CHAPTER 10

Full employment abandoned - the role of the public sector

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10.1 Introduction

Chapters 5 and 11 demonstrate the role that demand deficiency driven by inadequate government policy has played in the persistence of high unemployment in several OECD countries since the mid-1970s. Inflation-first strategies have led to excessively restrictive fiscal and monetary policy stances by most OECD governments driven by "budget deficit fetishism" (Mitchell, 1998; Wray, 1998, Mitchell and Mosler, 2001). With GDP growth in most OECD countries generally failing to absorb the growth in the labour force in combination with rising labour productivity, full employment has been effectively abandoned. [1]

   This Chapter examines the role that the decline in public service employment has played in perpetuating the chronic unemployment. Many economies have undergone substantial restructuring of their public sectors with significant employment losses being endured. In Australia, since the mid-1970s, successive governments have justified the widespread changes in the public sector on efficiency grounds. Verspaandonk (2000) argues in the context of Australian Public Service reform that the "changes have been intended to ensure that the optimal benefit is extracted from public resources. They have been characterised by an emphasis on the efficient use of financial and human resources, the emulation of the private sector, the adoption of market mechanisms and an emphasis on performance control." But the public sector has to meet different objectives than a private profit-seeking firm and the concept of efficiency has to be broader with public service a priority. A concern for social efficiency is clearly different to massive job cutting. As public sector processes were streamlined to avoid waste, the Federal (and State) governments could have expanded public services with the resources released. They chose instead to contract the public sector and cut services because the goal of social efficiency was secondary to the perceived, but mistaken need to create generate budget surpluses (Mitchell, 1998; Wray, 1998). This decision manifests itself through deficient net government spending. Full employment requires that net government spending be sufficient to meet the tax obligations of the private

sector plus their desire to net save in the unit of account. In this context, we say that at any point in time the government chooses the level of unemployment.

In this Chapter, it is argued that with private sector employment growing more or less commensurately with the labour force, the withdrawal of public sector employment has contributed significantly to the persistently high unemployment that Australia has experienced. If the governments expected the private sector to provide commensurately more jobs as public sector employment was cut, then they were wrong. The magnitude of private employment growth necessary to compensate for the public sector losses has been historically unattainable on any sustained basis. By failing to expand public employment, at least in line with labour force growth, governments have allowed unemployment to persist at high levels with the associated high economic, social and personal costs (Watts and Mitchell, 2000).

The international public employment experience is also examined and the analysis reveals that public employment in only five countries failed to keep pace with labour force growth (Australia, New Zealand, United Kingdom, USA, and the Netherlands). It has been noted that the zeal for public sector reform and large-scale job cutting was largely an Anglo-Saxon phenomenon (Scharpf, 1999). In most countries the growth of public sector employment outstripped sluggish employment growth and helped to attenuate the rise in unemployment. Several of these economies experienced negative private employment growth over the period 1970-99. In some economies, like Norway and Portugal, the public sector was a key factor in the maintenance of full employment.

10.2 From full employment to persistent unemployment

10.2.1 A focus on jobs

There have been several stages in the way economists conceive of full employment since the end of World War II (see Mitchell, 2001a). The stages have coincided with major changes in economic thinking over this period. Immediately following the War, the emphasis of macroeconomic policy was to promote full employment using budget deficits. Beveridge (1944: 123-135) defined full employment as an excess of vacancies at living wages over unemployed persons, saying, "The ultimate responsibility for seeing that outlay as a whole, taking public and private outlay together, is sufficient to set up a demand for all the labour seeking employment, must be taken by the State…" Vickrey (1993) concurs and defines "genuine full employment as a situation where there are at least as many job openings as there are persons seeking employment, probably calling for a rate of unemployment, as currently measured, of between 1 and 2 percent."

From the end of the War until the mid-1970s, governments assumed this responsibility and they used monetary and fiscal policy to maintain levels of

demand sufficient to ensure enough jobs were created to meet the demands of the labour force, given labour productivity growth. Unemployment rates were usually below 2 per cent throughout this period (see Figure 10.1).

The period of low unemployment (and falling inequality) from 1950-1974 was rather short in historical terms. Prior to the Great Depression, the role of government in stabilising economic fluctuations was non-existent. The market system was highly unstable with the unemployment rate rarely below 5 per cent. Economists of the day believed that mass unemployment was impossible because the market would always adjust prices to ensure full employment. This is despite very high unemployment in the 1890s. The Great Depression taught us that free market policies, like cutting wage rates, did not solve mass unemployment.
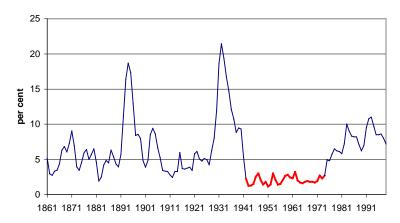
Figure 10.1 The aggregate unemployment rate, Australia, 1861-2000

Source: ABS, *The Labour Force*, Cat. No. 6203.0; Withers *et al* (1985).

10.2.2 The focus on unemployment

Economists soon shifted the focus from jobs to unemployment. The debate about what constituted the irreducible minimum rate of unemployment (Dunlop, 1950; and Slichter, 1950), gave way to models of unemployment and inflation (Mitchell, 1999c). The Phillips curve in its various guises proposes a relationship between unemployment and inflation and raises the question of the existence and nature of a trade-off between nominal and real economic outcomes. Full employment was no longer debated in terms of a number of jobs. Instead it was defined as the rate of unemployment that was politically acceptable in the light of some accompanying inflation rate.

10.2.3 The paradigm shift - the Natural Rate Hypothesis

This concept of full employment was challenged by expectations-augmented Phillips curve of Friedman (1968) and Phelps (1967), which established the concept of the natural rate of unemployment (NRU). Allegedly, the inflation-unemployment tradeoff was, in fact, a trade-off between unemployment and unexpected inflation. When all expectations are realised, the NRU is the only unemployment rate consistent with stable inflation. Mitchell (1999c, 2001a) argues that this was a major theoretical break from the existing Phillips curve orthodoxy because the causality from quantity disequilibria to price changes was reversed. Unemployment was considered voluntary – the outcome of optimising choices by individuals between work and leisure. Accordingly, discretionary aggregate demand management was considered futile and so the link between the use of budget deficits to restore deficient demand and the maintenance of low unemployment was abandoned - Says Law was restored.

Full employment occurred at the NRU even if that involved considerable unemployment. Mitchell (1987b) describes how Australian economists defined full employment in the mid-1980s as being equivalent to an 8 per cent unemployment rate. According to the theory, the NRU could only be reduced by microeconomic changes if it was considered to be excessive. As a consequence, the policy debate became increasingly concentrated on deregulation, privatisation, and reductions in the provisions of the Welfare State (Thurow, 1983; Ormerod, 1994). Unemployment continued to persist at high levels.

10.2.4 The NAIRU

The NRU is closely related to the concept of the non-accelerating inflation rate of unemployment (NAIRU), first proposed by Modigliani and Papademos (1975). Modigliani and Papademos (1975: 142) said a NAIRU existed, "such that, as long as unemployment is above it, inflation can be expected to decline". A common consensus developed of a constant NAIRU, differentiated from the NRU by theoretical nuance, but with the same policy message.[2] The resulting "fight-inflation-first" message has dominated public policy makers since the first oil shocks of the 1970s, and has exacted a harsh toll in the form of persistently high unemployment. Full employment as initially conceived was abandoned (Hughes, 1980).[3] In Chapter 5 we examined the recent work by Modigliani (2000) who now concludes that unemployment is "primarily due to *lack of aggregate demand* … and the result of an objectionable use of the so-called NAIRU approach." Modigliani (2000: 3).

