

The Costs of Unemployment in Australia

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Abstract

In this paper it is demonstrated that the measurable costs of the sustained high rate of unemployment in Australia are substantially higher than the alleged gains from neo-liberal (microeconomic) reforms. In addition, significant individual and social costs can be identified. Consequently macroeconomic intervention to reduce unemployment should be viewed as a priority, rather than the imposition of market reform with its uncertain impact. The paper concludes with a brief outline of a Job Guarantee Program, advocated by Mitchell (1998) that utilises the principles of the buffer stock mechanism to reduce unemployment. It is argued that the net increase in government outlays is modest and could be offset by a reduction in the level of annual corporate welfare.

1. Introduction

Since the first of the oil shocks in the early 1970s the Australian unemployment rate has exhibited a long term increase with the three subsequent recessions each ratcheting up the unemployment rate. The following recoveries failed to reduce the unemployment rate to its previous low level. In the last two decades, the lowest rate of unemployment was 5.4 per cent (November 1989). Over the last decade both the current Howard Coalition Government and the previous Labor Government have eschewed the adop-

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tion of policies of direct job creation to reduce the rate of unemployment.¹ Fiscal policy has been geared to the achievement of budget surpluses, ostensibly to improve the level of net exports and to reduce pressure on domestic interest rates under the twin deficits and crowding out hypotheses, respectively. At the same time monetary policy has been geared to keeping inflation low. An agenda of extensive labour and product market reform commenced when the Labor Government was in power and has accelerated under the Coalition. The current Government does not have an explicit employment policy. Strong *economic fundamentals* allied with deregulated markets are viewed as both necessary and sufficient for the return to full employment, even though the Coalition's track record with respect to unemployment is disappointing (see Figure 1).² The rate of unemployment has remained above 6 per cent after the Coalition inherited a rate of 8.9 per cent in March 1996 in an environment of low inflation. By contrast in 1974, the rate of unemployment was less than 3 per cent. At the same time unemployment is now viewed as an individual problem rather than a collective problem. This is epitomised by the introduction by the Work for the Dole scheme at the end of 1997 and its consolidation through the development of mutual obligation in mid-1998.

Further the disparate rates of unemployment across groups, including by age, country of origin, educational attainment and region, and the long term increase in the average duration of unemployment confirm that the burden of unemployment is not equally shared. The Government's solution to this malaise is always further reform, rather than a fundamental change in policy. Despite the OECD Jobs Study (1994), there is increasing scepticism about the capacity of neo-liberal reforms to reduce the high unemployment rates that have prevailed in most OECD economies since the mid-1970s (Bell, 2000 and chapters therein).

Most researchers acknowledge that the costs of the sustained high unemployment in Australia and other developed economies are substantial (Sen, 1997a,b Junankur and Kapuscinski, 1992, Mitchell and Watts, 1997, Watts, 2000a). In this paper, we examine the economic and social costs of unemployment associated with the Australian economy using September 1999 as the basis of the analysis. At that time the unemployment rate was 7.4 per cent. Using conservative assumptions, the foregone output resulting from the unemployment rate being above its full employment rate, assumed to be 2 per cent, is estimated to be in the order of \$33.5 billion.³ We justify the full employment assumption later. The improvement in net government receipts is estimated to be \$15.63b. This assumes that full employment was achieved through an exclusively private sector recovery. These costs of

unemployment dwarf the benefits of microeconomic reform, which at the very least suggests that direct macroeconomic intervention should be a priority (Watts and Mitchell, 2000). Recognising these high economic and social costs of unemployment, Mitchell (1998) advocates a Job Guarantee (JG) Program under the principles of the buffer stock mechanism to reduce unemployment in Australia. The value of increased output under a JG Program is calculated to be about \$27.19b, due to the conservative assumption of lower productivity in the public sector. The net increase in government outlays is modest and could be offset by a reduction in annual corporate welfare. All newly created jobs, both public and private, attract on-cost of 20%.

