

The Buffer Stock Employment Model and the NAIRU -

The Path to Full Employment

William F. Mitchell
Department of Economics
University of Newcastle
Australia

1. Introduction

In this paper, we bring together two major problems facing world economies: the persistence of high unemployment in most economies and the continued deterioration in ecosystem, which ultimately supports human and economic activity.

Marc Tool (1996, p.3) argues that policy must provide "paid employment at adequate levels of remuneration an assured human right." This is contrary to the recommendations that come from the vast majority of the economics profession. They focus on excessive wage, tax and welfare levels and regulative structures that they claim stifle flexibility and economic initiative. The more extreme elements argue that unemployment is a chosen state and therefore part of optimising calculus.

We reject the orthodox argument as flawed logic, which is not well supported by empirical evidence. We will argue that the real source of the persistently high unemployment that has bedeviled OECD economies for around 20 years has very little to do with the reasons advanced by the orthodox paradigm. The main reason for the unemployment is that a fundamental change has occurred in the way governments interact with the community. We argue that unemployment arises because collective will has been replaced by a regime of economic rationalism, which emphasises the individual and doesn't understand how its currency functions.

The government operates to redistribute resources from private households to the public sector for use in a variety of collective actions. The desirable size of the government (and the amount of resources that are redistributed) is not an economic issue, but it is rather, a political choice. The question for economists is how the government goes about it role once its scale is accepted.

Unemployment arises because the budget deficit is too small relative to the desires by the private sector to meet its tax obligations, to save and to hold money for transactions purposes, other things equal. As the sole supplier of fiat currency, the government can force the private sector, via the imposition of tax obligations, to provide real goods and services that it desires for its socio-economic objectives. It must however make sure that there is enough currency available to the private sector. Government spending which adds deposits to the banking system is a primary method of providing these resources and a relaxed interest rate policy is another. But the private sector also has a positive savings propensity and requires cash balances to ease the timing of transactions. If taxes and or interest rates are too high or spending too low then individuals cannot find enough work to meet these obligations and involuntary unemployment results.

Unemployment also cannot be discussed independently of price stability. We will show that there are three ways in which the government can approach the target of price stability. First, it can adopt the monetarist NAIRU¹ approach where the government does not maintain a high enough deficit relative to the private sector's spending and saving plans and thus removes labour resources from private sector employment leaving them idle in unemployment. This idle force then operates to maintain price stability.

¹ NAIRU refers to the Non Accelerating Inflation Rate of Unemployment.

Second, it can conduct what we refer to as a buffer stock employment (BSE) policy whereby the public sector absorbs all the current idle workers into paid employment at a base level wage which it sets and maintains. We will show that the relevant price stability concept can be called the NAIBER.² Under the BSE-NAIBER approach, there is no unemployment, as we currently know it. So inflation control is maintained by redistributing labour resources from the private sector to the buffer stock sector. The change in the buffer employment ratio (BER) provides the discipline to cost pressures in the private sector. This method inflation control uses demand deflation in the private sector in the same way as monetarism but does not leave labour resources lying idle. It is clearly preferable to the current method of dealing with price stability.

A third approach is an extension of the BSE-NAIBER policy. In this case, the government may not wish to let the market determine the BER and so it can intervene using an incomes policy to maintain a lower than otherwise BER and still maintain price stability.

As a consequence, we argue that the only sustainable path to full employment lies in the public sector resuming its responsibility for coordinating the collective will via its role as the buffer stock employer. The method of maintaining price stability is then a matter of debate but a rational government which understood how its own currency works and the role of the budget deficit would not choose the NAIRU approach. Moving to a BSE policy is both possible and desirable compared to the current position where idle labour is used to maintain price stability. The costs from lost output and social alienation of the NAIRU approach are enormous. Mitchell and Watts (1997) indicate that the daily losses from unemployment in Australia are around \$156 million or \$3100 per capita per annum, more than twice the alleged microeconomic inefficiencies estimated in the 1991-92 Annual Report of the Australian Industry Commission.

The BSE model can thus be justified on two separate grounds: First, it is appealing from social welfare and altruism considerations; and, second, it is the only rational strategy for a government which supplies a fiat currency and wishes to maximise the macro benefits and retain price stability. There is, however, a further justification.

Post Keynesian economists also reject the orthodox emphasis on microeconomic factors when considering unemployment. Following Keynes, they argue that large-scale unemployment is due to insufficient demand and can be cured if the public sector stimulates spending using traditional fiscal and monetary instruments. While not denying the thrust of this approach, we argue that deficient demand can only be a proximate cause of the unemployment. The reason there has been a long-term deficiency in aggregate demand lies in the refusal of modern governments to comprehend the role of its currency and to use budget deficit spending when it is required. This reflects the individualism that has replaced the sense of collective responsibility that characterised economies following WW II and a fear of inflation which in the absence of direct controls requires a NAIRU to control.

However, the standard Post Keynesian view also fails to take into account issues of environmental sustainability. Even if it was possible to expand demand enough to promote growth sufficient to keep pace with labour force growth and productivity growth and mop up the huge stocks of long-term unemployment, how could the natural ecosystems, already under great strain, cope?

The buffer stock employment proposal enhances a strategy that aims to reduce the environmental problems. There is a need to change the composition of final output towards environmentally sustainable activities. These are unlikely to be produced by the private sector because they have heavy public good components. They are ideal targets for public sector initiative. If the unemployed workers are deployed in these areas of activity, the individuals gain a restored personal dignity and the society gains from the increased provision of environmental sensitive goods and services. It is not increased demand *per se* that is necessary but increased demand in certain areas of activity.

² NAIBER refers to the Non Accelerating Inflation Buffer Employment Share.

So a new trade-off emerges replacing the traditional Phillips curve inflation-unemployment trade-off. A low BER (high private sector employment relative to total employment) is likely to be less attractive on environmental grounds but as we argue later is also likely to be consistent with a higher overall rate of productivity growth. The government must therefore choose a BER commensurate with a level of activity that advances its environmental objectives but which also produces a satisfactory rate of productivity growth necessary to remain competitive in the traded goods sector.

The paper is set out as follows. Section 2 examines the proposition that unemployment is due to a loss of collective will. Section 3 presents data for Australia to highlight the long-term unemployment problem, which has been the result of a withdrawal by government in the last 20 years from active representation of this collective will. Section 4 relates the BSE model to environmental sustainability and the future of work. Section 5 introduces the Buffer Stock Employment (hereafter BSE) model. Section 6 discusses the BSE in relation to the problem of price stability. We outline three methods of controlling inflation and discuss their relative merits. Section 7 outlines the reasons why any budget deficit implications of introducing the BSE policy should be disregarded. Concluding remarks are provided.