10.2.5 The Reserve Bank and the NAIRU

The Reserve Bank of Australia (RBA) was legally constituted to pursue full employment as one of its three goals (price stability and general welfare being

the others). The functions of the RBA Board are set out in Section 10 of the Reserve Bank Act 1959. However, the RBA has been significantly influenced by the NAIRU concept and it conducts monetary policy in Australia to meet an openly published inflation target. The persistently high unemployment in Australia over the last 25 years, would suggest that the RBA is not working within its legal charter.

In September 1996, the Treasurer and Reserve Bank Governor issued the *Statement on the Conduct of Monetary Policy*, which set out how the RBA was approaching its goals, and articulated that inflation control had become its primary policy target (RBA, 1996: 2): The RBA emphasises the complementary role that "disciplined fiscal policy" has to play in an inflation-first strategy. There was no discussion about the links between full employment and price stability except that price stability in some way generated full employment even though the former required disciplined monetary and fiscal policy to achieve it. In a stagflationary environment, if price spirals reflect cost-push and distributional conflict factors, then the RBA will always have to control inflation by imposing unemployment.

The RBA answers this apparent contradiction by arguing that the trade-off between inflation and unemployment is not a long-run concern because, following NAIRU logic, it simply doesn't exist. Edey (1999), the Head of Economic Analysis at the RBA, says, "Ultimately the growth performance of the economy is determined by the economy's innate productive capacity, and it cannot be permanently stimulated by an expansionary monetary policy stance. Any attempt to do so simply results in rising inflation." The empirical evidence is clear that the economy has not provided enough jobs since the mid-1970s and the conduct of monetary and fiscal policy has contributed to the malaise. The RBA has forced the unemployed to engage in an involuntary fight against inflation and the fiscal authorities have further worsened the situation with complementary austerity.

10.2.6 The impact of the policy changes

Since 1974, the ideas of free market economists have dominated the policy debate despite being discredited during the Great Depression. The resulting policies were based on a belief that the market would generate full employment if left to operate without government regulation.[4] Figure 10.2, shows that since the change in policy stance in the mid-1970s total employment failed to grow in proportion to the labour force. This divergence between total employment and the labour force reflects the performance of both private and public employment, which are analysed in the next section. Over the 30 years to 1999 the public sector has substantially reduced its role as an employer, and the private sector has been unable to generate compensatory increases in jobs

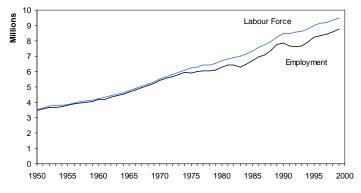growth. The result has been the persistently high unemployment since the mid-1970s.

Figure 10.2 Labour force and employment (persons), Australia, 1950-2000

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

10.3 The withdrawal of public sector employment

10.3.1 A simple model

We begin with a labour force definition:

(10.1) $L = P + P_g + U$

where L is the labour force and P is total private employment, P_g is total public employment, and U is total unemployment. U is the sum of frictional unemployment (U_f) and demand-deficient unemployment (U_d).[5]

Full employment is taken to mean the provision of enough public and private jobs to match labour supply minus some constant proportion α of frictional unemployment.[6] We define the private employment gap, *PGAP* as the level of public employment required to achieve full employment once private employment is determined.[7] So:

(10.2) $PGAP = \left[L(1-\alpha) - P \right] = P_g + U_d$

If $P_g < PGAP$, then U_d will be positive and the economy departs from full employment. Accordingly, we define the unemployment gap (*UGAP*) as:

$$(10.3) \quad UGAP = U_d = PGAP - P_g$$

For given rates of labour force growth (r_L) and private employment growth (r_P), the one-period change from time t in *PGAP* is:

$$(10.4) \quad \Delta PGAP_t = L_t(1-\alpha)r_L - P_t r_P$$

PGAP varies with the respective growth rates and the private employment rate. From Equations (10.2) to (10.4), we can derive the public employment growth rate that ensures a stationary level of U_d from period t:

$$(10.5) \quad r_g = \frac{1}{P_{gt}}\left[L_t r_L(1-\alpha) - P_t r_p\right]$$

where r_g is the public employment growth rate. This condition has to be satisfied each period for full employment to be maintained. The right-hand side of (10.5), which is $\Delta PGAP_t / P_{gt}$, tells us that the greater the increase in the private employment gap, the greater must r_g be for demand-deficient unemployment to remain constant. *UGAP* will be positive if P and/or P_g are insufficient to match the labour force (net of frictional unemployment). With reasonable assumptions made about labour force growth (conditioned by the magnitudes common since the mid-1970s) and the cyclical nature of private employment growth, it becomes manifestly obvious that sustained full employment requires a robust and counter-cyclical public employment growth rate.

10.3.2 The Australian experience

A marked fact about the labour market in Australia over the last 25 years or so is the withdrawal of the public sector as an employer. Table 10.1 (at the end of the Chapter) summarises the sectoral employment aggregates between 1970 and 1999 for wage and salary earners, while Table 10.2 reports the average (compound) annual growth rates for various periods for total employment across the major sectoral categories. The Australian public sector has been shrinking since the mid 1980s, both absolutely and as a proportion of total employment. Over the period 1984-1999 overall public sector employment declined by 11.8 per cent, the largest decline being at the Federal level (-41.8 per cent). Between

1984 and 1999, the public employment share in total employment declined by one-third. From Table 10.2, we see that private employment grew on average at a rate of 1.91 per cent per annum compared to the labour force, which grew by 1.87 per cent per annum for the period 1970-1999. *PGAP* exhibited positive growth over this period because $r_p < L_t(1-\alpha)r_L/P_t$. The private employment rate (using total civilian employment) was 76.5 per cent in 1970 and rose to 77.5 per cent by 1990. Overall public sector employment growth (averaging 0.6 per cent per annum) did not satisfy Equation (10.5) and unemployment soared (net of the proportional growth in frictional unemployment).

   Assuming 1970 was a full employment year, Equation (10.5) shows that the required average annual (compound) rate in public employment had to 2.12 per cent per annum compared to the actual rate of 0.6 per cent. This would equate to an extra 764.1 thousand jobs in the public sector. General Government employment increased by 508 thousand jobs, which was roughly proportional with labour force growth. However, following the mass privatisations from the late 1980s, employment in the public enterprises plummeted (304 thousand jobs lost since 1985). The losses accelerated in the 1990s. While, the privatisations transferred public sector employment to the private sector, the growth in private employment has not been sufficient to offset the public sector losses. The evidence negates the claims that the private sector would absorb workers released from the public sector. The *PGAP* has only fallen in recent years after a combination of historically strong private employment growth and below average labour force growth. Further, while private sector employment growth has more or less matched labour force growth, there has been a dramatic rise in the ratio of part-time employment. The framework developed in Chapter 3 demonstrated the substantial amount of underemployment in the Australian labour market.
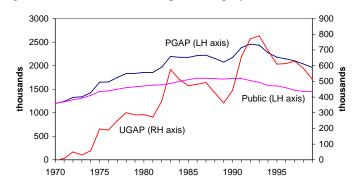
Figure 10.3 PGAP, UGAP and public employment, 1970-1999

Source: Author's own calculations

Figure 10.3 plots the *UGAP* (right hand scale), the *PGAP* (left hand scale), and total public employment (left hand scale) for the period 1970 to 1999. The frictional unemployment proportion α is computed as the average unemployment rate from 1965-1969. Thus, for Australia, full employment would equate to unemployment of 168.4 thousand (against actual unemployment of 680.6 thousand) in 1999. The rising unemployment gap over the period is indicative of the failure of public sector employment to satisfy Equation (10.5), which would have required it to grow proportionately with the labour force and to respond in a counter-cyclical manner sufficient to offset to the cyclical variations in private sector employment.

