure of persistence proposed by Campbell and Mankiw (1987), the variance ratio measures from Cochrane (1988), and the Andrews (1993) median-unbiased estimator. All measures confirm the high degree of persistence to shocks that is indicated in Table 1.6.

The interpretation of these persistence measures in terms of conventional depictions of macroeconomic dynamics is interesting. The dominant orthodox view is that there are two stylised facts about the business cycle: "First, fluctuations in output are assumed to be driven primarily by shocks to aggregate demand, such as monetary policy, fiscal policy, or animal spirits. Second,

shocks to aggregate demand are assumed to have only a temporary effect on output; in the long run the economy returns to the natural rate. These two premises underlie many monetarist and neo-Keynesian theories" (Campbell and Mankiw, 1987: 876). If real variables are highly persistent it is clear that one or both of these facts is in error. Accordingly, non-intervention following a negative shock is a costly strategy when the process receiving the shock is highly persistent.

## 1.8 The international context

As noted in the introductory section, high unemployment rates have persisted in almost all OECD economies since the 1970s. Table 1.7 (at the end of the Chapter) summarises the movements in unemployment rates, inflation rates and the misery index (sum of unemployment and inflation rates) for selected OECD countries since the early 1960s. In the period up until the mid-1970s, low unemployment rates with moderate inflation rates were the norm. The misery index rose dramatically in the second half of the 1970s which corresponded with the stagflationary events surrounding the OPEC price rises and the inappropriate policy responses that followed. Australia locked itself into a double-digit misery index from that point on, with unemployment accounting for an increasing proportion over time as deflationary policies controlled inflation. Most countries followed this pattern of adjustment to the increase in inflation which accompanied the first oil shock. They allowed unemployment rates to rise and drive inflation rates down. The experience of monetarist policy has been very successful at one thing - driving down inflation - but at the high cost of the persistent underutilisation of labour.

It is significant to consider the economic policies of countries such as Norway, Portugal and Japan over the period shown. Although they experienced the inflationary impulse, they resisted harsh deflationary policies and have largely maintained full employment. Chapter 10 examines in more detail the behaviour of OECD economies from this angle.

Table 1.8 shows the shift in inflation misery since the 1960s. Overall misery in the 1960s was largely due to inflation, although many would argue that this was hardly misery. By the late-1980s, most countries had achieved low inflation, but at the cost of high unemployment and its attendant output and social losses.

Table 1.9 (at the end of the Chapter) shows the evolution of unemployment to unfilled vacancies (U/V) ratios for various OECD economies since 1973. The trend towards higher U/V ratios is clear. Layard, Nickell and Jackman (1991: 4) argue that the level of unemployment has risen sharply relative to the level of vacancies because of a failure of the unemployed to seek work as effectively as before. It is clear that the ratios have risen over the period with interspersed cycles. However, if search behaviour was to explain these increases, we might

expect an upward trend in unfilled vacancies. Otherwise, it is more plausible that the problem has been demand-side oriented, and the rising ratios signal this. Chapter 5 analyses this debate in more detail.

Table 1.8 Inflation as a percentage of total misery in OECD Countries, 1960-2000

| | Average 1963-75 | Average 1976-79 | Average 1980-89 | Average 1990-94 | Average 1995-2000 | 2000 |
|---|---|---|---|---|---|---|
| Australia | 70.1 | 67.7 | 52.8 | 24.5 | 23.5 | 40.4 |
| Austria | 77.4 | 78.6 | 53.6 | 41.1 | 21.5 | 33.6 |
| Belgium | 73.7 | 59.2 | 34.1 | 25.8 | 15.5 | 26.5 |
| Canada | 42.1 | 53.7 | 41.0 | 21.6 | 17.9 | 28.6 |
| Denmark | 86.4 | 65.6 | 49.4 | 19.7 | 29.2 | 37.9 |
| Finland | 76.2 | 70.1 | 59.4 | 22.2 | 10.8 | 25.6 |
| France | 68.5 | 67.5 | 45.1 | 19.4 | 10.4 | 14.9 |
| Germany | 79.9 | 52.7 | 30.0 | 35.4 | 14.1 | 20.0 |
| Greece | 53.5 | 88.1 | 74.6 | 64.9 | 33.9 | 21.7 |
| Italy | 59.1 | 75.3 | 57.1 | 34.9 | 20.1 | 19.5 |
| Japan | 85.0 | 78.5 | 50.4 | 44.7 | 5.5 | -15.7 |
| Luxembourg | 98.2 | 93.1 | 77.0 | 60.3 | 34.2 | 54.4 |
| Netherlands | 76.3 | 63.7 | 26.4 | 30.9 | 32.8 | 51.3 |
| New Zealand | 96.5 | 93.8 | 73.2 | 22.7 | 21.7 | 30.4 |
| Norway | 77.2 | 82.3 | 75.1 | 33.1 | 38.4 | 47.3 |
| Portugal | 70.3 | 77.0 | 69.6 | 62.4 | 34.8 | 41.7 |
| Spain | 73.5 | 76.6 | 37.0 | 22.1 | 13.9 | 19.6 |
| Sweden | 72.9 | 84.0 | 76.2 | 50.7 | 11.0 | 17.7 |
| UK | 74.1 | 77.1 | 43.8 | 34.5 | 30.6 | 34.5 |
| USA | 42.9 | 53.4 | 43.3 | 36.2 | 35.5 | 45.9 |

