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6 | The Job Guarantee in a Small Open Economy

William F. Mitchell

1. Introduction

High and persistent unemployment has pervaded almost every OECD country since the mid-1970s. The period of rising unemployment began with the rapid inflation of the mid-1970s. The inflation left an indelible impression on policy-makers who became captives of the resurgent new labour economics and its macroeconomic counterpart, monetarism. The goal of low inflation led to excessively restrictive fiscal and monetary policy stances by OECD governments driven by a false analogy between the household budgetary constraints and government budgetary constraints (Mitchell 1996, 1998). This has resulted in GDP growth in OECD countries being generally below that necessary to absorb the growth in the labour force in combination with rising labour productivity.[1]

Ultimately, mass unemployment arises because the government budget deficit is too small relative to the desires of the private sector to meet its tax obligations, to save and to hold money for transactions purposes. It is thus a macroeconomic phenomenon and can never be a "real wage" problem as Keynes noted many years ago. The solution to this problem is for government to use deficit spending to introduce a Job Guarantee policy, which simultaneously achieves full employment and price stability (Mitchell 1996, 1998).[2] The Job Guarantee approach to full employment is contrary the current policy direction of governments in the OECD economies, which emphasise fiscal consolidation and supply-side reforms like deregulation and privatisation.

The fallacious analogy that government spending, taxation, and debt issue is equivalent to the spending and financing decisions of the household and that governments are supposed to seek financing prior to spending has led to the pursuit of budget surpluses in order to avoid al-

legedly higher tax rates and interest rates. 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 that have significantly reduced their fiscal involvement in economic activity.

The economies that avoided the plunge into high unemployment over this period maintained a "sector of the economy which effectively functions as an employer of the last resort, which absorbs the shocks which occur from time to time..." (Ormerod 1994: 203). The Job Guarantee policy fulfills this absorption function. In this chapter, some features of the Job Guarantee approach to full employment and price stability are developed (see Mitchell 1996, 1998, 1999, 2000a, 2000b). Under the Job Guarantee approach, the government continuously absorbs workers displaced from private sector employment. The Job Guarantee workers serve as a "buffer stock" of labour and would be paid the minimum wage, which sets a wage floor for the economy and thus prevents serious deflation from occurring and defines the private sector wage structure. Government employment and spending automatically increases (decreases), as jobs are lost (gained) in the private sector. We will demonstrate that this policy approach generates full employment and price stability.

Specifically, we contrast the inflation control mechanisms of the Job Guarantee model with those in an economy subject to a NAIRU.[3] The concept of the Non-Accelerating Inflation Buffer Employment Share (NAIBER) first developed in Mitchell (1998) is further explained. There are two broad ways in which government can maintain price stability. First, it can adopt the NAIRU approach by suppressing the budget deficit and generating unemployment. Second, it can conduct a Job Guarantee policy whereby the public sector absorbs all the current idle workers into paid employment at a base level wage that it sets and maintains. The relevant price stability concept is the NAIBER.[4] The change in the buffer employment ratio (BER)[5] disciplines the wage-price pressures in the private sector by asserting the buffer stock wage as the numeraire.[6] No rational government, which understood how its own currency works and the role of the budget deficit, would choose the NAIRU approach. The costs from lost output and social alienation are enormous.[7]

The chapter also considers the financial implications of the Job Guarantee model in the context of a small open economy. In addition to the normal arguments that monetarists and others use to justify their case against fiscal activism (crowding out, inefficient resource usage), it is often argued that increased globalisation imposes further restrictions on the ability of governments to pursue independent fiscal and monetary

policy. In Australia's case, it is alleged that budget deficits only result in growing current account deficits and rising debt levels. Reacting to this, it is alleged that external funds managers can enforce higher interest rates and thus even lower growth and higher unemployment in the domestic economy.

There are several testable hypotheses included in the monetarist case, which are rarely confronted with empirical scrutiny.

1. Is there evidence of a relationship between budget deficits and short-term and long-term interest rates? If there is no discernable statistical relationship found it is difficult to argue against fiscal activism based on financial crowding out arguments.

2. Is there evidence of a relationship between long-term interest rates across countries in globalised financial markets? If there is no relationship detected then the view that financial traders in the large markets like Japan and the United States can render domestic monetary policy ineffective is problematic.

3. Is there any evidence that the relationship between domestic long-term and short-term interest rates is unstable? Stability implies that the cash rate, which is set as a policy instrument, and the longer-term interest rates, which are influenced by market considerations, move together in a proportional manner over the long-run and that therefore the determinant is the officially controlled cash rate.