The *PGAP* rose sharply over 1973 and 1974 with private employment growth slowing to 1.4 per cent in 1973 and then –2.3 per cent in 1974. The labour force grew at 2.5 and 2.6 per cent per annum for 1973 and 1974, respectively. The public sector responded in 1974 and 1975 with significant increases in employment growth, which constrained, to a modest extent, the rise in the unemployment rate. In 1975, unemployment grew by 141 thousand. Despite a slowing labour force growth rate in the second half of the 1970s the private gap continued to rise with private employment growth being poor (and negative again in 1978). Over 1979-1981, unemployment fell in total by a meagre 20.4 thousand with both private employment and the labour force growth accelerating fuelled by the minerals boom rhetoric. It was in retrospect, the calm before the storm. Demand plunged sharply over 1982 and 1983 with the cyclical decline in private employment growth (-0.1 in 1982 and –3.0 in 1983), and public employment growth failed to respond sufficiently (0.6 in 1982 and 1.7 in 1983). Unemployment rose by 305.7 thousand over this period. The economy was not able to provide enough jobs over the decade from 1975 to 1985. Labour force growth (averaging 1.63 per cent per annum) outstripped the parlous private employment growth (averaging 1.16 per cent per annum) and public sector employment grew in proportion with the labour force.

The recovery period from 1985 to 1990 saw a major resurgence in private employment growth (averaging 4.09 per cent per annum adding 1,112.5 thousand jobs) and labour force growth (averaging 2.92 per cent per annum adding 1,131.8 thousand available workers). As a consequence, the private employment gap continued to grow (by 19.3 thousand). The public sector was at the beginning of its major decline with 47.2 thousand jobs being lost in the public trading enterprises (average decline of –1.94 per cent per annum) and only 76.1 thousand added through general government (growth averaged 1.24 per cent per annum). The unemployment gap fell by only 28.6 thousand over this period because the public sector only chose to achieve average employment growth of 0.34 per cent per annum. Private sector employment growth in this period was at the upper end of the possible. The failure of the public sector to provide satisfactory employment growth meant that the economy was unable to

build on the private sector growth and reduce unemployment significantly. As an example, even if the public sector had have grown in proportion to the labour force during this period, an extra 246.3 thousand jobs would have been created and the unemployment gap would have fallen from 452.7 thousand to 206.4 thousand by 1990. The period demonstrated that full employment was unlikely to be achieved if the public sector did not increase its contribution to employment substantially. Australia locked itself into this high unemployment level because the public contribution did not come. It was a major opportunity missed.

The recession in 1990-92 was the first example of the public sector employment failing to exhibit counter-cyclical behaviour. Between 1990 and 1992, private employment slumped (losing 175 thousand jobs) and over the 5-year period to 1995, the private sector added half as many jobs (550 thousand) as they did in the last half of the 1980s. This slowdown in employment creation was exacerbated by the public sector choosing to lose 160.9 thousand jobs over 1990-95. Unemployment soared as a result (rising 177 thousand), building on the stock that was built up in the 1980s by deficient public employment. The asymmetry noticed in the 1980s, whereby the unemployment level increases quickly in a downturn but fails to fall as quickly during expansion was also observed in the 1990s. Despite stronger private growth between 1995 and 1999 (adding 654 thousand jobs when the labour force expanded by only 440.5 thousand), unemployment only fell by 90 thousand. The continued public sector decline (losing 123.7 thousand jobs) meant that the stronger private sector could not be consolidated upon to bring substantial reductions in unemployment.
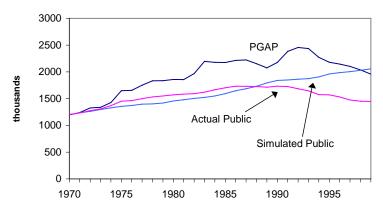
Figure 10.4 PGAP, actual and simulated public employment, 1970-99

Source: Author's own calculations.

Figure 10.4 shows the relationship between the private employment gap and public sector employment assuming that public employment growth had matched labour force growth over the period (ignoring discouraged worker effects and therefore understating the problem). The result is that 610.5 thousand jobs would have been created by 1999 with the official unemployment rate being 0.7 per cent. As a result, the economy would have been operating at over-full employment at that point in time. In other words, the explicit decision by the government to withdraw from its employment responsibility has been instrumental in generating the high unemployment we still face.

10.4 The international experience

Table 10.3 (at the end of the Chapter) shows public employment shares and unemployment rates for as many OECD countries that comparable data was available. Japan, Norway, Switzerland, and to a lesser extent the USA, Sweden, Austria and Portugal stand out as having low unemployment rates. The first three mentioned never followed the high unemployment path that most of the OECD economies trod (see discussion in Mitchell, 1996).[8] The economies that avoided the plunge into high unemployment 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).

There appears to be no strict relationship between the relative size of public sector (general government) employment and the unemployment rate. Table 10.3 also shows the percentage total public employment closure of *PGAP* between 1970 and 1999. Countries with high percentage closures experiences lower incidences of demand-deficient unemployment over that period. The best performers were the United States (105.8 per cent), Portugal (99.6 per cent), Ireland (98.9 per cent), Norway (91.0 per cent), and Denmark (76.9 per cent). Australia (32.1 per cent), Germany (31.5 per cent), and New Zealand (25.7 per cent) clearly had the lowest public sector percentage contribution over the period.[9]

Table 10.4 (at the end of the Chapter) shows growth rates and changes for private, public, and total employment, the labour force, and changes in the *PGAP* and the *UGAP*. Several features can be noted. First, public employment in only five countries failed to keep pace with labour force growth (Australia, New Zealand, United Kingdom, the Netherlands, and to a lesser extent the USA). It has been noted that the zeal for public sector reform and large-scale job cutting was largely an Anglo-Saxon phenomenon (Scharpf, 1999). In most countries the growth of public sector employment outstripped sluggish labour force growth and helped to attenuate the rise in unemployment. Second, public sector employment in many countries shifted form being counter-cyclical in the 1970s to being pro-cyclical in the 1990s (Austria, Australia, Belgium, Denmark, Finland, Italy, The Netherlands, New Zealand, Sweden, and the United

Kingdom (switched in the 1980s). Third, several economies experienced negative private employment growth over the period 1970-99 (Belgium, Denmark, Finland, Italy, Spain and Sweden). Fourth, a common trend was the declining growth in public employment in the late 1990s in many European economies (Austria, Belgium, Finland, France, Germany, Italy, the Netherlands, and Sweden). Most notable is the fact that in some economies, like Norway and Portugal, the public sector has sustained steady employment growth since 1970 and that has been a key factor in the maintenance of full employment. Fifth, the relatively low unemployment rate in the United States is often attributed to their relatively free labour markets and wage fixing mechanisms (for example, Macfarlane, 1997). But our analysis makes it clear that the public sector employment growth (averaging 1.6 per cent per annum) in the United States has nearly tracked labour force growth (averaging 1.8 per cent per annum) and after allowing for frictional unemployment increases has more than closed the *PGAP*, thus complementing the strong private employment growth. However, the most notable difference between Australia and the USA is not in the performance of private employment growth but in the relative public sector employment growth rates. Over 1970-1999, Australia's average annual private employment growth was 1.91 per cent whereas the US experienced an average rate of 1.88 per cent. As Figure 10.4 shows, if public employment in Australia had achieved growth of US-proportions, Australia would also have had very low unemployment in 1999.