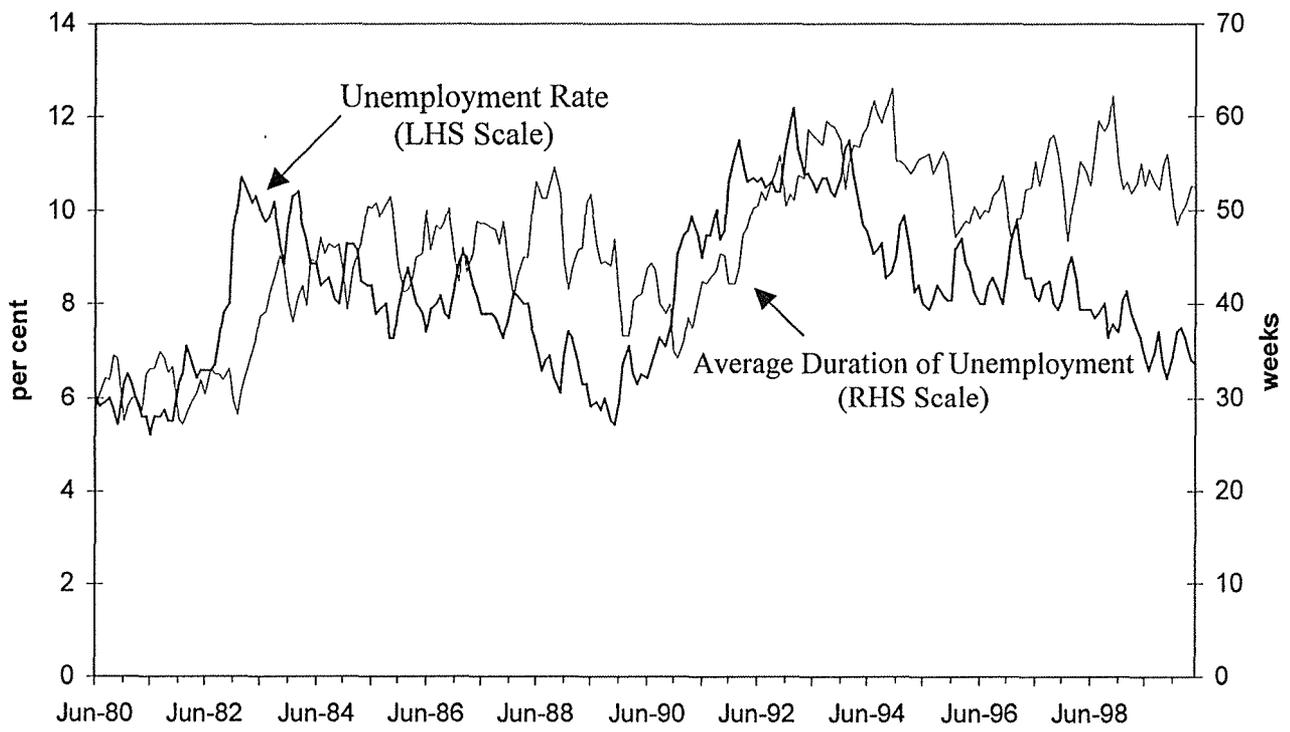
These results should be seen in the context of recent estimates of the costs of microeconomic inefficiency. The Industry Commission (1995) estimated that the overall benefits of microeconomic reform were 5.5 per cent of GDP, of which 2.3 per cent resulted from productivity improvements and the remainder from flow on. Quiggin (1997: 257) is critical of these estimates, noting that the productivity calculation is based on the assumption of zero productivity growth in the absence of reform and that the likely effect of flow on is negative reflecting the permanent displacement of workers from employment. He estimates the benefits to be less than 1 per cent, taking account of the impact of microeconomic reform on unemployment. Thus, there is persuasive evidence that the macroeconomic costs of unemployment, as measured by foregone output, dominate any realistic measure of the costs of microeconomic inefficiency. This comparison ignores all the other costs that are associated with unemployment. Thus direct, macroeconomic intervention is justified.

The paper is laid out as follows. Section 2 considers the disproportionate incidence of unemployment across persons, households and regions. Section 3 outlines the methodology used to compute the costs of unemployment. Section 4 uses the methods developed in Section 3 to outline the estimation of the costs of implementing a Job Guarantee. Concluding remarks follow.