4. Is there any evidence to support the twin-deficits hypothesis that imposes causality from the fiscal deficit changes to changes in the current account deficit? A lack of such a direct relationship also provides further support for the use of bu

It is found that none of the principal claims used against fiscal activism are empirically sustainable. The evidence is supportive of the conceptual basis of monetary theory that underpins the Job Guarantee model (see Mitchell 1996; Mosler 1997-98).

The Job Guarantee model is thus justified on two separate grounds: first, it is appealing from social welfare considerations; and, second, it is the only rational strategy for a government that supplies a fiat currency and wishes to maximise macro benefits and retain price stability. A third justification exists in terms of environmental sustainability but that is addressed elsewhere (see Watts and Mitchell 2000).[8]

The chapter is set out as follows. Section 2 discusses the Job Guarantee in relation to the problem of price stability and explains how the NAIBER is preferable as an inflation control mechanism to the NAIRU.

Section 3 discusses the role of the budget deficit and explains why we should not be concerned about its size. Section 4 conducts a range of econometric tests, which establish that the monetarist case against budget deficits is not empirically founded. Accordingly it is argued that the budget deficit implications of introducing the Job Guarantee policy should be disregarded. Concluding remarks are provided.

2. The Job Guarantee Model

The Job Guarantee policy requires that the government act as an employer of last resort. Accordingly, the government stands ready to provide a job to any workers that are displaced from the private sector. The Job Guarantee workforce can be considered a "buffer stock" and would rise when private activity was unable to maintain levels of employment commensurate with available labour supply. As private demand conditions improved, the buffer stock would decline and workers would transfer back into the private sector. Government employment and spending would therefore automatically increase (decrease), as jobs were lost (gained) in the private sector. A key feature of the Job Guarantee proposal is that the Job Guarantee employees would be paid the minimum wage, which serves to define a wage floor for the economy. With the government purchasing at a fixed price, the economy is insured against ongoing inflation at full employment. Mitchell (1998) provides a full discussion of the cost and other features of the Job Guarantee.[9]

The Job Guarantee model allows currently idle workers to contribute in many socially useful activities including urban renewal projects and other environmental and construction schemes (reforestation, sand dune stabilisation, river valley erosion control, and the like), personal assistance to pensioners, and other community schemes. While the existence of the buffer stock would reinforce the automatic stabilisation built into the fiscal system, it remains a fluctuating work force. The design of the jobs and functions would have to reflect this. Projects or functions requiring critical mass might face difficulties as the private sector expanded, and it would not be sensible to use only buffer stock employees in functions considered essential.

Inflation and the NAIRU

Would the Job Guarantee policy violate the NAIRU constraint and generate inflation? The expectations-augmented Phillips curve became the centerpiece of the resurgence of orthodox thinking in the late 1960s as rising inflation rates challenged the credibility of the demand-oriented Keynesian macroeconomics. The conventional notion of an inflation-

unemployment trade-off that had driven the conduct of fiscal and monetary policy since the end of World War II was abandoned in favor of a natural rate of unemployment (NRU) that was considered to be insensitive to aggregate policy. The quest for balanced budgets and deregulation replaced fiscal activism. The NAIRU became the target for governments obsessed with inflation.[10]

The OECD experience of the 1990s shows that persistently high unemployment has eventually delivered low inflation – the Phillips curve is alive and well (Mitchell 1996).[11] Orthodox theory, in denying the existence of involuntary unemployment, had to adopt an esoteric explanation for the observed Phillips curve behavior. Adherents of the natural-rate hypothesis claimed that when a government stimulus pushes the inflation rate up, workers confuse the rise in nominal wages with a rise in real wages and increase their supply. The rise in labour supply lasts until the workers learn the truth and withdraw their labour, and ultimately the economy settles at the competitive equilibrium position – the NAIRU. Attempting to maintain unemployment below the NAIRU results in accelerating inflation. The most damning piece of evidence against these supply-side explanations of unemployment is that quits are procyclical – exactly the opposite hypothesized in the natural-rate story.[12]

Drawing from the competing claims literature, a NAIRU relationship can be established without the underpinnings of orthodox theory (Mitchell 1987). Accordingly, inflation results from incompatible claims on available real income, and unemployment acts to discipline the aspirations of labour so that they are compatible with the profit expectations of capital (Kalecki 1971). The depressed product market demand also reduces the ability of firms to pass on prices. The temporary price stability defines what Mitchell (1987) termed a macroequilibrium unemployment rate (MRU).[13] Adding hysteresis, where the MRU is functionally related to the actual unemployment, defines a long-term trade-off between inflation and unemployment (Hargreave Heap 1980; Mitchell 1987).[14]

If the government pays market prices for everything in a NAIRU world, then it is forced to use unemployment to maintain price stability. How would the introduction of the Job Guarantee policy change this?