Austria experienced sluggish labour force growth (0.6 per cent per annum) between 1970 and 1999, and public employment (2.1 per cent per annum) outstripped private growth (0.3 per cent). The *PGAP* rose throughout this period and Austria's unemployment position worsened as it cut back public employment in the 1990s. Public sector employment still maintained a counter-cyclical role in the recessions during the 1980s and 1990s. In Belgium, private growth over 1970-1999 was negative, and public employment growth was twice the rate of the labour force growth. The 206 thousand jobs added in the public sector over this period certainly restricted the rise in unemployment. In the 1990s, the public sector also abandoned its counter-cyclical employment role and unemployment worsened. Over 1970-1999, Denmark also experienced negative private sector growth (losing 76 thousand jobs) whereas public growth (2.4 per cent per annum) was 4 times the labour force growth (average per annum). The change in public employment (404 thousand) nearly matched labour force expansion (455 thousand). Most of this growth occurred in the 1970-89 period. The private sector in Finland lost 100 thousand jobs over 1970-1999, with severe losses in the early 1990s recession. The public sector certainly played a strong role in modifying the unemployment in the period up to the 1990s but abandoned its counter-cyclical role in the 1990s. The sharp rise in unemployment coincided with this change in public sector role.

The Netherlands is an interesting case as it has not sustained strong public employment growth but has also been able to bring its unemployment rate down to 3.3 per cent in 1999. However, there is evidence that the pace of labour force growth has been restrained by attractive disability pensions and that the ratio of part-time to full-time employment has increased markedly (Muysken, 1998).

Portugal's private sector growth (averaging 1.0 per cent per annum) lagged behind labour force growth (averaging 1.4 per cent per annum) since 1970. But Portugal avoided the high unemployment that would have arisen under these circumstances because their rate of public sector growth has been 3 times that of the labour force since 1970. Their public employment share has nearly trebled over this period. Importantly, the public sector played a strong counter-cyclical role in the early 1990s as recession hit private employment levels keeping the unemployment rate overall below the OECD average during 1990-95. As private sector growth resumed between 1995 and 1999, the public sector reduced its employment growth. The economy now has very low unemployment rates.

Japan's public employment share is the lowest of all the countries examined and has barely changed over the 1970-1999 period. It also avoided the rise in unemployment in the 1970s and the early 1990s. It is important to note that in both periods, when the private employment growth rate was slower than usual, the public employment growth picked up, thus providing a counter-cyclical offset. Further, in 1995-1999 period, unemployment rose to historically high levels in Japan as public employment growth plummeted to match the parlous state of the private sector labour market. So to some extent it is not necessarily the size of the public employment share that is important but at which points in the cycle public employment growth increases and decreases.

Norway is also notable because it avoided the stagflation period completely, although the European-wide recession in the 1990s did see unemployment rise. Norway experienced the major labour market changes that have occurred across the OECD. First, labour force participation rates increased from 60 per cent in 1972 to 70 per cent in 1997. Second, 44 per cent of working age women had paid employment in 1972 but this rose to 64 per cent in 1997 (one of the highest female participation rates in the OECD). Third, it has undergone a substantial change in its industrial and employment composition. The manufacturing sector declined sharply and increasing numbers are employed in the service sector, with the public employment share rising sharply. While the shift towards service sector employment is a common trend in OECD economies, the increase in Norwegian public sector employment is striking (public employment share doubled since 1966 and it added twice as many jobs as the private sector between 1970 and 1999).

There are several reasons for the sustained strength in Norway's labour market (Hanisch, 1998). First, it enjoys substantial export income from oil and

gas. Second, the public sector maintains strong job creation programs unlike most other OECD economies. Public job creation programs were expanded in the early 1990s (1988 - 8,000 jobs provided, 1994 - 64,000 jobs) and combined with on-the-job training schemes designed to maintain an evolving skill base in the labour force. The job slots were cut back as the private sector expanded. Job creation schemes are targetted at vulnerable groups like the youth. Norway has one of the lowest youth unemployment rates because the government introduced a Youth Guarantee with provides anyone under the age of 20 a public sector job if they are unable to get a private sector job. In addition, and again unlike many other countries, the government is committed to assisting older workers and occupationally handicapped workers maintain employment via the job creation schemes. Chapter 7 has shown that the Australian government policy, not dissimilar to most OECD governments, has been to induce these workers into inactivity by appropriate scaling of benefits. Third, the government also manages a series of large public investment projects, similar to Japan, which expand when private sector activity is waning. Several major projects have helped to maintain strong public demand in the labour market (for example, a new national hospital in Oslo and a new airport). The U.S. Department of Labor (1994) noted, "The single most important element of Norway's post-war labor market policy has been the goal of full employment.

In the 1980s, Sweden was held out as a model for Australia to follow (see Department of Trade, 1987). At that time, it had full employment, strong public sector employment growth, but had experienced consistent negative private employment growth since the 1970s. The recession hit the economy badly and nearly half a million jobs were shed between 1990 and 1995. In contrast to Norway, the public sector followed the other Scandinavian countries and cut public sector employment during the recession, exacerbating the private losses. The recovery then began from higher unemployment rate than otherwise.

Switzerland also avoided the stagflation experience of the 1970s, and was only moderately affected by the recession of the early 1990s. Public sector employment has been growing in importance even though it is still below average for the countries examined. Lane (1999), however, suggests that recent major OECD data revisions suggest that Switzerland is not the outlier once thought of in this regard. Bernauer (1999) says, "Switzerland is much closer to the standard West–European "welfare state" than to the Anglo–Saxon "welfare society" in terms of its share of the public sector in GDP … [the data] … massively underestimate the size of the Swiss public economy." Certainly, between 1970 and 1975, when the private sector was in recession, public employment in Switzerland played a counter-cyclical role and unemployment hardly rose. Again, in the early 1990s, public employment provided a major offset to the private sector employment losses.

Finally, the United Kingdom was the only country to exhibit overall negative public sector growth between 1970 and 1999 (averaging –0.7 per cent per annum) with heavy job losses occurring (around 1.5 million) in the 1990-95 period. During the recession, there was also negative labour force growth and this constrained the rise in unemployment. While the private sector added 2.5 million jobs between 1985-90 and 1.4 million jobs between 1995-99, the unemployment rate was still nearly 6 per cent at the end of the decade because the private sector could not match the sum of the labour force growth and the public withdrawal.

It appears reasonable to conclude that the economies that avoided the plunge into high unemployment benefitted from counter-cyclical public employment activity and a strong commitment by the government to full employment. In this sense, the economies maintained at least a semblance of an employer of the last resort capacity.

10.6 Conclusion

In this Chapter we have examined the trends in private and public employment in Australia and other OECD countries spanning the period before unemployment became a major problem to the present day. The international comparison is revealing. The public sector in Australia has performed poorly and its failure to grow at least in proportion with the labour force is a substantial reason why full employment has evaded us. Underlying the declining share of public employment is the root cause of the problem - net government spending has been inadequate. Changes in Australian public sector employment since 1970 have covered only 32.1 per cent of the gap between labour force change and the change in private employment (allowing for a constant proportion of frictional unemployment). Other low unemployment countries, have had a much more active public sector in this respect, with the United States (105.8 per cent), Portugal (99.6 per cent), Ireland (98.9 per cent), Norway (91.0 per cent), and Denmark (76.9 per cent) being the most active. It is often claimed that the low unemployment rate in the USA is a function of its more deregulated economy. Over the period 1970-1999, its private sector employment growth rate was not significantly higher than the labour force growth rate (1.9 per cent per annum compared to 1.8 per cent per annum). But notable was the fact that the public sector (1.6 per cent per annum) did not allow the *PGAP* to balloon.