2. Unemployment as a loss of collective will

In the 1980s, we began to live in economies rather than societies or communities. It was also the period that unemployment persisted at high levels in most OECD countries. The two points are not unrelated. Unemployment arises because there is a lack of collective will. It does not arise because real wages are too high or aggregate demand too low. These are only proximate causes, if causes at all. The lack of collective will has been the principal casualty of the influence of rationalism

Unemployment rates in almost all OECD economies have risen and persisted at higher levels since the first OPEC shocks in the 1970s. Mitchell (1996) and Mitchell and Watts (1997) argue that the two decades of high unemployment are due to excessively restrictive fiscal and monetary policy stances by OECD governments driven by monetarist ideology. The rapid inflation of the mid-1970s left an indelible impression on policy makers who became captive of the resurgent new-labour economics and its macroeconomic counterpart, monetarism. The goal of low inflation replaced other policy targets, including low unemployment. This has resulted in GDP growth in OECD countries generally being below that necessary to absorb the growth in the labour force and labour productivity. The battle against unemployment has been largely abandoned in order to keep inflation at low levels.

Mitchell (1996) also substantiates the link between movements in the unemployment rate and capital expenditure. The restrictive policy pushed real interest rates to high levels for extended periods that resulted in lower than otherwise private capital expenditure. Further, public capital expenditure cuts exacerbated the situation. As growth declined and unemployment rose, the resulting high cyclical budget deficits led to further cuts in public capital spending being justified by the balanced budget mania that accompanied the rationalist push.

The pursuit of balanced budgets also narrowed the range of policy instruments used. It is now very difficult to raise income or other taxes to provide flexibility to the budget position, although effective marginal tax rates have been increased through more extensive means testing of welfare benefits. Accordingly, there has been an excessive reliance on monetary (interest rate) policy despite the bluntness of this instrument.

But the underlying cause is that the reemerging free market ideology has convinced us, wrongly, that government involvement in the economy imposes costs on us and we have thus supported governments who have significantly reduced their involvement in economic activity via spending and tax cuts and widespread deregulation and privatisation. The only way we will return to full employment, with everyone sharing in the benefits, is if the public sector increases its role in the economy.

Ormerod (1994, pp.202-203) argues that the Post-WWII period of strong GDP growth, balance of payments stability, and high investment could have occurred without the low unemployment. "The sole

difference would have been that those in employment would have become even better off than they did, at the expense of the unemployed." The higher tax rates and buoyant government sectors allowed the flux and uncertainty of aggregate demand to be shared.

While the bulk of the OECD has abandoned this method of sharing, some economies have maintained high levels of employment into the current period. Ormerod (1994, pp.203) suggests that Japan, Austria, Norway, and Switzerland, among others have (in their own ways) "exhibited a high degree of shared social values,, of what may be termed social cohesion, a characteristic of almost all societies in which unemployment has remained low for long periods of time."

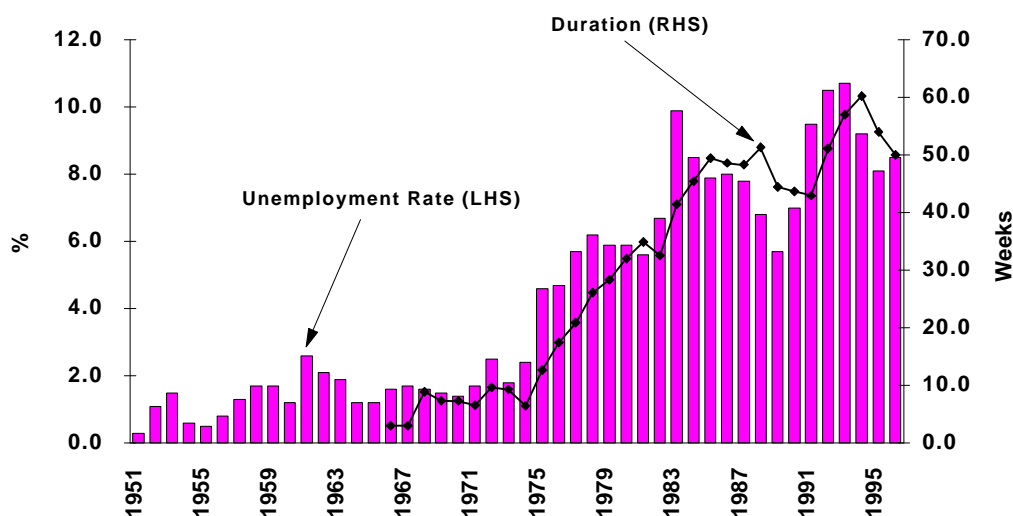
Most significantly, Ormerod says that "the countries which have continued to maintain low unemployment have maintained a sector of the economy which effectively functions as an employer of the last resort, which absorbs the shocks which occur from time to time, and more generally makes employment available to the less skilled, the less qualified."

3. Growth Gaps

For the unemployment rate to remain constant, real GDP growth must be equal to the sum of labour force and labour productivity growth, other things equal. In the midst of on-going debates about labour market deregulation, minimum wages and taxation reform, the most salient, empirically robust fact that has pervaded the last two decades is that the actual GDP growth rate has rarely been above this required rate (see Mitchell, 1996). The two decades of slow growth and high unemployment has meant that the numbers of long-term unemployed have risen, a pattern common across OECD economies.

Figure 1 charts the history of the unemployment rate and the average duration of unemployment for Australia. The average duration of unemployment was 3 weeks when data was first collected in 1966 and is now around 50 weeks. There is thus a hard-core of unemployed that has little chance of regaining employment in the private sector with plausible growth rates.

Figure 1 Unemployment Rate and Average Duration of Unemployment - Australia, 1959-1997