Inflation and the NAIBER

To demonstrate how the Job Guarantee generates full employment with price stability we consider two situations: (a) introducing the Job Guarantee into a NAIRU economy with high unemployment; (b) maintaining

the Job Guarantee in the fully employed economy subject to inflationary biases in the private sector. Initially we outline the relationship between falling unemployment and inflationary pressures in a NAIRU economy.

We consider a stylised economy with a dual labour market where the sectors are differentiated by their wage setting mechanisms. Prices are set according to markups on unit costs in both sectors. Wage setting in the Sector A is contractual and responds in an inverse and lagged fashion to relative wage growth (A/B) and to the wait unemployment level (displaced workers who think they will be reemployed soon in Sector A). Wages are relatively flexible upwards in Sector B and respond immediately. A government stimulus to this economy increases output and employment in both sectors immediately. The compression of the A/B relative wage stimulates wage 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 wages growth in both sectors may force firms to increase prices, although this will be attenuated somewhat by rising productivity as utilisation increases. A combination of wage-wage, and wage-price mechanisms in a soft product market can then drive inflation. This is a Phillips curve world. To stop inflation, the government has to repress demand. The higher unemployment brings the real income expectations of workers and firms into line with the available real income and the inflation stabilises. This describes the fundamental mechanisms in a NAIRU economy.

What would happen if the Job Guarantee were introduced to solve the unemployment in this economy? For simplicity of argument we assume the Job Guarantee wage is set at the bottom of the private sector wage structure although not low enough to enforce poverty on full time workers. If there were poverty level wages being paid in Sector B, then there would be pressure on Sector B employers to restructure their jobs in order to maintain a workforce. The Job Guarantee wage sets a floor in the economy's cost structure for given productivity levels. The dynamics of the economy change significantly. The elimination of all but wait unemployment in Sector A and frictional unemployment does not distort the relative wage structure so that the wage-wage pressures that were prominent in the upturn in the NAIRU economy are now reduced. But the rising demand softens the product market, and demand for labour rises in Sector A. The Job Guarantee introduces 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 Job Guarantee wage level. 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? Wendell Gordon (1997: 833) said, "If there is a Job Guarantee program, the employees can simply quit an obnoxious employer with assurance that they can find alternative employment." With the Job Guarantee policy, wage bargaining is freed from the general threat of unemployment. However, it is unclear whether this freedom will lead to higher wage demands than otherwise. In professional occupational markets, it is likely that some wait unemployment will remain. Skilled workers who are laid off are likely to receive payouts that forestall their need to get immediate work. They have a disincentive to immediately take a Job Guarantee job, which is a low-wage and possibly stigmatised option. Wait unemployment disciplines wage demands in Sector A. However, the demand pressures may eventually exhaust this stock, and wage-price pressures may develop.

At first blush, it might appear that the BER would have to be greater than the NAIRU for an equivalent amount of inflation control. This is because the Job Guarantee workers will have higher incomes and so a switch to this policy would see demand levels higher than under a NAIRU world. But the Job Guarantee provides better inflation proofing than a NAIRU approach because the Job Guarantee workers represent a more credible threat to the current private sector employees. In other words, the Job Guarantee pool is a more effective excess supply of labour.

The Job Guarantee employees are more attractive than when they were unemployed, not the least because they will have basic work skills, like punctuality, intact. This reduces the hiring costs for firms in tight labour markets who previously would have lowered 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. The Job Guarantee policy thus reduces the "hysteretic inertia" embodied in the long-term unemployed and allows for a smoother private sector expansion because growth bottlenecks are reduced.