For Australia, the data has been complicated by the massive privatisations that have occurred, particularly in the 1990s. Some of the declines in public sector employment are in fact transfers to the private sector. There are two interpretations of the failure to return to full employment over the 1970-1999 period: (a) the private sector failed to deliver enough jobs in its own right (net of the transfer), and/or (b) the public sector chose to abandon the full employment ideal. The government may argue that it believed the private sector would take

up the gap left by the public sector failing to achieve growth commensurate with the labour force. But this would have required historically high private employment growth rates and levels of net government spending to support it. Until the public sector restores a commitment to full employment, Australia will continue to languish with high unemployment.

Notes

[1] Mitchell (1996) provides extensive analysis and data to support this contention.

[2] Mitchell (1987a, 1987b) discusses the importance of the assumption of cyclical invariance.

[3] Interestingly, Hughes (1980: 191) argues that since 1955 "the history of the Australian labour market has been one long retreat from full employment. Whether we take peaks or troughs in percentages, there has been a gradual upward trend through successive turns of the business cycle." He argues that full employment became over-full employment in political jargon, as it was associated with inflation, balance of payments problems and strikes. The question is whether the 0.5 per cent unemployment rate characteristic of the early 1950s reflected more a state of labour shortage than a frictional level of unemployment. A simple one-tail *t*-test to determine whether any differences exists between the sample means for the periods 1948-1956 and 1956-1974 (excluding 1962) indicates that the two samples failed to establish any difference at the five percent level of significance. We omitted 1962, as it was a cyclical outlier. Inclusion of 1962 leads to the conclusion that the hypothesis holds only at the 10 per cent level of significance. Taken together, we conclude that the two periods behave similarly.

[4] Even before the OPEC oil price hikes, Australian fiscal policy had been moving in the wrong direction. Between 1972 and 1974, prior to the rapid escalation in wage rates in 1974, with migration rates falling, the labour market became increasingly tight. Food price rises were also causing a persistency in the inflation rate. The correct approach would have seen some fiscal tightening. This was anathema to the newly elected Labor Government. Although there was an increase in public spending in 1974, most of it was in the form of increased transfers to pensioners and the unemployed. Overall, public spending as a percentage of GDP fell severely in 1973-74. The ratio rose again late in the next financial year but by then unemployment was climbing. It was clear that the first stage in abandoning full employment came at the Premiers' Conference in early June 1974. Hughes (1980: 87) argues that the Whitlam Government had become caught up in the inflationary-expectations rhetoric, which dominated Treasury economics. Hughes (1980: 50) argues, "The Treasury, in particular, steadily attempted to lock Australia into a deficit fetishism that was to seriously disrupt economic discussion in later years." By the 1975 Federal Budget brought down by Bill Hayden, who had replaced the discredited Jim Cairns as Treasurer, it was clear that there was a bi-lateral political acceptance for a private enterprise-led recovery to higher employment. The fiscal austerity was approved by key exporting sectors (mining and agriculture) because domestic stagnancy meant that union wage demands are lower (Hughes, 1980: 45-47).

[5] Frictional embraces structural factors. These factors are sometimes differentiated by spatial and skill-mismatch factors. The latter is somewhat contentious because in a tight

labour market firms usually offer jobs with appropriate training implicit. A coherent regional policy with an active public sector labour market will also reduce the spatial imbalances significantly.

[6] Labour supply in this context is equal to the current labour force, although we clearly recognise the importance of marginal workers not in the labour force.

[7] The level of private sector employment is not strictly independent of the level of government spending (and public employment). Given this, the *PGAP* measure does strictly indicate how much public employment there would be at full employment. Clearly, as the public sector moved to close the gap, private sector employment would also increase. The *PGAP* measure, however, serves as an approximation.

[8] The US labour market is often introduced as the model that we should follow given it has lower unemployment rates than most other countries. It should be noted that in 1977 the incarceration rate per 100,000 residents was 129. By 1998 it had risen to 460. A simple computation assuming the 1977 weights and that the extra prisoners become unemployed adds about 0.65 of a percent to the aggregate unemployment rate in the USA (US Department of Justice, Bureau of Justice Statistics).

[9] This ignores the United Kingdom, which experienced a net loss of public employment over 1970-1999.

Table 10.1 Sectoral employment trends for wage and salary earners, Australia, 1970 to 1999

Sector	1970	1975	1980	1985	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
Commonwealth	329.2	396.2	397.4	434.4	406.7	410.3	397.0	382.3	359.8	371.7	354.8	287.7	264.7	245.6
% of total employment	6.1	6.9	6.8	7.8	6.2	6.5	6.4	6.1	5.6	5.6	5.2	4.2	3.8	3.4
State	620.8	893.4	1004.1	1108.8	1179.1	1160.2	1139.8	1129.3	1069.3	1077.8	1075.9	1047.6	1070.7	1079.9
% of total employment	11.6	15.5	17.2	19.9	18.0	18.4	18.4	17.9	16.8	16.1	15.6	15.2	15.4	15.0
Local	104.7	139.5	129.8	153.8	160.3	160.9	161.1	163.5	159.2	153.5	154.7	148.8	138.0	138.7
% of total employment	1.9	2.4	2.2	2.8	2.4	2.6	2.6	2.6	2.5	2.3	2.2	2.2	2.0	1.9
Total Public Sector	1054.7	1429.1	1531.3	1697.0	1746.1	1731.4	1697.9	1675.1	1588.3	1603.0	1585.4	1484.1	1473.4	1464.2
% of total employment	19.6	24.9	26.2	30.4	26.7	27.5	27.4	26.5	24.9	24.0	23.0	21.6	21.2	20.3
Total Private Sector	4317.0	4317.0	4317.0	3885.0	4801.9	4574.3	4508.7	4642.4	4791.0	5078.7	5298.9	5390.2	5461.0	5759.1
% of total employment	80.4	75.1	73.8	69.6	73.3	72.5	72.6	73.5	75.1	76.0	77.0	78.4	78.8	79.7
Total Employment	5371.7	5746.1	5848.3	5582	6548	6305.7	6206.6	6317.5	6379.3	6681.7	6884.3	6874.3	6934.4	7223.3

Source: ABS, *Civilian Employees, Australia*, various; APS *Statistical Bulletin*, various (Public Service and Merit Protection Commission); ABS, *The Labour Force, Australia*, Cat. No. 6203.0; ABS, *Wage and Salary Earners, Australia*, Cat. No. 6248.0.

Table 10.2 Annual labour market growth rates for various periods by sector

Period	Private		PTE		GG		Public		Total		LF		PGAP		UN	
	Growth	Change	Growth	Change	Growth	Change	Growth	Change	Growth	Change	Growth	Change	Growth	Change	Growth	Change
1970-1999	1.9	3100.2	-2.8	-262.5	1.8	508.0	0.6	245.5	1.7	3345.8	1.9	3934.3	1.73	834.1	7.1	588.5
1970-1975	1.1	239.1	0.3	7.1	5.9	242.8	3.8	249.9	1.7	489.1	2.4	704.3	6.33	465.2	27.3	215.2
1975-1985	1.2	544.5	0.7	34.2	2.0	217.1	1.6	251.3	1.3	795.7	1.6	1091.7	2.75	547.2	7.0	296.0
1985-1990	4.1	1112.5	-1.9	-47.2	1.2	76.1	0.3	28.9	3.2	1141.5	2.9	1131.8	0.17	19.3	-0.3	-9.7
1990-1995	1.7	550.0	-6.9	-137.1	-0.4	-23.8	-1.9	-160.9	1.0	389.0	1.3	566.0	0.14	16.0	5.4	177.0
1995-1999	2.4	654.1	-11.0	-119.5	-0.1	-4.2	-2.0	-123.7	1.6	530.5	1.2	440.5	-2.36	-213.6	-3.1	-90.0

Source: ABS, *The Labour Force*, 6302.0. Growth is the average annual compound growth rate and change in the absolute change in thousands. Private is private total employment, PTE is public trading enterprises employment, GG is general government employment, Public is total public employment, Total is total employment, LF is the labour force, PGAP is the private employment gap, and UN is total unemployment.