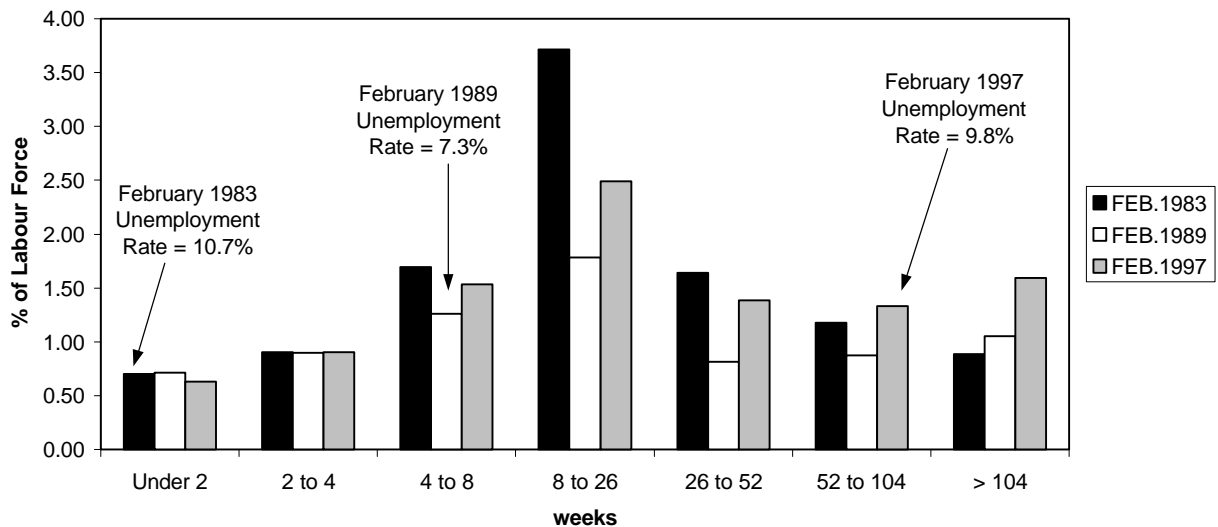


Source: Foster 1996 (kindly provided by Derek Sicklen)

It is also interesting to examine the distribution of the duration of unemployment. Figure 2 shows this distribution for three observations: February 1983 (when the aggregate unemployment rate was 10.7 per cent), February 1989 (aggregate unemployment rate was 7.3 per cent), and February 1997 (aggregate unemployment rate was 9.8 per cent). The chart reveals that the ability of the Australian labour market to match the short-term unemployed has not deteriorated. The level changes are cyclical. However there has

been a secular deterioration in the labour market revealed by the large growth in long-term unemployment which is related to the lack of jobs.

Figure 2 The distribution of the duration of unemployment, February 1983, 1989, and 1997



Source: ABS Ausstats.

The data suggests that without government intervention in the form of a higher budget deficit, it is highly unlikely that the private sector will deliver enough jobs to match the growth in the labour force and productivity growth and also to absorb the growing stock of long term unemployed. For Australia, with reasonable assumptions about labour force and productivity growth, real GDP would have to grow consistently at a rate of 5.2 per cent per annum until the year 2005 to mop up the long term unemployed and restore a 2 per cent unemployment rate. Sustained levels of growth at this rate have never been achieved in Australia's history and would suggest further environmental degradation. It is here that the BSE policy can create the number of jobs required to absorb the long-term unemployed and push us onto an environmentally sustainable growth path.

4. Full Employment and Sustainable Development

At the outset we challenged the conventional Post Keynesian approach to restoring full employment. For example, Davidson (1994, p.79) says, "fiscal policy is conceived of as the balancing wheel, exogenously increasing aggregate demand whenever private sector spending falls short of a full employment level of effective demand and reducing demand if aggregate demand exceeds full employment."

The problem is not in the mechanics although some might say that with path-dependence in investment, the slow down in the 1970s has now created a disparity between the labour supply growth and capacity growth which renders it difficult to restore full employment using existing technologies. The real problem is that the types of growth rates required are likely to cause irreparable damage to the natural environment. There is a difference between growth and development. Herman Daly (1996) argues that development is a qualitative improvement in resource efficiency, which constrain economic activity to remain within the bounds defined by the regenerative and absorptive capacities of the ecosystem. Alternatively, growth means a quantitative increase in the amount of energy and materials taken from the earth and processed through the economy, returning to the earth usually in the form of waste.

Conventional economics, including Post Keynesians who advocate growth rather than development, do not consider what Daly calls the biophysical aspects of the economy. They see the resolution of environmental problems as being within the market realm. Even softhearted economists like Blinder (1987) say that the

issue of pollution is in the realm of economic goods and services rather than being on any higher moral plane.

A popular argument used by economists is it that economic growth will provide the resources to improve the quality of the environment. The World Bank (1992) suggests a bell shape in the relation between environmental quality and GDP per capita. As growth occurs environmental quality declines then at some point the society is rich enough to reverse the damage.

Dasgupta (1996) examines the empirical evidence and concludes that the relationship "is valid for pollutants involving local short-term costs (e.g. sulphur, particulates, fecal coliforms), not for the accumulation of stocks of waste, nor for pollutants involving long-term and more dispersed costs, such as carbon dioxide, which typically increase with income". Further, "bell-shaped curves have been uncovered for emissions of pollutants, not resource stocks" and "the bell-shaped curves, as they have been estimated, say nothing about the system-wide consequences of reductions in emission."

In this paper, we do not examine the evidential basis for suggesting that continued growth would be unsustainable. There is an amount of evidence, depending on your position, which does suggest this. For example, the World Commission on Environment and Development (1987, pp.32-33) concluded, "There are thresholds, which cannot be crossed without endangering the basic integrity of the system. Today we are close to many of these thresholds; we must be ever mindful of endangering the survival of life on earth." Similarly, the World Resources Institute (1992, p.2) concluded, "The world is not now headed toward a sustainable future, but rather toward a variety of potential human and environmental disasters." The World Bank (1992, p.9), after estimating that the world GDP levels would rise by 350 per cent by the year 2030 said, "if environmental pollution and degradation were to rise in step with such a rise in output, the result would be appalling pollution and environmental pollution and damage."

Macroeconomics has never focused on the scale of activity - which is the size of the economy relative to the ecosystem. Any discussion about full employment must be put into the economic growth versus sustainable development debate. Independent of whether cutting real wages or stimulating demand directly is the way to increase employment, it still remains that to increase employment we need higher levels of output. So the issue of what the higher levels of output implies is relevant.

Any policy designed to generate full employment must consider the ecological consequences of the higher levels of activity. In the next section, we argue that the move to a BSE model is consistent with the concern to bring macroeconomic growth targets in line with what is ecologically sustainable.

5. The Buffer Stock Employment Model

Given the extent of the problem of long term unemployment and the expectation that the private sector cannot solve the problem Mitchell (1996) and Mitchell and Watts (1997) propose the BSE model as a permanent solution to unemployment. Mosler (1997) has proposed a similar approach - the Employer of the Last Resort (ELR) policy. Under both schemes, the government would act as a buffer stock employer and continuously absorb workers displaced from the private sector. The 'buffer stock' employees would be paid the award minimum wage which provides a wage floor for the economy. The BSE proposal would automatically increase government employment and spending as jobs were lost in the private sector, and decrease government jobs and spending as the private sector expanded.

BSE Work

Where would the work be? Work is often associated with the jobs that profit seeking private firms offer in return for wages, but if income is only linked to this narrow concept of work, many of the working age population will remain unemployed. Beyond the scope of this paper is the wider debate about what will constitute work in the next century. The BSE model provides an ideal solution to both the current

unemployment problem and the future need to extend the range of employment activities that society deems to be worthy of reward by income.