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. It is easy to see that a Job Guarantee model requires a flexible exchange rate to be effective. We can identify two external effects. First, given the higher disposable incomes that the Job Guarantee workers would have compared to if they were unemployed, imports would likely rise. With a flexible exchange rate, the increase in imports would promote depreciation in the exchange rate. We should expect the current account to improve and net exports increase their contribution to local employment. The result depends on the estimates of the export and import price elasticities. Recent work by the Dwyer and Kent (1993) finds that import elasticities are small (around – 0.5). We interpret this as saying that following depreciation, import spending will actually rise because while we are importing less goods and services we are paying disproportionately more for them. The improvement in the current account thus depends on the estimate of the export elasticity. State of Play 8 (1995: 125) says, "Fortunately, this seems to be the case ... the supply responses to higher prices are thought to be strong in both agriculture and mining, and the numbers for manufactures are ... embarrassingly high. ... There is little objective reason to be worried by elasticity pessimism." (see also Bullock, Grenville and Heenan 1993). Vickrey (1996) said, "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."

The direct control to allow the depreciation to be insulated from the wage-price system could be an income policy. 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 the real 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

The Job Guarantee wage provides a floor that prevents serious deflation from occurring and defines the private sector wage structure. However, if the private labour market is tight, the non-buffer stock wage will rise relative to the Job Guarantee wage, and the buffer stock pool drains. The smaller this pool, the less influence the Job Guarantee wage has on wage patterning. Unless the government stifles demand, the economy will then enter an inflationary episode, depending on the behavior of labour and capital in the bargaining environment.

In the face of wage-price pressures, the Job Guarantee approach

maintains inflation control by choking aggregate demand and inducing slack in the non-buffer stock sector. The slack does not reveal itself as unemployment, and in that sense the Job Guarantee may be referred to as a "loose" full employment. This leads to the definition of a new concept, the Non-Accelerating Inflation Buffer Employment Ratio (NAIBER), which, in the buffer stock economy, replaces the NAIRU/MRU as an inflation control mechanism. The Buffer Employment Ratio (BER) is the ratio of Job Guarantee employment to total employment.

As the BER rises, due to an increase in interest rates and/or a fiscal tightening, resources are transferred from the inflating non-buffer stock sector into the Job Guarantee sector at the fixed Job Guarantee wage. This is the vehicle for inflation discipline. The disciplinary role of the NAIRU, which forces the inflation adjustment onto the unemployed, is replaced by the compositional shift in sectoral employment, with the major costs of unemployment being avoided. That is a major advantage of the Job Guarantee approach. The only requirement is that the Job Guarantee wage be a floor and that the rate of growth in Job Guarantee wages be equal or less than the private sector wages growth.

So far we have analysed the likely effects that would accompany the introduction of the Job Guarantee and compared the outcomes to a NAIRU economy. However, there are further issues that arise when we consider the *maintenance* of full employment using the Job Guarantee policy. While orthodox economists typically attack the Job Guarantee policy for fiscal reasons, economists on the left also challenge its validity and effectiveness. Mitchell (2000b) analyses the arguments presented by Michal Kalecki in his *Political Aspects of Full Employment*, published in 1943 in the Political Quarterly, which laid out the blueprint for socialist opposition to Keynesian-style employment policy. A summary of Mitchell's conclusions is useful although more complete detail can be obtained from the Mitchell (2000b).

Kalecki (1971: 139) lists three reasons why the industrial leaders would be opposed to full employment "achieved by Government spending". The first is an assertion that the private sector opposes government employment *per se*. The second is an assertion that the private sector does not like public sector infrastructure development or any subsidy of consumption. The third is more general and involves a dislike by the private sector "of the social and political changes resulting from the *maintenance* of full employment" (emphasis in original).

Firstly, Kalecki's argument that business leaders fear public spending which might be in competition with their own investment is erroneous, because the Job Guarantee jobs are most needed in areas that have been

neglected or harmed by capitalist growth. The chance of overlap and therefore substitution is minimal. Secondly, Kalecki (1971: 140-41) worries that under a regime of permanent full employment, 'the sack' would cease to play its role as a disciplinary measure. However, the Job Guarantee creates loose full employment rather than tight full employment because the buffer stock wage is fixed (growing with national productivity). The issue comes down to whether the Job Guarantee pool is a greater or lesser threat to those in employment than the unemployed when wage bargaining is underway. This is particularly relevant when we consider the significance of the long-term unemployed in total unemployment. It can be argued that the long-term unemployed exert very little downward pressure on wages growth because they are not a credible substitute. The Job Guarantee workers, however, do comprise a credible threat to the current private sector employees for reasons noted above. The Job Guarantee pool provides business with a fixed-price stock of skilled labour to recruit from. In an inflationary episode, business is more likely to resist wage demands from its existing workforce because it can achieve cost control. In this way, longer term planning with cost control is achievable. So in this sense, the inflation restraint exerted via the NAIBER is likely to be more effective than using a NAIRU strategy.