Table 10.3 General government employment shares and unemployment rates, selected OECD countries by year

	Public/ PGAP %	Government Share of Total Employment (%)							Aggregate Unemployment Rate (%)						
		1970	1975	1980	1985	1990	1995	1999	1970	1975	1980	1985	1990	1995	1999
Canada	75.6	20.7	22.5	20.4	21.6	21.5	21.9	20.3	5.7	6.9	7.5	10.5	8.1	9.4	7.6
USA	105.8	16.0	17.1	16.4	15.3	15.4	15.4	15.1	4.9	8.5	7.2	7.2	5.6	5.6	4.2
Australia	32.1	13.6	16.6	17.4	17.7	16.1	15.1	14.0	1.7	4.9	6.0	8.2	7.0	8.5	7.2
Japan	38.0	7.7	8.7	8.8	8.7	8.1	8.3	8.3	1.2	1.9	2.0	2.6	2.1	3.2	4.7
NZ	25.7	15.8	17.3	17.9	16.3	16.6	14.1	13.7	0.1	0.3	2.5	3.5	7.8	6.3	6.8
Austria	60.2	9.0	10.6	11.7	13.3	14.0	14.6	14.2	2.3	2.1	1.8	4.8	5.4	6.6	6.6
Belgium	39.5	13.3	15.3	18.3	19.7	19.0	18.3	18.0	1.3	3.5	6.7	10.4	6.7	9.9	9.0
Denmark	76.9	17.0	23.3	28.0	29.3	29.6	30.3	29.9	1.3	5.2	6.9	8.9	9.4	10.2	5.5
Finland	56.2	13.5	16.5	19.3	21.5	23.0	25.8	24.3	1.9	2.3	4.7	5.1	3.2	15.2	10.2
France	46.3	18.0	19.3	20.2	22.3	23.3	25.2	24.7	2.5	4.0	6.2	10.2	8.9	11.6	11.1
Germany	31.5	11.2	13.8	14.6	15.5	15.1	13.2	12.4	0.6	4.0	3.2	8.0	6.2	8.1	9.0
Ireland	98.9	10.6	12.7	14.5	15.9	14.4	13.6	11.2	5.8	7.3	7.3	17.4	13.7	12.2	5.5
Italy	38.4	12.2	14.4	15.4	16.7	17.3	18.0	16.8	5.4	5.9	7.6	10.1	11.4	11.7	11.4
Netherlands	49.5	11.1	12.5	13.4	14.3	13.2	12.0	10.7	1.0	5.8	6.1	8.3	6.2	6.9	3.3
Norway	91.0	17.7	21.4	24.1	25.6	26.4	31.5	30.9	1.4	2.2	1.7	2.6	5.2	4.9	3.2
Portugal	99.6	8.5	9.2	11.6	11.6	14.8	18.3	18.7	4.3	4.0	8.4	8.9	4.9	7.2	4.4
Spain	39.9	4.9	6.8	9.3	9.9	13.1	14.4	15.5	2.7	4.1	10.9	20.9	15.7	22.7	15.9
Sweden	72.5	20.9	25.7	30.7	33.3	32.0	32.1	31.2	2.6	1.6	5.1	2.8	1.7	7.7	5.6
Switzerland	69.1	9.9	12.0	13.4	13.3	12.9	13.9	13.6	0.0	0.3	0.2	1.0	0.5	4.2	2.7
UK	(a)	18.1	20.8	21.2	21.6	19.5	14.2	13.3	2.4	3.6	6.1	11.6	5.9	8.6	5.9
Average		13.5	15.8	17.3	18.2	18.3	18.5	17.8	2.5	3.9	5.4	8.1	6.8	9.0	7.0

Source: OECD *Economic Outlook Database*, 1960-1999. The government employment refers to general government employees only. The unemployment rates are based on the individual country definitions. Public/*PGAP* is the ratio of changes in total public employment to changes in *PGAP* for the period 1970-1999. (a) Over the period, UK public employment fell by 838 thousand whereas the *PGAP* grew by 218.4 thousand.

Table 10.4 Annual average growth rates and changes, thousands, various periods

	Public		Private		Total		Labour Force		PGAP	UGAP
	Growth	Change	Growth	Change	Growth	Change	Growth	Change	Change	Change
Austria										
1970-99	2.1	255.7	0.3	251.6	0.5	507.2	0.6	687.7	425.0	169.4
1970-75	4.1	70.5	0.5	75.2	0.8	145.8	0.9	156.1	78.4	7.8
1975-80	2.5	50.4	0.2	29.5	0.4	79.9	0.4	77.6	46.8	-3.6
1980-85	2.2	49.7	-0.8	-130.3	-0.4	-80.6	0.0	5.7	135.9	86.2
1985-90	1.9	48.5	0.7	114.6	0.9	163.1	1.0	189.4	71.7	23.3
1990-95	1.4	37.1	0.4	71.3	0.6	108.4	0.8	158.3	84.5	47.4
1995-99	0.0	-0.6	0.7	91.3	0.6	90.7	0.6	100.6	7.7	8.3
Australia										
1970-99	0.6	245.5	1.9	3100.2	1.7	3345.8	1.9	3934.3	764.1	518.5
1970-75	3.8	249.9	1.1	239.1	1.7	489.1	2.4	704.3	452.7	202.7
1975-80	2.3	117.7	1.0	248.6	1.2	366.2	1.6	466.0	209.1	91.5
1980-85	1.6	133.6	1.5	295.9	1.5	429.5	1.8	625.7	318.7	185.1
1985-90	0.3	28.9	4.1	1112.5	3.2	1141.5	2.9	1131.8	-0.8	-29.8
1990-95	-1.9	-160.9	1.7	550.0	1.0	389.0	1.3	566.0	5.9	166.9
1995-99	-2.0	-123.7	2.4	654.1	1.6	530.5	1.2	440.5	-221.4	-97.8
Belgium										
1970-99	1.2	206.2	0.0	-18.6	0.2	187.6	0.5	522.6	525.0	318.8
1970-75	3.0	79.4	-0.2	-25.4	0.3	54.1	0.7	141.6	162.6	83.1
1975-80	3.7	114.2	-0.7	-109.2	0.0	5.0	0.7	128.7	233.9	119.7
1980-85	0.6	22.2	-1.1	-163.7	-0.8	-141.5	0.0	5.8	169.3	147.1
1985-90	0.3	9.4	1.2	170.7	1.0	180.1	0.2	39.6	-132.3	-141.7
1990-95	-0.9	-32.3	0.0	2.0	-0.2	-30.2	0.5	110.7	105.2	137.5
1995-99	0.5	13.2	0.9	106.9	0.8	120.1	0.6	96.2	-13.7	-26.9
Canada										
1970-99	2.1	1315.5	2.1	5296.9	2.1	6612.4	2.2	7325.2	1739.1	423.6
1970-75	5.0	452.7	2.8	912.6	3.2	1365.2	3.5	1579.3	604.4	151.7
1975-80	1.5	166.3	4.2	1628.9	3.6	1795.2	3.7	2002.7	294.7	128.4
1980-85	2.3	275.0	0.9	385.9	1.2	661.0	1.8	1144.3	713.2	438.2
1985-90	2.1	276.4	2.2	1066.6	2.2	1342.9	1.7	1122.0	11.1	-265.3
1990-95	0.8	115.6	0.3	157.7	0.4	273.3	0.7	505.8	328.1	212.5
1995-99	0.3	29.5	2.6	1145.2	2.1	1174.7	1.6	971.2	1739.1	423.6