2. Policy Goals and the Duration and Incidence of Unemployment

The costs associated with sustained unemployment might be justified if there was an agreed collective economic goal, such as low inflation, that was deemed to require a particular rate of unemployment. Under these conditions, a consensus would be needed over the sharing of the costs of

Figure 1. Unemployment Rate and Average Duration of Unemployment, June 1980-May 2000



this rate of unemployment. Further, prior to imposing the required rate of unemployment, other methods of maintaining price stability should be subjected to a cost-benefit analysis. For example, would a comprehensive incomes policy be a less expensive option for inflation control?

The evidence on the duration and incidence of unemployment would suggest that these costs have not been shared equitably. In 1966, the average duration of unemployment was 3 weeks. In the last two decades, it has ratcheted upwards and stood at 50.6 weeks (September 2000). If the incidence of unemployment were equally shared, the rate of unemployment of 6.4 per cent (September 2000) would translate into an average duration of 3.3 weeks.

The maldistribution of jobs across families also confirms that the burden of unemployment is not equally shared. In February 1998 about 25.1 per cent of families had no family member employed, which represented an increase from 22.7 per cent in February 1988. Over the decade, the percentage of these families with one or more dependants rose from 30.7 to 32.8. Of the families with one or more dependants, the percentage with no parent working rose from 13.1 to 16.2. On the other hand, over the decade, the percentage of this group with both parents employed rose from 42.1 per cent to 44 per cent. Thus there is evidence of a polarisation in the distribution of employment opportunities across families, with an increased percentage of families with dependants having either no parent or two parents working (Dawkins 1996: 280). The decline in the employment to population ratios by age for males has contributed to this polarisation, since the spouses of unemployed men are unlikely to secure employment (Freeland 1997: 27). In addition, there is now alarming evidence emerging that unemployment is being inherited across generations with youth unemployment being much higher in households where no person is employed (OECD, 1996).

There is also significant variation in unemployment rates across cities. For example in March 2000, Fairfield experienced an unemployment rate of 11.3 per cent whereas in the Sutherland Shire it was 1.9 per cent (Department of Employment, Workplace Relations and Small Business, 2000). This signifies a trend towards increasing polarisation of income and employment opportunities for families resident across particular regions and even suburbs (Gregory and Hunter, 1995).

Some economists view unemployment as the outcome of voluntary choice made in response to generous unemployment benefits, excessive wage expectations, idleness or lack of motivation of the unemployed (Moore, 1997).⁴ Despite the difficulty in measuring vacancies, the persistently high ratio of unemployment to vacancies would suggest that a signifi-

cant proportion of unemployed workers are involuntarily unemployed.⁵ Further, the tightening of the activity test by the Howard Coalition Government has not led to a dramatic reduction in the official rate of unemployment.

3. The Costs of Unemployment

Introduction

Sustained unemployment imposes significant economic, personal and social costs that include (Sen, 1997a,b and Junankur and Kapuscinski, 1992):

- loss of current output;
- social exclusion and the loss of freedom;
- skill loss;
- psychological harm;
- ill health and reduced life expectancy;
- loss of motivation;
- the undermining of human relations and family life;
- racial and gender inequality; and
- loss of social values and responsibility.

These costs of unemployment are documented in more detail below, and, where possible, quantified.

Output Loss

In September 1999, out of a labour force of 9621 thousand, 713.3 thousand workers were officially unemployed with 72.8 per cent of them seeking full-time employment. In September 1999, part-time employees worked an average of 15.8 hours per week and full-time employees 42.5 hours per week.

A number of conceptual and empirical issues arise in the computation of foregone output resulting from unemployment, hidden unemployment and underemployment. First, the choice of the target rate of unemployment is important (Junankur and Kapuscinski, 1992: 23). The chosen rate of unemployment must reflect estimates of frictional and any obdurate structural unemployment. Hamilton and Saddler (1997) estimate that the frictional unemployment rate is 1.7 per cent, reflecting the rate of unemployment in the 1950s and 1960s. We use the figure of 2 per cent for the following reasons.