Numerous service jobs could provide immediate benefits to the society, when filled by BSE workers. These include urban renewal projects and other environmental and construction schemes (reforestation, sand dune stabilisation, river valley erosion control and the like), personal assistance to pensioners, assistance in community sports schemes, and many more.

This raises an issue about the structure and function of the jobs. The buffer stock would fluctuate up and down inversely with the level of economic activity in general. While its existence would reinforce the automatic stabilisation already inherent in the fiscal system and further attenuate the amplitude of the business cycle, it remains that it would be a fluctuating work force. The design of the jobs and functions would have to reflect this. Where projects or functions required critical mass some problems might arise if workers left to take private sector employment. Where the buffer stock employment was covering what was considered essential services the government may consider moving these functions from the buffer stock to the permanent public service. At any rate, the design and administration of projects would have to recognise the fluctuating nature of the employment.

Opponents of the scheme have argued that substantial numbers of the current unemployment are unskilled and require retraining. The argument, however, is often accompanied by solutions such as minimum wage cuts, which allegedly, would provide the incentive to employers to take these unskilled workers on. The argument is inconsistent. Either the unskilled require extensive re-training, or there are circumstances where they can work if offered an opportunity. There is no evidence that reducing minimum wages increases total employment. There is strong evidence that firms lower hiring standards and provide the required training with employment opportunities as the labour market tightens.

Under the BSE scheme, wages are paid which correspond to the bottom of the wage structure. A healthy person should quickly develop adequate skills for these types of jobs. Where training is required, the BSE scheme would provide integration with public sector training schemes and at least give the trainees guarantees after the training period.

Cost

What would this cost? There are three studies of such schemes that provide estimates of costs in the UK, the USA and in Australia. Wendell Gordon (1997) calculated the costs of a jobs guarantee in the US on the assumption that 8 million jobs would be necessary. He concluded that the initial cost to government would be \$39 billion or \$41 billion with a more generous wage payment. Gordon does not consider the dynamic effects that would follow the multiplier and so his estimates are overstated. Based on current US data (June 1997) from the BLS a return to a 2 per cent unemployment rate would require around 4.1 million jobs to be created. Assuming proportionality this would cost around \$21 billion or around 0.06 per cent of the current GDP.

Kitson *et al.* (1997, p.234) considers a "policy agenda involving a major public-investment-led programme involving one million new jobs being created" in the UK. The cost of the program taking into account the outlays on wages and the savings on transfer payments and extra taxes was estimated to be 7 billion pounds. A 2 per cent unemployment rate with a labour force of 28 million would require around 840,000 jobs being created given the current level of employment (June 1997). Adjusting Kitson's calculations (which were based on 750,000 direct jobs and 250,000 jobs from multipliers) gives a cost of 5.9 billion pounds or around 0.19 per cent of current GDP.

For Australia, and assuming that full employment coincides with 2 per cent unemployment, the BSE scheme would lead to around 625,000 people gaining public sector employment ignoring hidden unemployment (in June 1997). At the ACTU Living Wage level of \$400 per week, on-costs of 20 per cent, an average income tax rate of 25 per cent, and an average unemployment benefit payment of \$161 per week, the extra employment would cost the Government in net terms around \$7.4 billion over a year. This

would be around 3.5 per cent of current GDP. The differences between the costs as a percentage of GDP in the three cases reflect the relative economic health of their economies. For Australia, assuming an average productivity level, the extra outlays would result in a lower Budget deficit as a proportion of GDP.

The costs are overstated because they ignore the extra expenditure effects that arise as the buffer stock employees increase their incomes. Over a year, this spending would create extra employment in the private sector, reduce the buffer stock employment levels, and increase tax revenue and reduce outlays. Based on reasonable assumptions about spending and import propensities these are estimated to be.³

For Australia, the unemployment benefits scheme would be abolished. Anyone unemployed would be required to work if they wanted an income. This raises the philosophical question of whether a person is entitled to social security support if they refuse to take a buffer stock job. The issue is beyond the scope of this paper but is addressed in Mitchell (1998c).

The relative costs of this scheme for Australia are best illustrated by referring back to Table 3. At average productivity levels, the current cost to Australia in foregone production with the unemployment rate above 2 per cent is a staggering \$87 million dollars per day at the current unemployment rate (ignoring hidden unemployment). These daily losses are permanent and at the same time the Government also foregoes tax revenues. Taxes amount to about 23 per cent of GDP. The lost taxes therefore amount to around \$7.3 billion per year. The BSE proposal is thus a very cheap option. In addition, the high unemployment places increased costs on the health system, and is associated with increased family breakdown and higher crime rates.

The administration costs would be non-zero, but so are the administrative costs associated with high unemployment, which extend well beyond the costs of running the unemployment benefits system. The administrative costs of running the health system, the judicial system and the family court system would all be lower under the BSE proposal.

Gordon (1997, p.) concludes that:

Beyond this, there is an important sense in which the job guarantee program would not cost anything. The goods or services produced by the labor of the beneficiary of the job guarantee increase the gross national product and the national welfare by as much as the worker is paid as reliably as does any 'free market' labour. The labourer is 'earning' the wage or salary received. Also, and importantly, the worker under the job guarantee program has a job of which the worker can be as proud as are other citizens with their jobs.

6. Buffer stock employment, the NAIRU and inflation

In the introduction we stated that there were really three options available to an economy which desires price stability. First, to use unemployment as a tool to suppress price pressures as in the NAIRU approach. Second, introduce the BSE policy and use the BER to control inflation. Third, introduce the BSE policy and augment it with an incomes policy.

In this section we examine these options in more detail. Critics of the BSE approach argue that the rising budget deficits implied would be inflationary, as the NAIRU constraint would be violated. The proponents of orthodoxy consider the NAIRU to be a structural parameter or a cyclically-invariant constraint in the economic system. In this sense, it becomes a control or target variable because any deviation in the actual unemployment rate from it will lead to uncontrollable inflation.

³ The issue of capital stock augmentation is considered in Mitchell (1998b)

Inflation and the NAIRU

Jackman et al. (1984) characterise the position:

The greatest blow to textbook Keynesianism of the 1950s and the 1960s was the advent of the idea of the natural rate of unemployment. We accept this idea on the basis of innumerable augmented Phillips curves...

The expectations augmented Phillips curve became the centrepiece of the resurgence of orthodox thinking in the late 1960s. Inflation rates had risen during the late 1960s, which raised a credibility problem for the demand-oriented Keynesian macroeconomics that had driven the conduct of fiscal and monetary policy since the end of World War II.

The NAIRU and the related natural rate of unemployment (NRU) share the same explanation of the link between inflation and unemployment. In a world of diminishing marginal products and zero productivity growth, firms will only increase employment if the real wage declines. If workers are concerned about their real wage rather than the nominal wage, then the Phillips curve can shift when nominal aggregate demand rises, due to labour supply behaviour.⁴

The most obvious explanation of labour's response is that as aggregate demand rises, workers who are involuntarily unemployed (prefer more work to leisure at the current nominal wage) will supply more labour even though price inflation rises faster than wage inflation.