Source: Table 1.7.

## 1.9 The way ahead

In this volume, there is a comprehensive case made for governments to ensure that net spending is sufficient to ensure full employment. The high costs of unemployment should be sufficient to require urgent action. The economist who developed the upgrading hypothesis was not a supporter of government inaction when it came to unemployment. Okun (1981: 358-359) said "Some fear that a broader and more comprehensive strategy will turn into greater involvement by government and an excuse for ever more regulation of and interference with the market system. What they see as the danger of tampering, I see as the possibility

for correcting an externality that no efficient system should tolerate. What they see as a minimal exercise of the power and authority of government, I see as an aloof authoritarianism and stern paternalism. I would be morally outraged by a local ordinance designed to promote fire prevention by prohibiting the fire department from responding to any alarms for a month. This is a strong analogy to attempting to prevent inflation by committing the government not to deal with a recession no matter how deep it becomes. A democratic society must have better cooperative ways to instill such socially desirable efforts than by threat and fear."

Table 1.7 Unemployment rates, inflation rates and misery indexes for OECD economies, selected years

| | Average 1963-75 | | | Average 1975-79 | | | Average 1980-89 | | | Average 1990-94 | | | Average 1995-2000 | | | 2000 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | UR % | INF % | MI % | UR % | INF % | MI % | UR % | INF % | MI % | UR % | INF % | MI % | UR % | INF % | MI % | UR % | INF % | MI % |
| Australia | 1.9 | 4.4 | 6.2 | 5.5 | 11.6 | 17.1 | 7.5 | 8.4 | 15.9 | 9.4 | 3.0 | 12.4 | 7.8 | 2.4 | 10.1 | 6.6 | 4.5 | 11.0 |
| Austria | 1.3 | 4.6 | 5.9 | 1.5 | 5.5 | 7.0 | 3.3 | 3.8 | 7.2 | 4.9 | 3.4 | 8.4 | 5.4 | 1.5 | 6.9 | 4.6 | 2.3 | 7.0 |
| Belgium | 1.5 | 4.2 | 5.8 | 5.2 | 7.6 | 12.8 | 9.5 | 4.9 | 14.4 | 8.2 | 2.8 | 11.0 | 8.9 | 1.6 | 10.5 | 7.0 | 2.5 | 9.6 |