- (a) We distinguish between full employment as the number of jobs required to meet the number of persons seeking employment (Beveridge, 1944) from that level of unemployment, which is associated (albeit ephemerally) with a stable inflation rate.
- (b) Economists should not define full employment as the unemployment that is considered politically feasible at any point in time. Economists should define concepts independent of the vagaries of the political process and then examine the political reasons as to why particular positions are not attained.
- (c) The current rate of employment may include a significant structural, as well as frictional, component. In this paper, we are conducting a thought experiment in calculating the costs of unemployment. We accept the argument that persistent unemployment has led to skill atrophy at a time when skill demands appear to be increasing (Watts 2000b). The solution to high unemployment is job creation and associated on-the-job training, rather than an endless series of training programs that are disconnected from current job vacancies. Many researchers conflate the measurement of structural unemployment with demand deficient unemployment at times of high unemployment. The creation of such a large number of jobs and the acquisition of the requisite level of skill by the newly employed will take time, but our calculations ignore this transition process to full employment.

Mitchell and Carlson (2000) show that the aggregate labour force participation rate is pro-cyclical although some age-gender groups do not exhibit any cyclical sensitivity. Accordingly, the computation of the additional jobs to achieve the target unemployment rate must include an estimate of hidden unemployment (HU). Mitchell and Carlson (2000) estimate that the increase in participation associated with the target unemployment rate of 2 per cent is consistent with a level of hidden unemployment (HU) of approximately 266.1 thousand (see Table 1). Thus to achieve an unemployment rate of 2 per cent requires $NJ = 0.98(LF + HU) - N = 781.7$ thousand and LF, N denote the prevailing labour force and employment, respectively. The bracketed term represents the potential labour force. A majority of the hidden unemployed were women (66.7 per cent) who had a lower propensity to seek full-time employment (60.7 per cent as compared to 82.1 per cent for men).⁶

In addition, account must be taken of the underemployed. The ABS (1999) reports that in September 1999 291.5 thousand part-time workers

Table 1. The Underlying Parameters

The Labour Market September 1999			
Official Unemployment (000s)	713.3	Unemployment Rate (%)	7.4
Labour Force (000's)	9,621.0	% of Unemployed Seeking Full-Time	72.8
Average FT Hours Per Week	42.5	Average PT Hours per Week	15.8
PT seeking FT employment (000s)	291.5	PT seeking more hours of work (000s)	179.8
Labour Market with 2 per cent Unemployment ('000s)			
Hidden Unemployment	266.1	New Jobs for (Hidden) Unemployed	781.7
'Jobs' for Underemployed	199.0	Total New Jobs	980.6

were seeking full-time employment and 179.8 were seeking extra hours of work. The average additional hours sought by these workers were 15.7. Of the total of 471.3 thousand underemployed part-time workers, 41.6 thousand were neither available nor were looking for extra hours of work. We do not include them but assume that the rest sought 15.7 additional hours of work on average. In addition, 36.2 thousand workers usually worked full time and were working part-time. These are ignored. The extra 6746.3 thousand desired hours of work per week translates into the equivalent of 168.7 thousand full-time jobs, given the assumption of a 40 hour week. This translates into 199 thousand new (part-time and full-time) jobs, when account is taken of the preferences of men and women for part-time and full-time employment.⁷ Then the total number of additional jobs required to reduce the rate of unemployment to 2 per cent and remove underemployment is 980.6 thousand.

Nominal Gross Domestic Product for the year ending September 1999 was \$604.0 billion. Average monthly full-time equivalent employment was 7310.5 thousand over this period. Thus annual productivity per full-time equivalent employee was about \$82,620.

The level of foregone output associated with the prevailing level of unemployment and underemployment is proxied by a direct measure of output per worker, that is in turn, multiplied by the number of additional employees.⁸ We assume that the productivity of the newly employed full-time equivalent workers in the private sector is \$40,000, reflecting the lower skills of the unemployed and possible capital shortages resulting from the higher level of economic activity. Then if 2 per cent unemployment were to be achieved by an exclusively private sector recovery, along with the removal of all underemployment, the increase in output would be approximately \$33.5 billion. This represents about 5.5 per cent of nominal

annual GDP. Langmore and Quiggin (1994: 28) estimated that, after taking into account the hidden unemployed, the static costs of income loss lay in the range of \$30-\$40 billion per year.