The NRH, in denying the existence of involuntary unemployment, is forced to choose a more esoteric explanation for a rise in labour supply when labour demand rises and real wages fall. Assuming that unemployment is always voluntary, it is claimed that cyclical behaviour is driven by workers failing to correctly distinguish between nominal wage and real wage movements. They interpret a rise in nominal wages as a rise in real wages and act accordingly. When lagged learning occurs the workers withdraw their labour causing the marginal product of labour and the real wage to rise, and ultimately the economy settles at the competitive equilibrium position.

The authorities can maintain unemployment above this natural rate only if they are prepared to continually trick the workers into supplying more labour than they would in full knowledge. This requires inflation being continually pushed ahead of wage inflation. So to maintain a stable inflation rate, the economy must be at the natural rate. There are many variants of the argument but the essential mechanics are the same. Left to its own devices, the market will deliver full employment with stable inflation via flexible prices and wages which bring supply and demand changes into line with each other. Anyone who is unemployed at this point has a "taste" for it and is assumed not to be a problem.

Thurow (1983) rejects the misperceptions and rational expectations explanation of unemployment arguing that the patterns of unemployment in OECD countries do not look random. He asks (pp. 186-87):

Can you honestly think that WWII presented a case of misinformation that produced low unemployment? No. But when governments tighten fiscal and monetary policies, unemployment also seems to rise as predicted.

The most damning piece of evidence against these supply side explanations of unemployment is that the quits rate rises in booms and falls in recessions.

The NRU-NAIRU concept arose from a misunderstanding of what the trade-off between inflation and unemployment really means and a failure to appreciate the way in which fiat money works in the economy.

⁴ There is a distinction between the NAIRU and the natural rate of unemployment (NRU). The NAIRU is the NRU with some structural impediments in the economy added. The mechanics of the inflation process are the same however.

The coincidence of high inflation and high unemployment in the 1970s - the period of stagflation - appeared to be contrary to orthodox Keynesian theory that juxtaposed low inflation with high unemployment and vice-versa. Blinder (1987, p.39) says "So when high inflation and high unemployment occurred together in the 1970s, many observers wrongly declared the Phillips curve dead and conventional macroeconomic analysis bankrupt."

The OECD experience of the 1990s shows that high and prolonged unemployment will eventually result in low inflation (see Mitchell, 1996) which suggests that the Phillips curve is alive and well. It does not, however, mean that the NAIRU mechanics described above apply. What is clear about the 1970s is that most OECD countries experienced stagflation with a range of different fiscal and monetary mixes. Further, the experience was shared across high-tax and low-tax economies.

While we reject the orthodox foundations of the NAIRU that attempts to underpin a non-trade-off world, we can develop a model that generates a NAIRU concept that is founded on principles in total opposition to the NRH. A more sound basis for examining inflation and unemployment interactions is to be found in the conflicting claims literature (see Mitchell, 1987). Inflation results from incompatible distributional claims on available real income. Sawyer (1985, p.17) argues that unemployment acts as a "control mechanism, albeit a socially and economically inefficient one." Unemployment can temporarily balance the conflicting demands of labour and capital by disciplining the aspirations of labour so that they are compatible with the profitability requirements of capital (Kalecki, 1971). Similarly, low product market demand, the analogue of high unemployment suppresses the ability of firms to pass on prices to protect real margins. The lull in the wage-price spiral could be termed a macroequilibrium state in the sense that inflation is stable. The implied unemployment rate under this concept of inflation is termed the macroequilibrium unemployment rate (MRU) by Mitchell (1987) and has no connotations of voluntary maximising individual behaviour which underpins the NAIRU concept (Sawyer, 1983).

The MRU is also closely related to the actual unemployment, a relationship that is referred to as hysteresis (Phelps, 1979, Hargreave-Heap, 1980, Mitchell, 1987). This is the fundamental difference between the orthodox NAIRU and the MRU. The NAIRU is usually not seen as being cyclically sensitive. For example, LNJ (1991, p.16)

In the long run, unemployment is determined entirely by long-run supply factors and equals the NAIRU (u^*). But in the short-run, unemployment is determined by the interaction of aggregate demand and short-run aggregate supply.

An hysteretic economy allows aggregate demand to influence the long-run steady-state unemployment rate subject to capacity constraints. Clearly there is a minimum irreducible unemployment rate that is equal to frictional unemployment. Steady-state rates above that are subject to change as the level of activity varies. If hysteresis exists, the MRU at any point in time should not be conceived of as a rigid non-inflationary constraint on expansionary macro policy. The MRU can be reduced by policies that reduce the actual unemployment rate. A principle source of hysteresis is the non-wage labour market adjustment that occur over the business cycle (see Okun, 1973; Mitchell, 1987). In an upswing, as vacancies fall, firms provide training with entry-level jobs to ensure they maintain an adequate supply of labour.

Wage demands in the private sector are thus inversely related to the actual number of unemployed who are substitutes for those currently employed. When the economy slows, many workers lose their skills through obsolescence and new entrants are denied relevant skills. Structural imbalance, which refers to the inability of the actual unemployed to present themselves as an effective excess supply, rises in the downturn.

Increasing the structural imbalance thus drives a wedge between effective and actual excess supply. The effective excess supply is the threat component of unemployment. To some degree, this insulates the wage demands from the cycle. The more rapid the cyclical adjustment, the higher is the unemployment rate associated with price stability.

Stimulating jobs growth decreases the wedge because the unemployed develop new and relevant work skills. These upgrading effects provide an opportunity for real growth to occur as the MRU declines. Why

will firms employ those without skills? An important reason is that hiring standards drop as the upturn begins. Rather than disturb wage structures, firms offer training with entry-level jobs. While the increased training opportunities increase the threat to those who were insulated in the recession, this is offset to some degree by the reduced probability of becoming unemployed.

The fact that at some stable inflation rate we can associate an unemployment rate and that it increases in the latter which ensure the former does not provide a theory of why there are income distribution conflicts between powerful groups in the economy. We might also call this unemployment rate the NAIRU but in doing so we add nothing to the understanding of the inflation process.

It is clear that different theoretical underpinnings can be given to the observation and each theoretical structure brings with it an entirely different comprehension of the role of the NAIRU and what it implies for activist government agendas designed to provide full employment.

The relationship between unemployment and inflation is, however, contingent on how the government uses its sole supply status of the fiat money. In a later section we show, that if the government chooses to set the price of the buffer stock wage, then it is able to control all other prices in the economy. At present, the government pays market prices for everything and uses unemployment to maintain price stability.