3. Interest Rates, Budget Deficits and Current Account Performance

The Job Guarantee policy requires that the government have the ability to implement a largely independent monetary and fiscal policy. The critics of the Job Guarantee approach point to financial constraints they allege would arise from the higher budget deficits. The willingness of government to allow the budget deficit to increase and decrease as is necessary to maintain full employment, is essential to the viability of the Job Guarantee policy. Mitchell (1996, 1999), Mitchell, Watts, and Burgess (2000), Mosler (1997-98) and Wray (1998), among others, have argued that the rising budget deficits that are likely to accompany the introduction of the Job Guarantee policy are not a cost and should be ignored. In a Job Guarantee world, the size of the budget deficit necessary to maintain the policy is irrelevant. They argue that the logic of the budget deficit antagonists is based on a fallacious analogy between the household budget and the government budget. 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 sur-

vive. 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. A budget deficit is thus necessary if people want to save.

Mosler (1997-98) shows that bond issues are essential only to support the cash rates set by the Central 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 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. An endogenous credit economy then serves to provide the deposits necessary to make payments, which facilitate 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. Spending brings forth its own savings. Savings are not required to exist as a prior pool for spending to occur.

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 the official discount rate. The role of the government bond issues is to give these reserves a way to earn a return in excess of the discount rate.

With this theoretical background, we now move on to empirically examine the effects of budget deficits on interest rates and current account performance and also seek to establish causality within the term structure of interest rates. Glyn (1997: 226-227) an advocate of fiscal activism, believes that taxation should be used to "finance" the necessary spending. He does not advocate the use of budget deficits. His contention is based on his acceptance of the notion that international financial markets will react to higher budget deficits and "exact a higher

real-interest rate". (Glyn 1997: 224)

This contention forms a set of empirically testable hypotheses outlined in the introduction. We examine each in turn in this section. The following ideas are examined:

1. Is there evidence of a relationship between budget deficits and short-term and long-term interest rates? If there is no discernable statistical relationship found it is difficult to argue against fiscal activism based on financial crowding out arguments.

2. Is there evidence of a relationship between long-term interest rates across countries in globalised financial markets? If there is no relationship detected then the view that financial traders in the large markets like Japan and the United States can render domestic monetary policy ineffective is problematic.

3. Is there any evidence that the relationship between domestic long-term and short-term interest rates is unstable? Stability implies that the cash rate, which is set as a policy instrument, and the longer-term interest rates, which are influenced by market considerations, move together in a proportional manner over the long run.

4. Is there any evidence to support the twin-deficits hypothesis that imposes causality from the fiscal deficit changes to changes in the current account deficit? A lack of such a direct relationship also provides further support for the use of budget deficits under the Job Guarantee policy.

Crowding Out

The crowding out notions of monetarism which was anticipated by Keynes (1937) are well known. Whenever there is an exogenous planned rise in demand there is a concomitant rise in demand for money to meet the extra contractual commitments. If the banking system does not meet the demand for credit the rate of interest will rise before any additional output is sold. Accordingly, a budget deficit, which "draws" on scarce savings via debt issue, will push interest rates up in the domestic markets.

However, if the extra wage bill that the Government requires for Job Guarantee workers are paid out of deposit-balances held by the Treasury at the Central Bank then there are no short-term interest rate effects. The demand for credit is not independent of the level of real activity, irrespective of whether this is a demand for loans from private entrepreneurs from the commercial banks, or whether it is a demand by the Treasury

for balances at the Central Bank. Either route to increased money is consistent with an overdraft system, which Keynes certainly approved of (Keynes 1937). Thus, in a credit money economy we should expect to find no relationship between changes in interest rates and the changes in the budget deficit.

Table 1 presents evidence from Australian financial markets, which strongly rejects the null hypothesis that there is a statistical causation flowing from changes in the budget deficit to changes in long- and short-term interest rates. Granger causality tests were conducted which formulate the problem in the following way:

> x is a *Granger cause of y* (denoted as $x \rightarrow y$), if present y can be predicted with better accuracy by using *past* values of x rather than by not doing so, other information being identical. (Granger, 1969).