| Canada | 5.3 | 3.8 | 9.1 | 7.6 | 8.9 | 16.5 | 9.4 | 6.5 | 15.9 | 10.1 | 2.8 | 12.9 | 8.3 | 1.8 | 10.1 | 6.8 | 2.7 | 9.5 |
| Denmark | 1.2 | 7.9 | 9.1 | 5.2 | 9.9 | 15.1 | 7.1 | 6.9 | 14.0 | 8.5 | 2.1 | 10.6 | 5.5 | 2.3 | 7.8 | 4.8 | 2.9 | 7.7 |
| Finland | 2.0 | 6.5 | 8.5 | 5.1 | 11.9 | 16.9 | 4.9 | 7.2 | 12.1 | 11.7 | 3.3 | 15.0 | 11.8 | 1.4 | 13.2 | 9.8 | 3.4 | 13.2 |
| France | 2.4 | 5.2 | 7.5 | 4.9 | 10.1 | 15.0 | 9.0 | 7.4 | 16.4 | 10.7 | 2.6 | 13.3 | 11.5 | 1.3 | 12.8 | 9.7 | 1.7 | 11.3 |
| Germany | 0.9 | 3.6 | 4.5 | 3.7 | 4.1 | 7.8 | 6.8 | 2.9 | 9.7 | 6.9 | 3.8 | 10.7 | 8.6 | 1.4 | 10.0 | 7.8 | 1.9 | 9.7 |
| Greece | 4.4 | 5.1 | 9.5 | 1.9 | 14.1 | 16.0 | 6.6 | 19.5 | 26.1 | 8.8 | 16.2 | 25.0 | 10.8 | 5.5 | 16.4 | 11.3 | 3.1 | 14.5 |
| Italy | 4.0 | 5.7 | 9.7 | 5.1 | 15.6 | 20.7 | 8.4 | 11.2 | 19.7 | 9.9 | 5.3 | 15.3 | 11.5 | 2.9 | 14.5 | 10.7 | 2.6 | 13.3 |
| Japan | 1.3 | 7.3 | 8.5 | 2.0 | 7.5 | 9.5 | 2.5 | 2.5 | 5.0 | 2.5 | 2.0 | 4.5 | 4.1 | 0.2 | 4.3 | 4.7 | -0.6 | 4.1 |
| Lux. | 0.1 | 3.7 | 3.7 | 0.5 | 7.0 | 7.5 | 1.4 | 4.8 | 6.2 | 2.0 | 3.1 | 5.1 | 3.1 | 1.6 | 4.7 | 2.6 | 3.2 | 5.8 |
| Neth. | 1.7 | 5.3 | 7.0 | 3.8 | 6.8 | 10.6 | 8.0 | 2.9 | 10.9 | 6.3 | 2.8 | 9.2 | 4.4 | 2.1 | 6.5 | 2.4 | 2.5 | 4.9 |
| NZ | 0.2 | 5.3 | 5.5 | 1.0 | 14.3 | 15.3 | 4.3 | 11.9 | 16.2 | 8.7 | 2.6 | 11.3 | 6.6 | 1.8 | 8.4 | 6.0 | 2.6 | 8.6 |
| Norway | 1.6 | 5.4 | 7.0 | 1.8 | 8.6 | 10.4 | 2.8 | 8.3 | 11.1 | 5.5 | 2.7 | 8.2 | 3.7 | 2.3 | 6.1 | 3.4 | 3.1 | 6.5 |
| Portugal | 3.2 | 7.5 | 10.7 | 6.9 | 23.2 | 30.1 | 7.7 | 17.7 | 25.4 | 5.5 | 9.1 | 14.6 | 5.5 | 2.9 | 8.4 | 4.0 | 2.9 | 6.9 |
| Spain | 2.7 | 7.5 | 10.2 | 5.8 | 18.9 | 24.7 | 17.5 | 10.3 | 27.7 | 19.7 | 5.6 | 25.2 | 18.4 | 3.0 | 21.3 | 14.1 | 3.4 | 17.5 |
| Sweden | 1.9 | 5.0 | 6.9 | 1.9 | 9.7 | 11.6 | 2.5 | 7.9 | 10.4 | 5.6 | 5.8 | 11.4 | 6.6 | 0.8 | 7.4 | 4.7 | 1.0 | 5.7 |
| UK | 2.1 | 5.9 | 7.9 | 4.7 | 15.7 | 20.3 | 9.6 | 7.5 | 17.0 | 8.8 | 4.6 | 13.4 | 6.4 | 2.8 | 9.2 | 5.5 | 2.9 | 8.5 |
| USA | 5.0 | 3.7 | 8.7 | 7.0 | 8.0 | 15.1 | 7.3 | 5.6 | 12.8 | 6.4 | 3.6 | 10.1 | 4.6 | 2.5 | 7.2 | 4.0 | 3.4 | 7.4 |