Table 10.4 Annual average growth rates and changes, thousands, various periods *(cont.)*

	Public		Private		Total		Labour Force		PGAP	UGAP
	Growth	Change	Growth	Change	Growth	Change	Growth	Change	Change	Change
Denmark										
1970-99	2.4	404.3	-0.1	-76.4	0.4	327.9	0.6	455.5	525.7	121.4
1970-75	6.5	149.0	-1.6	-152.7	0.0	-3.6	0.8	96.9	248.2	99.2
1975-80	4.6	139.4	-0.4	-33.4	0.9	105.9	1.2	159.2	190.5	51.1
1980-85	1.7	61.0	0.3	30.1	0.7	91.0	1.2	159.0	126.8	65.8
1985-90	0.5	17.4	0.2	18.0	0.3	35.4	0.4	55.3	36.5	19.1
1990-95	0.0	-1.5	-0.7	-65.3	-0.5	-66.8	-0.4	-50.1	15.9	17.4
1995-99	1.2	39.0	1.7	126.9	1.6	165.9	0.3	35.2	-92.1	-131.1
Finland										
1970-99	2.3	270.2	-0.2	-100.7	0.3	169.6	0.6	389.6	480.4	210.2
1970-75	5.1	80.6	0.2	14.7	0.9	95.3	1.0	105.0	87.7	7.0
1975-80	4.1	82.5	0.3	24.5	0.9	107.0	1.5	170.4	141.6	59.1
1980-85	3.1	73.3	0.4	35.8	0.9	109.1	1.0	124.1	85.2	11.9
1985-90	1.9	52.0	0.2	15.5	0.5	67.5	0.2	20.0	4.0	-48.0
1990-95	-1.2	-33.0	-4.2	-372.7	-3.5	-405.7	-0.8	-105.5	269.9	302.9
1995-99	0.7	14.8	2.8	181.6	2.3	196.4	0.8	75.6	-107.9	-122.7
France										
1970-99	1.5	1959.3	0.1	477.2	0.4	2436.6	0.7	4811.1	4235.9	2276.5
1970-75	2.0	382.0	0.3	215.4	0.6	597.4	0.9	968.3	733.2	351.2
1975-80	1.5	319.5	0.3	226.6	0.5	546.1	1.0	1111.5	862.3	542.7
1980-85	2.2	511.6	-0.9	-810.1	-0.3	-298.5	0.6	710.3	1505.8	994.3
1985-90	1.0	261.8	0.8	677.3	0.9	939.1	0.5	667.5	-23.4	-285.2
1990-95	1.3	354.3	-0.7	-570.5	-0.2	-216.3	0.4	516.7	1076.6	722.4
1995-99	0.6	130.3	1.1	738.5	1.0	868.8	0.8	836.9	81.4	-48.9
Germany										
1970-99	1.4	1512.0	1.0	8034.0	1.1	9546.0	1.4	12960.5	4801.7	3289.7
1970-75	3.8	605.3	-1.0	-1145.3	-0.4	-540.0	0.3	385.5	1527.0	921.8
1975-80	1.9	345.8	0.5	614.3	0.7	960.0	0.6	774.8	153.0	-192.7
1980-85	0.9	189.0	-0.6	-680.0	-0.4	-491.0	0.7	924.0	1595.1	1406.1
1985-90	0.9	187.3	1.6	1802.8	1.5	1990.0	1.1	1569.3	-248.6	-435.9
1990-95	2.2	490.8	5.5	7458.3	5.0	7949.0	5.5	9263.8	1716.3	1225.5
1995-99	-1.6	-306.0	0.0	-16.0	-0.2	-322.0	0.0	43.3	58.8	364.8

Table 10.4 Annual average growth rates and changes, thousands, various periods *(cont.)*

	Public		Private		Total		Labour Force		PGAP	UGAP
	Growth	Change	Growth	Change	Growth	Change	Growth	Change	Change	Change
Ireland										
1970-99	1.6	67.2	1.5	488.5	1.5	555.7	1.5	585.1	67.9	0.7
1970-75	4.1	24.7	-0.1	-4.7	0.4	20.0	0.7	39.0	41.8	17.1
1975-80	4.2	30.9	1.1	52.1	1.5	83.0	1.5	90.0	33.5	2.6
1980-85	0.5	3.8	-1.8	-83.8	-1.4	-80.0	0.9	55.0	136.1	132.3
1985-90	-1.5	-12.3	1.3	62.3	0.9	50.0	0.0	3.0	-59.4	-47.1
1990-95	1.2	9.7	2.8	145.3	2.6	155.0	2.3	154.0	1.1	-8.6
1995-99	1.5	10.4	6.5	317.3	5.9	327.7	3.9	244.1	-85.2	-95.6
Italy										
1970-99	1.3	1084.4	0.0	29.7	0.2	1114.1	0.5	2976.1	2823.6	1739.2
1970-75	3.8	483.4	-0.1	-91.3	0.4	392.1	0.5	475.5	547.2	63.8
1975-80	2.3	345.7	0.7	615.7	1.0	961.4	1.2	1294.4	625.3	279.6
1980-85	1.5	245.2	-0.4	-331.8	-0.1	-86.6	0.6	634.8	940.4	695.2
1985-90	1.1	188.8	0.2	185.5	0.4	374.3	0.5	540.3	332.5	143.7
1990-95	-0.3	-54.1	-1.3	-1114.1	-1.1	-1168.2	-0.6	-641.7	498.9	553.0
1995-99	-0.9	-124.6	1.2	765.8	0.8	641.2	0.7	672.8	-120.7	3.9
Japan										
1970-99	1.1	1455.8	0.8	12218.4	0.8	13674.2	0.9	16248.8	3832.8	2377.0
1970-75	2.8	580.0	0.3	693.7	0.5	1273.7	0.6	1676.7	962.7	382.7
1975-80	1.5	350.0	1.1	2792.0	1.2	3142.0	1.2	3281.5	449.6	99.6
1980-85	0.6	160.0	1.0	2544.4	1.0	2704.4	1.1	3131.1	548.6	388.6
1985-90	0.2	50.0	1.6	4374.9	1.5	4424.9	1.4	4197.1	-228.8	-278.8
1990-95	1.2	300.0	0.6	1781.1	0.7	2081.1	0.9	2841.9	1026.2	726.2
1995-99	0.1	15.8	0.0	32.3	0.0	48.1	0.4	1120.5	1074.5	1058.7
Netherlands										
1970-99	0.8	155.2	1.1	1626.4	1.1	1781.6	1.1	1959.1	313.5	158.4
1970-75	2.2	63.9	-0.5	-113.0	-0.2	-49.1	0.4	101.9	213.9	150.0
1975-80	2.2	72.6	0.6	140.8	0.8	213.3	0.9	235.3	92.3	19.7
1980-85	0.7	26.1	-0.7	-164.9	-0.5	-138.8	0.6	155.2	318.6	292.5
1985-90	-0.1	-1.9	2.6	597.1	2.3	595.2	1.5	442.2	-159.2	-157.2
1990-95	-0.4	-14.5	1.7	433.5	1.4	419.0	1.7	522.8	84.2	98.7
1995-99	0.3	9.1	3.3	732.9	2.9	742.0	1.9	501.6	-236.3	-245.3