Table 1 The relationship between changes in the budget deficit and real interest rates in Australia

Interest Rate Change	Lag	Sample Period	Test Statistic
Cash Rate 11.00 am.	4	1980 (2) to 1997 (3)	$F_{(4,61)} = 0.90068$
	8	1981 (2) to 1997 (3)	$F_{(8,49)} = 0.74283$
	12	1982 (2) to 1997 (3)	$F_{(12,37)} = 0.4068$
3 Month Treasury Bill Rate	4	1979 (4) to 1997 (3)	$F_{(4,63)} = 1.0074$
	8	1980 (4) to 1997 (3)	$F_{(8,51)} = 0.55517$
	12	1981 (4) to 1997 (3)	$F_{(12,39)} = 0.49747$
90-day Bank-accepted Bill rate.	4	1979 (4) to 1997 (3)	$F_{(8,63)} = 1.52741$
	8	1980 (4) to 1997 (3)	$F_{(8,51)} = 0.54597$
	12	1981 (4) to 1997 (3)	$F_{(12,39)} = 0.38844$
Federal Government 10 Year Bond Yield	4	1979(4) to 1997 (3)	$F_{(4,63)} = 0.62536$
	8	1980 (4) to 1997 (3)	$F_{(8,51)} = 0.56285$
	12	1981 (4) to 1997 (3)	$F_{(12,39)} = 0.5763$

Data: Datastream
Quarterly interest rate changes: Cash Rate 11 a.m., 3-month Treasury Bill Rate, 90-day Bank-accepted Bill Rate, and 10-year Commonwealth Government Bond Yield.
The nominal rates were converted to real rates using a smoothed moving-average of the inflation rate.

In other words, in a general Autoregressive-Distributed lag model, the rejection of Granger causality amounts to the acceptance of the restriction that all the coefficients of the distributed lag (starting at lag one) are zero. The testing model regressed the change in the interest rate measure on lagged changes of the interest rate measure and lagged changes of the budget deficit to GDP ratio.

For every lag tested, no relationship between changes in the Deficit/GDP ratio and the changes in the real interest rates could be detected. The evolution of real interest rates appears to be independent of the changes in the relative size of the deficit.

Long-term interest rate convergence

While the measurement of real long-term interest rates is open to question there appeared to be a convergence among real long term interest rates in the major economies during the mid-1990s despite what appeared to be different domestic situations in each country. Real long-term interest rates in Europe and Japan seemed to rise in response to American monetary conditions. Christiansen and Pigott (1997: 5) argue that if "long-term interest rates were responding more to external factors than domestic economic conditions and, if so, might be less free, even under floating exchange rates, to vary independently across the major regions than earlier believed".

The issue bears on the ability of a sovereign government to implement policy, which is likely to be treated with suspicion by global financial markets. Christiansen and Pigott (1997) investigate the extent to which external factors constrain the freedom of long-term interest rates to vary with domestic fundamentals and the extent to which globalisation has reduced the ability of monetary authorities to influence long-term interest rates.

With flexible exchange rates we expect that domestic long-term real interest rates will reflect domestic economic conditions. The budget deficit is usually included because it is seen as a major factor determining domestic saving. However, this reflects a view of saving as a finite pool, which can be made available either to finance the budget deficit or to finance private spending. We have argued that spending creates its own saving and within the Job Guarantee framework no such influence is expected. In the previous section, we failed to find evidence to support a relationship between the budget deficit and long-term interest rates.

What factors might lead to international conditions dominating domestic influences on a country's long-term interest rates? First, when portfolio diversification is possible, risk premia may be determined by

conditions in world markets. The argument is that large financial traders can impose their view on a nation's interest rates. If, for example, it is thought that inflation is rising, a higher risk premium will be imposed. There is very little evidence in the literature to support this view. Further, the antagonism towards large budget deficits is usually in terms of higher expected inflation rates. Under the Job Guarantee model, any relation between budget deficit and expected inflation is negated by the influence of the NAIBER. Second, the work by Summers (1986) on noise trading could provide the linkage. Expectations rather than economic fundamentals drive speculation. Traders who are unable to determine exact equilibrium information will use price information derived from large bond markets (such as the US bond market) to guide their trading behaviour. However, it is hard to argue that these effects which are likely to impact on short-term rates will be influential on long-term rates.

There is thus a time dimension to the degree to which long-term interest rates may converge between countries. It is useful to distinguish between relationships in the:

- very-near term (daily or weekly)
- medium and longer term.

Relationships between daily US long-term rates and daily Australian long-term rates

Initially we test the relationship between the daily US long-term nominal bond rate and the daily Australian nominal long-term bond rate. Table 2 provides evidence from Granger causality tests relating the US nominal long-term interest rate to Australian nominal long-term rates. The tests for Granger-Causality were performed on daily changes using 7, 10, and 20 lags. In other words we are assuming that the US rates affect Australian rates on the following day.