Table 1.9 OECD Unemployment to unfilled vacancy ratios, various years

| | AUS | AUSTRIA | BEL | CAN | FIN | FRA | GER | JAP | NLD | NOR | POR | SPA | SWE | UK | US |
|------|------|---------|-------|------|------|------|------|-----|------|------|-------|-------|------|------|-----|
| 1973 | 0.8 | 0.6 | na | 0.6 | 2.2 | na | 0.5 | 1.0 | na | 1.5 | na | na | 2.7 | 1.8 | 0.7 |
| 1980 | 10.6 | 1.5 | 45.6 | 5.8 | 9.3 | na | 2.9 | 2.9 | na | 4.0 | 31.5 | 97.7 | 1.6 | 12.2 | 1.1 |
| 1981 | 9.4 | 2.8 | 78.6 | 6.0 | 9.3 | na | 6.3 | 3.4 | na | 6.1 | 30.0 | 164.1 | 3.7 | 26.6 | 1.3 |
| 1982 | 15.9 | 6.3 | 101.8 | 16.5 | 12.1 | na | 18.0 | 3.9 | na | 10.6 | 33.9 | 170.9 | 7.0 | 24.4 | 2.3 |
| 1983 | 21.1 | 8.7 | 71.8 | 18.1 | 11.6 | na | 29.7 | 4.3 | na | 21.6 | 43.4 | 133.5 | 7.1 | 22.0 | 2.1 |
| 1984 | 13.5 | 7.8 | 56.0 | 13.5 | 11.1 | na | 25.5 | 4.0 | na | 14.6 | 99.3 | 119.2 | 4.5 | 20.8 | 1.2 |
| 1985 | 9.2 | 6.5 | 22.8 | 10.4 | 10.5 | na | 20.6 | 3.9 | na | 9.0 | 111.4 | 77.6 | 3.4 | 19.9 | 1.1 |
| 1986 | 9.6 | 6.2 | 23.5 | 8.1 | 11.0 | na | 14.4 | 4.4 | na | 3.9 | 90.5 | 63.4 | 2.8 | 17.4 | 1.1 |
| 1987 | 9.3 | 6.2 | 27.5 | 6.1 | 10.4 | na | 13.0 | 3.9 | na | 3.6 | 42.6 | 63.5 | 2.0 | 12.3 | 0.9 |
| 1988 | 7.4 | 5.2 | 17.1 | 5.0 | 6.4 | na | 11.8 | 2.8 | 4.8 | 8.2 | 26.9 | 51.2 | 1.5 | 9.0 | 0.8 |
| 1989 | 6.2 | 3.3 | 13.3 | 4.9 | 2.6 | na | 8.0 | 2.3 | 4.4 | 15.8 | 22.0 | 43.4 | 1.3 | 8.0 | 0.8 |
| 1990 | 10.3 | 3.1 | 14.5 | 7.0 | 3.0 | 21.7 | 6.0 | 2.1 | 3.1 | 16.7 | 24.0 | 46.4 | 1.9 | 9.7 | 1.0 |
| 1991 | 26.2 | 3.8 | 16.4 | 13.7 | 13.0 | 25.3 | 6.0 | 2.2 | 3.5 | 17.9 | 24.2 | 58.0 | 7.8 | 20.0 | 1.7 |
| 1992 | 28.1 | 4.5 | 17.5 | 17.3 | 43.1 | 26.0 | 7.2 | 2.6 | 5.0 | 19.7 | 24.8 | 87.0 | 23.3 | 25.0 | 1.8 |
| 1993 | 22.4 | 6.9 | 24.8 | 17.6 | 69.8 | 29.5 | 11.1 | 3.5 | 10.6 | 17.2 | 40.7 | 166.5 | 40.9 | 23.1 | 1.5 |
| 1994 | 11.9 | 7.3 | 21.8 | 14.7 | 54.5 | 23.2 | 11.5 | 4.2 | 11.6 | 15.3 | 56.3 | 187.3 | 27.6 | 17.0 | 1.2 |
| 1995 | 10.8 | 8.8 | 21.0 | 13.9 | 45.6 | 17.4 | 10.0 | 4.4 | 8.1 | 12.0 | 43.4 | 127.9 | 22.3 | 13.4 | 1.1 |
| 1996 | 10.2 | 12.3 | 19.2 | 15.4 | 34.8 | 16.7 | 10.6 | 4.2 | 6.4 | 10.8 | 41.0 | 71.1 | 25.1 | 10.1 | na |
| 1997 | 9.8 | 12.4 | 16.0 | 12.0 | 22.4 | 15.3 | 11.5 | 4.1 | 4.2 | 6.5 | 30.2 | 67.6 | 20.6 | 6.6 | na |
| 1998 | 7.9 | 10.5 | 11.2 | 9.7 | 16.8 | 13.4 | 8.7 | 5.7 | 2.3 | 4.0 | 19.1 | 40.5 | 11.8 | 5.8 | na |
| 1999 | 7.1 | 7.3 | 8.5 | 8.1 | 17.9 | 11.8 | 7.5 | 6.5 | 1.4 | 4.2 | 16.1 | 18.4 | 9.2 | 5.7 | na |
| 2000 | 5.8 | 5.5 | 5.9 | 6.8 | 14.3 | 9.6 | 6.3 | 5.4 | 0.9 | 4.4 | 13.4 | 22.1 | 5.7 | 4.6 | na |

Source: OECD *Employment Outlook*, various years; OECD *Main Economic Indicators*, various years.