Finally, taking account of the cumulative costs of sustained recession, Langmore and Quiggin (1994: 28) note that if the more rapid growth of GDP per head over the period 1960-73 had been sustained, national income would have been nearly 50 per cent higher in the early 1990s. These calculations reflect the dynamic costs of unemployment, because they pick up the loss of future output arising from the reduced human and physical capital stock due to skill atrophy and the lower investment in the physical capital stock (Junankur and Kapuscinski, 1992: 24; Denniss and Burgess, 1999). Sen (1997b) suggests that high unemployment can also impede technical change, because the incentive to adopt labour-saving technologies is reduced in the presence of plentiful, cheap labour.

Individual and Social Costs

The pecuniary costs of unemployment that are borne by individuals are normally represented by the replacement ratio which is the ratio of the level of unemployment benefits net of tax and any costs associated with job search to net income from work, where the latter is adjusted for the costs of commuting, work uniform and taxation. Thus it measures the extent to which the system of unemployment benefits compensates for the loss of work income. Its low level signifies the shift away from the Keynesian welfare state to a policy regime that no longer proclaims the ideals of full employment and the universal safety net (Burgess, Mitchell, O'Brien and Watts, 2000). Policy makers clearly view unemployment as an individual problem, not a collective one, which is consistent with the shift to a market-based view of economic life.

Junankur and Kapuscinski (1992: 51) note that the replacement ratio is non-unique, because it depends on the underlying system of tax system of taxation and other factors, including the level of work income, marital status and number of dependents. A calculation based on the replacement ratio and the level of unemployment would ignore the pecuniary costs of the hidden unemployed. One estimate of the pecuniary costs of unemployment for individuals would be the net increase in post-tax wage income associated with full employment or 2 per cent unemployment. This is estimated to be \$12.35 billion under a private sector led recovery.^{9,10}

The replacement ratio, while measuring the immediate loss of income from unemployment, fails to indicate the long-term potential loss of income from a sustained spell of unemployment. For example, an individual's

long-term capacity to secure employment (Junankur and Kapuscinski, 1991) and income (Bradbury, Ross and Doyle, 1990) is often reduced by a period of unemployment and/or if benefits are only available for a limited period. This is especially problematic because prolonged joblessness can lead to a loss of skills and a general decline in the ability to perform at work.

In a US study, Darity and Goldsmith (1993) show that exposure to unemployment and even underemployment impairs an individual's self-confidence and sense of control. Rather than increasing her/his effort to overcome unemployment, the person will progressively reduce efforts to re-enter the work force through reduced intensity and persistence of search and a reduced motivation to acquire skills that might improve the prospects for re-employment. This decline in motivation not only impairs the capacity to search for employment in the future, but will also reduce subsequent job performance through reduced cognitive efficiency, the depreciation in human capital and the increase in underlying stress, if the individual does return to work (Darity, 1999).

These economic costs contribute to the non-pecuniary costs to individuals of unemployment through their social exclusion, resulting from the loss of social and professional contacts in the workplace (Sen, 1997b; Darity, 1999), that can undermine self-esteem, along with psychological problems, including stress and loss of self worth and medical problems, which can be linked to lifestyles, involving poor diet and/or excessive consumption of alcohol (Junankur and Kapuscinski, 1992).

Burgess and Mitchell (1998) note that the human rights of the unemployed are undermined by their loss of freedom. Without access to labour income they are forced to rely on social and/or family transfers, non-labour income or savings. Many unemployed people do not have access to these sources of support thereby limiting their ability to participate in the market economy. It restricts choices over lifestyles, personal development and access to basic goods and services.

The adverse consequences of unemployment not only impact on the victims, but also on their families and the rest of the community. Unemployment has been linked to truancy and non-completion of schooling, family break up, spouse abuse, substance abuse, alienation, discrimination, illness and premature death, and poverty (Siegel, 1994: 8).¹¹ Junankur and Kapuscinski (1992: 57) show that higher unemployment tends to reduce the incidence of marriage and raise the rate of divorces.