We conclude that change in the United States long-term bond market is statistically significant as a predictor of changes in the Australian long-term bond market over extremely short periods. The bi-lateral causality is also confirmed with Australian changes helping predict US changes the following day (see Remolona 1991).

Table 2 Tests of causality among daily changes in long-term interest rates January 1993 to March 1998

Change in Australian Rates	Lag	
Adding Change in USA Rates	7	$F(7,1325) = 80.658$ **
	10	$F(10,1316) = 56.755$ **
	20	$F(20,1286) = 28.267$ **
Change in USA Rates		
Adding Change in Australian Rates	7	$F(7,1325) = 2.3614$ *
	10	$F(10,1316) = 1.972$ *
	20	$F(20,1286) = 1.3717$

Data: Datastream for the period January 29 1993 to March 31 1998.
Changes in the nominal US Treasury benchmark 10-year bond and changes in the Australian 10-year bond yield (middle rate)
* Denotes the 5 per cent level of significance.
** Denotes the 1 per cent level of significance.

Another significant consideration is the magnitude of the response of the rate change in Australia to a change in a large market. The causality merely indicates that the spillover effects between markets occur. To estimate the responsiveness the daily change in Australian nominal long-term interest rates was regressed on the daily change in nominal long-term interest rates. A simple regression with a lagged dependent variable added was run over the full sample. The result below is the steady-state solution and the R^2 refers to the coefficient of determination in the dynamic model and the Partial R^2 refers to the partial effect of the addition of ΔUS to the dynamic model.

$$\Delta AUS = -0.002 + 0.165 \Delta US$$

$$R^2 = 0.028 \qquad \text{Partial } R^2 = 0.013$$

The conclusion is that only a minute fraction of daily changes in the Australian nominal long-term interest rates are attributable to daily changes in the United States nominal long-term interest rates.

Relationships between monthly real US long-term rates and monthly real Australian long-term rates

Table 3 provides evidence from Granger causality tests relating the monthly foreign real long-term interest rate to monthly Australian real long-term rates. The tests for Granger-Causality were performed on monthly changes of real long-term interest rates using 36, 24, 12, 6 and

1 lags. To examine the hypothesis that globalisation has changed the way long-term interest rates are determined in a domestic economy the tests were performed over the entire sample and then for the post-1984 period when Australia essentially experienced financial deregulation and opened it financial markets. If the hypothesis that large markets dominate smaller markets like Australia, even under flexible exchange rates, is valid, then we would expect the foreign rates to Granger-cause Australian rates for both samples.

Table 3 Relationship between Australian real long-term interest rates and those of other countries

Country	Lag	Sample Period	Test Statistic for adding the Distributed lag
FULL SAMPLE			
United States	1	1969(2)-1997(7)	$F(1,332) = 1.9595$
	6	1970(2)-1997(7)	$F(6,317) = 1.2358$
	12	1970(8)-1997(7)	$F(12,299) = 1.1161$
	24	1971(8)-1997(7)	$F(24,263) = 1.6139$ * +
	36	1972(8)-1997(7)	$F(36,227) = 1.5035$ * +
Japan	1	1971(3)-1997 (7)	$F(1,314) = 7.0949$ **
	6	1971(8)-1997(7)	$F(6,299) = 2.5883$ *
	12	1974(2)-1997(7)	$F(12,281) = 1.5385$
	24	1973(2)-1997(7)	$F(24,245) = 1.4956$
	36	1974(2)-1997(7)	$F(36,209) = 1.3458$
United Kingdom	12	1970(8)-1997(7)	$F(12,299) = 0.61168$
	24	1971(8)-1997(7)	$F(24,263) = 0.55368$
	36	1972(8)-1997(7)	$F(36,227) = 0.79009$
GLOBALISATION PERIOD			
United States	1	1984 (1)-1997(7)	$F(1,160) = 2.4689$
	6	1984 (1)-1997(7)	$F(6,150) = 1.1229$
	12	1984(1)-1997(7)	$F(12,138) = 1.2414$
Japan	1	1984(1)-1997(7)	$F(1,160) = 3.784$
	6	1984(1)-1997(7)	$F(6,150) = 2.0498$
	12	1984(1)-1997(7)	$F(12,138) = 1.319$

Source: OECD Main Economic Indicators, monthly long-term interest rates. Real interest rates were calculated using a smoothed annualised inflation rate.
+ Causality was also detected flowing from changes in Australian long-term interest rates to changes in the USA long-term interest rates. No such causality could be detected flowing from Australia to Japan.
* Denotes the 5 per cent level of significance.
** Denotes the 1 per cent level of significance.