Inflation and the BSE

Given the existence of a relationship between unemployment and inflation, what are the implications of introducing the BSE policy for inflation? Would the policy add an inflationary bias to the economy? If the NAIRU balances the bargaining forces in the labour market this question really focuses on whether the existence of the job guarantee increases the bargaining power of labour and creates soft product market conditions that allow margin push to occur more easily.

To put this question in context suppose we characterise an economy with two labour markets: A (primary) and B (secondary), broadly corresponding to the dual labour market depictions (see Doeringer and Piore, 1970). Wage setting in A is contractual and responds inversely but in a lagged fashion to relative wages growth (A/B) and to the wait unemployment level. Unemployed skilled workers will not enter the B sector if they think they have a chance of re-employment in the Sector A. Thus they wait and represent an immediate substitute to those currently employed in Sector A.

A government stimulus to this economy increases output and employment in both sectors immediately, although adjustment to hours worked might dominate the quantity adjustment in Sector A (due to quasi-fixity considerations). Wages are relatively flexible upwards in Sector B and respond immediately. The compression of the A/B relativity stimulates wages growth in Sector A after a time. Wait unemployment falls due to the rising employment in A but also rises due to the increased probability of getting a job in A. The net effect is unclear. The total unemployment rate falls after participation effects are absorbed.

The inflationary impact of the wages growth in both sectors depends on whether business firms share the increased productivity (coming from higher rates of utilisation) or not. If firms try to extract the increased productivity growth by increasing their nominal profit margins, the wage rises will push up prices. A combination of wage-wage, and wage-price mechanisms can then drive an inflation process. The soft product market is also conducive. This is clearly a Phillips curve world.

The government has to repress demand if the inflationary spiral does not relent. The unemployment rate has to rise to bring inflation down. This is a typical NAIRU story. LNJ (1991, pp.12-13) say:

Only if the real wage ... desired by the wage-setters is the same as that desired by the price-setters will inflation be stable. And the variable which brings about this consistency is the level of unemployment.

This sort of equilibrium does not in any way connote full employment or market clearing. It merely signifies that the expectations of the workers and the firms with respect to their real income shares are for the moment compatible with the real income that is available for distribution.

Now consider this economy with a BSE policy imposed. Sector B now effectively becomes the BSE sector because its wage levels are fixed by the government in accordance with its desire to set the value for its fiat money. The wage sets a floor in the economy's cost structure for given productivity levels. The government may implement a BSE wage rule whereby the floor increases with productivity growth. The dynamics of the economy are now significantly altered. We can analyse this in two steps. The first effects occur as the economy changes over to the BSE policy. The second effects are those that arise when demand conditions in Sector A are strong.

The wage-wage pressures which were prominent in the non-BSE economy model are now reduced and would apply only to relativities within Sector A. This negates the source of cost pressure which leads LNJ (1991, p.13) to say "if unemployment is too low, wage-setters will try to raise their relative wages". The move to the BSE policy certainly eliminates all but wait unemployment in Sector A and frictional unemployment. But it does so without distorting the relative wage structure.

However, in general the rising demand softens the product market and via the increased spending of the buffer stock workers (whose incomes rise) the demand for labour rises in Sector A. There are no new problems faced by employers who wish to hire labour to meet the higher sales levels. They must pay the going rate, which is still preferable to appropriately skilled workers, than the BSE wage level. Many of the buffer stock employees would have been involuntarily unemployed and usually employed in Sector A jobs. They clearly will work at the going wage in the relevant Sector A jobs. The rising demand *per se* does not invoke inflationary pressures as firms increase capacity utilisation to meet the higher sales volumes.

What about the behaviour of workers in Sector A? Gordon (1997, pp. 833) says, "If there is a job guarantee program, the employees can simply quit an obnoxious employer with assurance that they can find alternative employment." Without the BSE, a worker in a slack market could not simply find a job in Sector B. Unemployment served to discipline wage outcomes. With a job guarantee wage bargaining is freed from the general threat of unemployment. However, it is unclear that this increased worker freedom would increase the propensity to push for higher wages than otherwise.

In professional occupational markets, it is likely that some wait unemployment will remain. A skilled worker who is laid off is likely to receive a payout that forestalls the need to get immediate work. That worker has a disincentive to immediately enter a BSE job because of the essentially low-pay nature and the risk of not being taken seriously when skilled jobs arise. The wait unemployment constitutes an effective labour supply - a threat - in the primary labour markets and serves to discipline wage demands in that sector.

However, the demand pressures may eventually exhaust the stock of wait unemployment (reducing it to a frictional stock) and wage-price pressures may develop.

Countering this is the fact that the buffer stock employees also represent a more attractive labour supply than when they were unemployed, not the least because they are more likely to have basic work skills like punctuality and the like intact. This reduces the hiring costs for firms in tight labour markets who previously would have lowered their hiring standards and provided on-the-job training. They can thus pay higher wages to attract workers or accept the lower costs that would ease the wage-price pressures.

In terms of our discussion concerning sources of hysteresis, the BSE policy significantly reduces the "hysteretic inertia" embodied in the long-term unemployed and allows for a smoother path to expansion in the private sector. The structural imbalance that existed prior to the introduction of the BSE policy is significantly reduced and along with them the growth bottlenecks.

A further source of cost pressure comes via the exchange rate for small trading economies like Australia. Under a fixed exchange rate regime, unless there is a coordinated fiscal policy among countries it would be

difficult for a small open economy to pursue its own full employment strategy. With higher spending on imports arising from the domestic expansion, the stimulus spreads throughout the fixed exchange rate bloc and the small country would face a borrowing crisis that would negate its full employment ambitions.

With flexible exchange rates, the demand stimulus would increase the price of foreign exchange, which under usual conditions increases the competitiveness of the country (reducing imports and increasing exports). In this case the full employment policy is possible. Vickrey (1996) says, "The danger of world speculative gyrations under freely floating conditions would be greatly diminished under a well-established full-employment policy, especially if combined with a third dimension of direct control over the overall domestic price level."

If the increased spending led to depreciation, through rising imports, a comprehensive incomes policy would be required to reduce inflationary pressures. Workers and firms would have to agree to allow real the depreciation to stick, as part of the return to the collective will. For everyone to have jobs those who are currently employed would have to sacrifice some real income to permit other to increase their claim on it. The scheme itself would not force up labour costs.

Inflation Control - the NAIBER

In the face of wage-price pressures, the Mosler ELR approach maintains inflation control in much the same way as monetarism. It seeks to curb inflation by choking aggregate demand and inducing slack in non-buffer stock sector. In private correspondence, Mosler has that "if a shrinking ELR pool is not answered with demand reducing measures, other prices will rise relative to the ELR wage and old fashioned inflation can follow." The slack does not reveal itself as unemployment because the ELR capacity absorbs workers dismissed from the private sector and in that sense the BSE/ELR may be referred to as a "loose" full employment.