Burgess and Mitchell (1998) note that social and economic exclusion encourages anti-social behaviour and fosters the growth in illegal activity as a means of generating income (see also Darity, 1999). Unemployment is

unevenly distributed across regions and within cities, with the unemployed tending to congregate in areas of cheap housing. Further, the incidence of youth unemployment appears to be related to the labour market status of their parents.

Finally, increasing fiscal conservatism by governments, combined with a prevailing attitude that unemployment benefits are a privilege rather than a right, has led to the financial pressures on the unemployed intensifying and to gaps emerging in the welfare system. In Australia, eligibility conditions for benefits have been tightened, youth unemployment benefits abolished, and work for the dole programs introduced. Most recently, fines and associated breaching of persons on benefits have been introduced (Biddle and Burgess, 1998; Burgess, Mitchell, O'Brien and Watts, 2000). Some or all of these provisions may be extended to single parents on benefits and disabled pensioners.

Sen (1997b) argues that high unemployment contributes to jingoism as well as to inter-racial or inter-ethnic tensions. Social cohesion also can erode under the pressure of rising unemployment. Galbraith (1998: 133-149) argues that unemployment increases the general degree of income inequality in most societies (see also Sen 1997b: 164).

Government Outlays and Revenue

Outlays on unemployment and sickness benefits were \$7.02 billion and invalid and permanent disablement benefits were projected to be \$5.76 billion over the year 1999-00 (ABS 5212.0). Langmore and Quiggin (1994: 29) argue that much of the long-term increase in sickness benefits and disability support pensions can be attributed to unemployment. They estimate that about half of these recipients are people could undertake employment if jobs were available.

In June 1999, 577,682 customers were receiving Disability Support Pensions. Regressions were undertaken to estimate the (cyclical) sensitivity of the number of DSP recipients to variations in the employment to population ratio (Department of Family and Community Services, 1999).¹² The elasticity was found to be -2.41 for all (male plus female recipients).¹³ Using the employment to population ratio corresponding to 2 per cent unemployment, it was estimated that the number of DSP recipients would fall by 104.5 thousand, about 18.1 per cent if full employment was achieved.

An interesting empirical question is whether these DSP recipients were previously classified as part of the hidden unemployment or whether they constitute an additional source of underutilised labour. Further analysis of

this issue is beyond the scope of the paper, so it is assumed that these DSP recipients who secure employment are part of the stock of hidden unemployed.

Using September 1999 figures, the saving in unemployment benefits and disability support pensions resulting from the achievement of 2 per cent unemployment through a private sector recovery is estimated to be \$5.63 billion.¹⁴ The increase in income tax revenue is estimated to be \$3.82 billion from the private sector recovery. It reflects the full-time versus part-time employment status of the newly employed workers, as well as their previous status. Indirect taxes net of subsidies were 11.9 per cent of GDP for the year ending September 1999. We estimate the increase in indirect taxes resulting from the rise in economic activity to be \$3.99b.

Expenditure on labour market programs, in the form of assistance to job seekers and industry, was projected to be \$1.68 billion over the year 1999-2000. If unemployment fell to a frictional level of 2 per cent, then most of these programs could be terminated. We allow \$680 million for retraining and the provision of improved communications to assist the dissemination of information about job vacancies and the characteristics of the unemployed, so that outlays are reduced by a modest \$1 billion.

Finally the costs of unemployment are revealed in most areas of government, including police, community welfare and health services. The outlays on public order and safety and health were projected to be \$0.88 billion and \$22.45 billion, respectively in 1999-00. The rate of unemployment of 7.4 per cent is assumed to contribute 20 per cent to public law and order expenditure and 10 per cent to safety and health expenditure. There is insufficient provision by government of health and safety and law and order services at present, however, so that, rather than considering cuts in outlays of this magnitude, we assume that the *effective* level of service provision is increased at full employment by maintaining the level of expenditures.¹⁵

Table 2. Change in Government Receipts and Outlays: 2 per cent unemployment

Change in Government Outlays (\$b)		Change in Government Revenue (\$b)	
Unemployment Benefits	-4.83	Taxes on Wages	3.82
Outlays on Disability Pensions	-0.80	Taxes on Profits	1.19
Outlays on LM Programs	-1.00	Indirect Taxes	3.99
Total	-6.63	Total	9.00
Change in Net Government Revenue 15.63			

Hence, based on these figures, achieving full employment, defined as 2 per cent unemployment through a private sector recovery, would net the government an extra \$17.15 billion, through significant direct and indirect savings in employment assistance, unemployment benefits, Disability Support Pensions, and through increased income tax and indirect tax revenue (see Table 2). This figure is a similar order of magnitude to the estimates of Langmore and Quiggin (1994: 29) of savings on direct outlays of about \$12 billion in 1992-93.