Table 10.4 Annual average growth rates and changes, thousands, various periods *(cont.)*

	Public		Private		Total		Labour Force		PGAP	UGAP
	Growth	Change	Growth	Change	Growth	Change	Growth	Change	Change	Change
Norway										
1970-99	3.1	413.4	0.5	206.2	1.1	619.6	1.2	671.1	454.5	41.1
1970-75	5.0	81.0	0.2	11.3	1.1	92.3	1.3	108.6	95.6	14.6
1975-80	4.4	89.1	1.2	87.0	2.0	176.1	1.8	168.5	78.9	-10.2
1980-85	2.4	57.4	0.7	48.9	1.1	106.3	1.3	127.3	76.4	19.0
1985-90	2.3	62.1	-0.6	-46.8	0.2	15.3	0.7	73.9	119.5	57.4
1990-95	2.3	69.9	-0.3	-19.5	0.5	50.4	0.4	45.4	64.2	-5.7
1995-99	2.0	53.9	2.1	125.3	2.1	179.2	1.6	147.5	19.8	-34.1
New Zealand										
1970-99	0.7	43.1	1.3	466.5	1.2	509.6	1.4	635.6	167.4	124.3
1970-75	4.2	44.4	2.0	109.2	2.4	153.7	2.4	156.4	46.8	2.3
1975-80	1.5	18.6	0.6	37.2	0.8	55.8	1.2	89.1	51.7	33.1
1980-85	-0.5	-6.5	1.7	107.0	1.3	100.5	1.6	119.3	12.0	18.5
1985-90	-0.6	-7.0	-1.0	-62.0	-0.9	-69.1	0.0	-1.0	61.1	68.1
1990-95	-0.9	-11.5	3.0	197.5	2.4	186.0	2.1	172.8	-25.2	-13.7
1995-99	0.5	5.0	1.3	77.8	1.2	82.8	1.4	99.0	21.0	16.0
Portugal										
1970-99	4.1	572.2	1.0	959.1	1.4	1531.3	1.4	1604.4	574.2	1.9
1970-75	4.0	55.8	2.3	328.3	2.4	384.1	2.3	390.6	44.9	-10.9
1975-80	5.8	103.0	0.5	77.0	1.0	180.0	2.0	367.7	274.4	171.4
1980-85	5.1	117.0	0.2	38.8	0.8	155.8	1.0	191.3	144.1	27.1
1985-90	4.1	120.3	1.6	264.3	2.0	384.6	1.1	232.2	-42.5	-162.8
1990-95	3.3	117.2	-0.4	-69.5	0.2	47.6	0.7	158.8	221.2	104.1
1995-99	1.9	59.0	2.3	320.1	2.2	379.1	1.4	263.9	-68.0	-127.0
Spain										
1970-99	4.3	1437.0	0.0	1.5	0.4	1438.5	0.9	3702.8	3597.9	2160.9
1970-75	7.6	266.9	0.2	94.3	0.6	361.2	0.9	560.8	450.8	183.9
1975-80	5.2	251.2	-1.6	-909.2	-1.1	-658.0	0.4	276.0	1177.4	926.2
1980-85	3.9	237.0	-2.3	-1186.4	-1.6	-949.4	0.8	524.6	1696.4	1459.4
1985-90	5.6	423.2	2.6	1327.2	3.0	1750.4	1.7	1201.4	-159.3	-582.5
1990-95	1.2	109.2	-1.4	-762.4	-1.0	-653.2	0.7	531.1	1278.7	1169.5
1995-99	1.9	149.5	3.3	1438.0	3.1	1587.5	0.9	609.0	-846.0	-995.5

Table 10.4 Annual average growth rates and changes, thousands, various periods *(cont.)*

	Public		Private		Total		Labour Force		PGAP	UGAP
	Growth	Change	Growth	Change	Growth	Change	Growth	Change	Change	Change
Sweden										
1970-99	1.6	461.7	-0.3	-248.5	0.2	213.3	0.3	395.1	636.4	174.7
1970-75	5.3	238.2	-0.2	-30.2	1.1	208.0	1.1	216.2	242.5	4.3
1975-80	4.5	255.2	-0.5	-82.0	0.8	173.2	0.9	190.9	269.5	14.3
1980-85	1.7	112.8	-0.7	-105.0	0.0	7.8	0.2	47.3	151.5	38.7
1985-90	0.3	24.1	1.5	216.7	1.1	240.8	0.9	191.7	-28.4	-52.5
1990-95	-2.3	-158.4	-2.3	-337.6	-2.3	-496.0	-1.1	-239.0	102.9	261.3
1995-99	-0.2	-10.2	0.8	89.6	0.5	79.4	-0.1	-12.1	-101.5	-91.3
Switzerland										
1970-99	1.8	216.2	0.6	524.4	0.7	740.6	0.8	837.2	312.7	96.5
1970-75	3.7	61.4	-0.6	-85.9	-0.2	-24.5	-0.1	-14.4	71.5	10.1
1975-80	2.7	53.5	0.0	4.7	0.4	58.3	0.3	54.3	49.6	-3.9
1980-85	1.0	21.7	1.2	166.5	1.2	188.3	1.3	212.3	45.8	24.1
1985-90	1.9	45.3	2.7	421.2	2.6	466.5	2.6	454.3	33.1	-12.3
1990-95	1.4	34.2	-0.3	-54.4	-0.1	-20.3	0.6	114.9	169.4	135.2
1995-99	0.0	0.0	0.5	72.4	0.5	72.4	0.1	15.7	-56.6	-56.6
United Kingdom										
1970-99	-0.7	-838.4	0.6	3561.5	0.4	2723.1	0.5	3852.6	218.4	1056.8
1970-75	3.0	724.0	-0.4	-438.5	0.2	285.5	0.5	616.0	1042.9	318.9
1975-80	0.5	135.0	0.1	50.9	0.1	185.9	0.7	879.9	812.4	677.4
1980-85	-0.1	-31.0	-0.6	-601.6	-0.5	-632.6	0.7	956.4	1540.0	1571.0
1985-90	-0.2	-51.0	2.5	2527.4	1.9	2476.4	0.7	939.2	-1606.0	-1555.0
1990-95	-6.7	-1553.0	0.6	642.8	-0.7	-910.2	-0.1	-128.7	-769.1	783.9
1995-99	-0.4	-62.4	1.5	1380.5	1.2	1318.1	0.5	589.8	-801.8	-739.4
United States										
1970-99	1.6	7599.5	1.9	47224.2	1.8	54823.7	1.8	56572.8	7176.9	-422.6
1970-75	3.2	2127.3	1.5	5034.2	1.8	7161.5	2.5	10973.8	5518.3	3391.0
1975-80	2.0	1563.6	3.1	11909.5	3.0	13473.1	2.7	13204.2	787.8	-775.8
1980-85	0.2	151.5	1.8	7699.2	1.5	7850.7	1.5	8493.4	468.2	316.7
1985-90	2.2	1912.1	2.1	9729.6	2.1	11641.7	1.7	10389.3	260.8	-1651.2
1990-95	1.1	987.2	1.0	5125.4	1.0	6112.6	1.0	6458.5	1085.2	98.0
1995-99	1.1	857.8	1.8	7726.3	1.7	8584.2	1.3	7053.7	-943.4	-1801.3

Source: OECD, *Economic Outlook Database*, 1960-1999.