The BSE/ELR policy can thus simply imply a suppression of private sector output and the assertion of the numeraire price in the system - the BSE wage. However, it does not get at the heart of the inflationary bias in capitalist systems, rather seeks to attenuate the labour market consequences. At this level, the ELR approach is thus a palliative and is not a cure. Further, maintaining low pressure in the private sector, carries with it all the consequences that troubled Arthur Okun in the 1970s. The implied private sector unemployment is only the tip of the iceberg.

Mosler's ELR wage is actually a wage floor that prevents serious deflation from occurring. The private sector wage structure is thus defined by the ELR wage. However, if the private labour market is tight, the non-buffer stock wage will rise relative to the ELR wage and the ELR pool will drain. The smaller this pool becomes the less influence the ELR wage has on wage patterning. Unless the government stifles demand, the economy will then enter an inflationary episode depending on the behaviour of labour and capital in the bargaining environment.

This leads to the definition of a new concept, the Non Accelerating Inflation Buffer Employment Ratio (NAIBER) which replaces the NAIRU/MRU as an inflation control mechanism in the buffer stock economy. The Buffer Employment Ratio (BER) is the ratio of buffer stock employment to total employment.

However, in the BSE model, inflation control can be achieved in two ways. Firstly, as above, the government can allow the NAIBER to work, with the buffer stock wage ultimately providing the inflation discipline as the BES rises following a rise in the interest rate, a rise in tax rates and/or a fall in discretionary government spending. In other words, the government can repress aggregate demand and thus transfer resources from the inflating non-buffer stock sector into the buffer-stock sector at a price that it sets.

The disciplinary role of the NAIRU is replaced by the compositional shift in sectoral employment and the costs of unemployment are thus avoided. That is a major advantage of the BSE approach compared to the orthodox NAIRU approach which forces the inflation adjustment onto the unemployed.

However, this method of inflation control imposes other costs. It is reasonable to assume that the non-buffer stock sector will have higher average productivity levels than the service oriented buffer stock sector. Transfers of resources from the former to the latter will alter the growth rate of productivity. A reduction in productivity growth may have implications for international competitiveness although this has to be seen in a stable inflationary environment.

There is also a possibility that productivity growth in the non-buffer stock sector will also fall. Kaldor (1978) asserts that productivity growth is also a scale matter. So aggregate productivity growth may fall due to the compositional and Kaldor effects as the BER rises.

There are also exchange rate effects that must be considered. For small open economy, the higher employment levels that are the result of the move to the BSE will increase imports without adding immediately to export revenue, given that these jobs are unlikely to be in the traded-goods sector. This may be interpreted as an immediate rise in the material standard of living.

But, the deterioration in the trade position of the country is likely to lower the exchange rate. This rate creates an inflationary impulse quite independent of any wage-price pressures that are going on in the non-buffer stock sector, although these pressures will be worsened by the depreciation and higher import prices. To avoid continued trade problems and inflation problems it would be better to maintain a strong export and import competing sectors. To do this the economy has to achieve high rates of productivity within those sectors.

The BSE economy thus has some new policy choices to make. If it minimises the BER, it can maximise productivity growth but is unable to control inflation and is also producing a lower environmentally favourable mix of goods. If it maximises the BER, it controls inflation, produces a strong environmental quotient but reduces productivity growth overall and will face trade problems.

The alternative is to separate the BER from the inflation control via an incomes policy. There is an extensive literature on the use of incomes policy but it only considers a non-buffer stock economy (see Watts and Mitchell, 1990; and Mitchell, 1997). The crucial difference in the BSE economy the government sets a wage floor and thus the price that it is willing to pay to transfer resources from the non-buffer stock sector to the buffer stock sector.

An incomes policy which builds a wage structure and wage adjustment rules based on the buffer stock wage being the numeraire for the economy would allow the economy to achieve both full employment and price stability. The design of such a policy is the topic of another forthcoming paper by this author.

5. The BSE and the Budget Deficit

Should we ignore the rising budget deficits implied by the BSE policy? The 1996 Nobel Prize winner for Economics, William Vickrey (1996) argues that "the 'deficit' is not an economic sin but an economic necessity. Its most important function is to be the means whereby purchasing power not spent on consumption, nor recycled into income by the private creation of net capital, is recycled into purchasing power by government borrowing and spending. Purchasing power not so recycled becomes non-purchase, non-sales, non-production, and unemployment".

One of the most damaging analogies in economics is the supposed equivalence between the household budget and the government budget. This immediately leads to what we might call "backward" reasoning. For example, Barro (1993, p.367) says "we can think of the government's saving and dissaving just as we thought of households' saving and dissaving."

The analogy is flawed at the most fundamental level. The household must work out the financing before it can spend. Whatever sources are available the household cannot spend first. Moreover, by definition a household must spend to survive. The government is totally the opposite. It spends first and does not have

to worry about financing. The important difference is that the government spending is desired by the private sector because it brings with it the resources (fiat money) which the private sector requires to fulfill its legal taxation obligations. The household cannot impose any such obligations. The government has to spend to provide the money to the private sector to pay its taxes, to allow the private sector to save, and to maintain transaction balances. Taxation is the method by which the government transfers real resources from the private to the public sector. Any spending above taxation results in a budget deficit.

The logic according to those who draw the household analogy follows like this. Debt would have to be issued to finance the deficit. Accordingly, bond sales finance government, which will accumulate as debt. Like a household, the rising debt cannot be sustained indefinitely and so spending must be curbed and brought in line with the financial reality.

This is "backward reasoning". It is also dangerous because it has resulted in periods of persistently high unemployment as governments around the world have been urged to curb their spending and live like a sensible household.

The backward logicians divide into two camps. The orthodox monetarists who eschew government debt and advocate balanced budgets. Their wrong-minded logic has imposed extremely high macroeconomic costs in terms of lost growth and high unemployment on the western economies since the mid-1970s. The other camp is the group, which includes some Post Keynesians, who while comfortable with using deficit spending to increase economic activity, couch their recommendations in conservative logic bounded by appropriate movements in the debt to GDP ratio. As long as the ratio is stable there is no problem.