4. Job Guarantee

Mitchell (1998) argues that, if the private sector does not provide sufficient job opportunities to achieve full employment, then the government should guarantee a full-time or part-time job to everyone who desires one at the living wage level. The Job Guarantee is designed to generate both full employment and price stability.¹⁶ There are many unfulfilled needs that could be met by Job Guarantee workers including environmental restoration, community services to the aged, the youth, and the disabled, and other similarly useful activities. Local councils have the knowledge and expertise to identify pressing social needs and employment agencies could readily establish the extent of idle labour. Such a program will generate a high rate of social return on public expenditure (Mitchell 2000; Watts and Mitchell, 2000 for a more detailed discussion of the philosophy of the Job Guarantee).

Watts and Mitchell (2000) examine the arithmetic of the Job Guarantee. Based on realistic assumptions about consumption propensities¹⁷ and hence multiplier effects, along with public sector wage rates and productivity by private and public sector, they calculate the mix of private and public sector part-time and full-time jobs that would yield full employment.

The increase in net government outlays would vary with the level of unemployment. The estimated net cost in September 1999 would have been \$5.52b.¹⁸ In the context of the current budget surplus (over \$12 billion at October 2000), the cost of the Olympics (\$5 billion), the corporate welfare handouts to private companies (about \$6 billion per year), and the tax cuts given to the high income groups to accompany the GST (\$6.5 billion), the estimated cost of the Job Guarantee makes it a realistic policy option. Further, the current outlays by the Government to sustain the contracts under the Jobs Network are around \$3.5 billion per annum.¹⁹

The returns of having everyone in meaningful employment would be substantial. However, given the budget surplus fetishism of the current Coalition Government, a Job Guarantee would be considered excessive.

From a political viewpoint, it might be better to compare the costs of the Job Guarantee relative to its overall benefits, which include restoration of community values, to the costs and benefits of other major government programs. For example, a candidate for significant fiscal cuts would be corporate welfare. Large players in the corporate sector are able to demand significant inducements from both Federal and State governments to locate their operations in the appropriate area (Mitchell, 1995). 'Competitive smokestack chasing' reaches the height of absurdity when State Governments compete for business from multi-nationals through generous incentive programs. In 1996 State and Territory Governments spent almost \$6b on subsidies and foregone revenue (Baragwanath and Howe, 2000). Despite the increased accountability that is required of welfare recipients, the corporate sector appears to be largely immune to the requirement for *any* form of evaluation (Baragwanath and Howe, 2000).

5. Conclusion

The paper has demonstrated that, even under conservative assumptions about parameter values, the economic and social costs of sustained high unemployment and the associated loss of revenue to government are extremely high. The inability of unemployed individuals and their families to function in the market economy gives rise to many forms of social dysfunction, in addition to output loss. The apparent failure of neo-liberal supply side policies to reduce unemployment and the modest benefits of micro-economic efficiency points to the need for demand management policies.

Watts and Mitchell (2000) estimate that, the net increase in government outlays to achieve a fully employed economy under a Job Guarantee program is relatively small. Given the budget surplus fetishism of the current Coalition Government, a significant cut in Commonwealth Government outlays would be required. One candidate would be corporate welfare. However many economists now challenge the long-term viability of persistent budget surpluses (see for example Mitchell, 1998 and references therein).

Notes

- 1 Mitchell (2000) presents data for 1970-2000, which shows that the failure of public sector employment to grow proportionately with the labour force explains a substantial portion of the persistent unemployment. The private sector achieved employment growth in proportion to the labour force growth. Between 1985-1990, private employment growth was significantly above labour force growth,

whereas public sector growth actually fell and the opportunity to reduce the huge stock of unemployment was lost. In the following recession, public sector employment behaved pro-cyclically (contrary to its historical counter-cyclical tendency) and the employment gains of the late 1980s were dwarfed by the large increase in unemployment.

- 2 For a concise statement of the belief that in the long-run full employment will be the outcome of low inflation see Reserve Bank (1996).
- 3 All the calculations undertaken in this paper are available from the authors (see also Watts and Mitchell, 2000).
- 4 The onus is on Moore and his fellow researchers to provide evidence as to why personal characteristics such as 'excessive wage expectations, idleness or lack of motivation of the unemployed' tend to be consistently associated with specific economic characteristics of groups of workers, such as age and education, predisposing them to exhibit higher or lower rates of unemployment. A more plausible explanation is that employers rank their prospective employees according to their education and past employment experience.
- 5 Even if 50 per cent of unemployment were voluntary, the ratio of unemployment to vacancies would still be in the order of 5 to 1.
- 6 We assume that the hidden unemployed, differentiated by gender have the same preferences for full-time versus part-time employment as the official unemployed.
- 7 It is not possible to compute the extra output, wages, tax etc associated with the underemployed securing additional hours of work. For simplicity the equivalent number of jobs, both part-time and full-time, is treated as an additional component of the hidden unemployed.
- 8 In the income method it is assumed that the wage reflects the additional output produced by a newly employed worker.
- 9 This is based on calculating the composition of the new jobs between full-time and part-time and taking into account whether the new job recipients previously received unemployment benefits or disability support pensions or were hidden unemployed. The change in post-tax income for each type of job recipient can be readily calculated, based on a full-time wage of \$500 per week (see below).
- 10 Inclusion of this foregone income could be argued to represent double-counting, since foregone output, which includes the increased consumption of the newly employed, is already measured.
- 11 In their study of mortality rates in 30 U.S. cities, Merva and Fowles (1992) revealed that rising unemployment between 1990 and 1992 was responsible for significant increases in morbidity and mortality.
- 12 The log regressions were estimated using an AR2 correction for autocorrelation and the trend was decomposed from the cyclical response by including a time trend. The regressions satisfied the usual diagnostic tests (see Watts and Mitchell, 2000).
- 13 This is a long-run elasticity and the full effect of 104 thousand is estimated to impact over two years. The impact elasticity (over one-year) was estimated to be -0.827 . Given the context, our calculations use the total impact rather than the partial impact. The scenario is that the target 2 per cent unemployment rate is reached and then sustained.
- 14 It was intended to differentiate between the official unemployment rate as defined by the Labour Force Survey and the number of claimants for unemployment benefit. Since the latter exceeds the former, it was decided to assume that all

- officially unemployed workers who secure employment were recipients of unemployment benefit, set at \$170 per week. Those unemployed workers who secure part-time employment will not lose all their unemployment benefit.
- 15 Also it would be necessary to incorporate the impact of cuts in employment of health service professionals and police, if the same effective level of service was to be maintained.
- 16 See Mitchell (1998) for an account of the in-built inflation control associated with the Job Guarantee policy.
- 17 A domestic propensity to consume of 0.75 and a propensity to consume out of profit of 0.6 are assumed, which reflects the low savings ratio of about 0.03 and an import to GDP ratio of approximately 0.20.
- 18 This figure is based on the DSP recipients who secure employment being classified as hidden unemployed initially. The figure rises to \$6.41b if these pension recipients represent an extra component of underutilised labour.
- 19 It should be noted that Mitchell (1998) and Wray (1999) argue against the Job Guarantee being measured as a cost to the budget. They say that the budget deficit should not be a target of policy makers and should instead be allowed to vary endogenously. At the heart of their analysis is the criticism of economists who draw an analogy between the household spending and financing decisions and the spending constraints on government. They argue that Federal government spending is not constrained and hence reject the major findings in the government budget constraint literature. According to their argument the existence of unemployment signifies that the budget deficit is too low. In this context, arguments about whether \$4.73 billion is too high or a feasible amount to add to the budget deficit are irrelevant.

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