For example, The Bank of International Settlements (1994) analysed the level of deficit that would be sustainable in terms of a stable government debt to GDP ratio (hereafter the debt ratio). They concluded that a deficit is sustainable as long as the debt ratio does not increase permanently. A framework for analysing the relation between deficits and the debt ratio is provided by Bispham (1988) and Glyn (1977). Glyn (1997, p.226), an advocate of expansionary fiscal policy to reduce unemployment, points out that this literally means the higher is the debt ratio the higher sustainable deficit as long as the real interest rate is below the GDP growth rate. He also argues that "financial markets, the ultimate arbiters of such matters, may look simply at the size of the deficit." The BIS (1995, p.88) concur that "it is difficult to persuade markets that low inflation is sustainable in the presence of large budget deficits." Glyn (1997, p.227) concludes that "Given the experience of the past twenty years it would be difficult to convince that increased deficits at the beginning of the expansionary programme would be rapidly scaled down as the private sector took up the main thrust of expansion. There seems little alternative to financing through taxation most of an expansionary programme." Further, Glyn (1997, p.224) says "it is misleading to treat them [interest rates] as entirely exogenous. It is likely that beyond a certain level, a higher deficit will lead financial markets to exact a higher real-interest rate."

There are several issues here which are dealt with in another paper (Mitchell, 1998b). Here we concern ourselves with the question of issuing debt following Government spending. Notice the way we express this. Debt issue after spending. The critics would turn this around and talk of debt financing implying you needed the borrowing prior to spending. It is this orthodox view which misunderstands the priority of spending and the subsequent role that the issue of securities plays in the financial markets. Debt issue does not serve to finance spending. Spending is whatever the Government chooses it to be plus automatic stabilisation.

The sale of government debt is not essential for governments to spend beyond tax revenue. The role that bond issues play is totally removed from the orthodox financing view. Mosler (1996) shows that bond issues are essential only to support the overnight interest rate that is exogenously set by the Reserve Bank. Deficit spending without Treasury bond sales would generate excess reserves in the banking system, so that government debt helps to maintain a positive overnight interest rate for private banks. The idea of crowding out in this real world environment is as meaningless as debates about the term maturity of the debt. Deficits add to the net disposable income of households in the economy and the income provides markets for private production. The higher demand stimulates investment that creates capacity as a legacy to the future. The higher is current demand, the higher is productive capacity in the future.

Vickrey (1996, p.10) says, "Larger deficits, sufficient to recycle savings out of a growing GDP in excess of what can be recycled by profit-seeking investment, are not an economic sin but an economic necessity." As long as the monetary authorities provide financing for profitable investment opportunities that arise due to the higher spending, there can be no crowding out. In an endogenous money world, there can be no crowding out unless the monetary authority stops lending.

The recent Asian financial troubles and IMF intervention have once again given credence to the view that increasing levels of debt will eventually lead to lenders refusing to take up further public borrowing. Usually this is cast in terms of countries with low levels of capital that have major private debt denominated in a foreign currency which is used to finance imports. Crises occur when the export revenue, which services the debt, falls for one reason or another. But none of these countries would have any trouble issuing debt in its own currency.

Vickrey (1996, p 11) says, "In the case at hand the debt is intended to supply a domestic demand for assets denominated in the domestic currency, and in the absence of a norm such as a gold clause, there can be no question of the ability of the government to make payments when due, albeit possibly in a currency devalued by inflation. Nor can there be any question of balking by domestic lenders as long as the debt is limited to that needed to fill a gap created by an excess of private asset demand over private asset supply."

The point is clear. When fiat money is used, government spending increases reserves in the banking system. Taxation and borrowing drain the reserves. This gives the clue to the function of borrowing. A deficit generates a net build up in reserves in the banking system. The spending occurs and the private firms and individuals that sell goods and services to the government deposit the proceeds in the commercial banks, which build up reserves. Unless those reserves are drained from the system, they will earn a zero return. That is the role of the government bond issues is to give these returns a way to earn a non-zero rate of return.

To fine-tune this point further, the spending would still have occurred if there were no bond issues. The excess reserves would be held somewhere in the banking system earning zero return. If the Treasury offers too few or too many bonds relative to the holders of reserve balances at the Central Bank, the Central Banks "offsets" those operations to balance the system. In any case, the 'money' is in one account or another at the Central Bank. We then ask the question - why should government care if the holders of the excess balances chose the one that doesn't pay interest as opposed to the ones that do (buying bonds)? The answer is simple - they would be indifferent.

6. Issues for further research

There are several issues that lie outside this paper but which are the subject of further consideration by Mitchell (1998b, 1998c). In no particular order:

1. The definition of work

It might be argued that "true" full employment must come from "full" aggregate demand. Accordingly, some might say that the buffer stock employees are not employed in real jobs. Critics of public sector job creation schemes argue that the jobs created are not real jobs and are therefore not sustainable. The simple retort is that the private sector firm does not ask your employment status when you offer to pay them for goods and services. From an expenditure perspective, all jobs are equivalent.

But the long-term issue relates to the definition of work. We currently think of work within the gainful employment framework accompanying the labour force classification. So someone is engaged in gainful work if they operate in the market sector and receive pay typically from a private employer making something. There are not enough of these jobs to fully employ the workforce. The situation is not likely to change drastically. It will become necessary to redefine what we mean by work and to

separate "work" from the claim on the distributional mechanism. In that context, the BSE policy advances society closer to broadening the definition of work.

2. Productivity growth

The BSE approach will have implications for the path of productivity growth in the economy. Kaldor (1978) argued that economic growth was a direct function of manufacturing output and the faster the latter grew as a ratio of total output, the faster would GDP grow. His claim was a restatement of Verdoorn's Law, which states that the growth of productivity in manufacturing depends on the growth of manufacturing output. So the key to economic growth was to be found in the growth of demand for manufacturing output. The BSE model predicts a decline in percentage terms in this type of output in favour of a higher composition of services and environmental activities. This implies overall that productivity growth will be lower than otherwise. Further analysis is required.

3. The right to work

Tool (1997) argues persuasively that employment is a human right and provides an analysis of the benefits of pursuing this as a policy. His conceptual analysis provides an alternative basis for justifying the BSE policy and the two strands of collective will need to be integrated. This reasoning also bears on the philosophical questions we raised earlier. If work is a human right, is it also a responsibility? In other words, if we form the value that government has to act as an ELR, does this simultaneously mean that able-bodied persons are expected to work to share in the distribution system?

4. Capital Stock Considerations

The BSE policy would require workers to be equipped with additional capital although the work would be of a low capital intensity. It may be argued that the capacity constraints on employing all the available workers would render the BSE policy difficult to implement. Preliminary work done by this author does not suggest a problem, however, further work needs to be done in analysing the capital stock implications.

Conclusion

Unemployment arises because the budget deficit is too low. It is always a macroeconomic problem. Australia's persistently high unemployment rate is largely the outcome of demand deficiency brought on by successive governments who have failed to understand the implications and logic of their own monetary position. The Buffer Stock Employment model is the only logical way of providing jobs for everyone with guaranteed price stability. Whether it be accompanied by an incomes policy is a matter of refinement rather than substance.

Once we understand the role of public spending and why there is no financing imperative for the government then it is possible to see why there is no requirement to balance the budget position of the government.

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