The results show clearly that while there is some influence from

American and Japanese rates for the entire sample (part of which spans a fixed exchange rate period), there is no causality detected in the post-1984 sample. In other words, the move to flexible exchange rates has been associated with a period where changes in monthly foreign long-term interest rates have had no influence on changes in monthly domestic rates. Similar results were found by testing for the influence of other monthly OECD real long-term rates.

These results are consistent with those found in the literature. There is little evidence to support the proposition that there has been a decrease in the sensitivity of long-term rates to domestic short-term rates with the rising incidence of globalisation (see Kasman and Rodrigues 1991; Christiansen and Pigott 1997).

Testing the Stationarity of the Yield Gap

It appears that the long-term interest rates in the large markets do not "cause" enduring movements in the long-term rates in Australia. Indeed, the evidence appears to support the idea that globalisation has led to more independence of long-term rates between Australia and the rest of the world after the move to freely determined exchange rates. The only causal relations detected appear to be due to the period of fixed or heavily managed exchange rates or very small near-term effects.

Given that there is very little evidence to support the notion that globalisation has led to Australia's long-term interest rate being dominated by the US rates or other external long-term rates, it is important to focus on the relationship between the short-term rates and the long-term rates within Australia. There are two issues of interest. First, do long-term interest rates drive short-term interest rates or vice-versa? Second, if monetary authorities are able to set the cash rate and if the medium and long-term rates exhibit a stable relationship over the long run then the monetary authorities retain the ability to influence movements in long-term interest rates in their own financial markets and achieve their policy targets.

Table 4 provides evidence of causality between the components of the Australian term structure. The tests seek to determine if there is any evidence to support the notion that the changes in the cash rate are caused by changes in other rates. The results indicate that causality can be detected in both directions for each of the pairs tested and are thus not supportive of any primary determinacy.

Given that bi-directional causality cannot be eliminated, it is important to examine the notion that monetary authorities can set the cash rate within a stable term structure. This contention is examined by testing

whether the yield gaps between the cash rate and various other rates in the term structure are stable. A series of unit root tests were conducted for this purpose. We would reject the notion that the yield gap is stable if we detected a unit root in the series.

Table 4 Causality within the Australian Term Structure

Lag	Sample Period	Test Statistic for adding the Distributed lag
Cash rates on 3-month Treasury Bills		
12	1982 (2) to 1997 (3)	$F(12,37) = 5.394$ **
8	1981 (2) to 1997 (3)	$F(8,49) = 3.2831$ **
4	1980 (2) to 1997 (3)	$F(4,61) = 4.0947$ **
3-month Treasury Bills on Cash rates		
12	1982 (2) to 1997 (3)	$F(12,37) = 2.4243$ *
8	1981 (2) to 1997 (3)	$F(8,49) = 1.8358$
4	1980 (2) to 1997 (3)	$F(4,61) = 1.8719$
Cash rates on 90-day Bank-accepted Bill Rate		
12	1982 (2) to 1997 (3)	$F(12,37) = 7.9528$ **
8	1981 (2) to 1997 (3)	$F(8,49) = 8.1097$ **
4	1980 (2) to 1997 (3)	$F(4,61) = 9.4402$ **
90-day Bank-accepted Bill Rate on Cash rates		
12	1982 (2) to 1997 (3)	$F(12,37) = 2.9441$ **
8	1981 (2) to 1997 (3)	$F(8,49) = 2.839$ *
4	1980 (2) to 1997 (3)	$F(4,61) = 4.6364$ **
Cash rates on 10-year Treasury Bonds		
12	1982 (2) to 1997 (3)	$F(12,37) = 2.0358$ *
8	1981 (2) to 1997 (3)	$F(8,49) = 2.2491$ *
4	1980 (2) to 1997 (3)	$F(4,61) = 2.1809$
10-year Treasury Bonds on Cash rates		
12	1982 (2) to 1997 (3)	$F(12,37) = 2.0394$ *
8	1981 (2) to 1997 (3)	$F(8,49) = 1.438$
4	1980 (2) to 1997 (3)	$F(4,61) = 1.497$

Data: Datastream
Quarterly interest rate changes: Cash Rate 11 a.m., 3-month Treasury Bill Rate, 90-day Bank-accepted Bill Rate, and 10-year Commonwealth Government Bond Yield.
The nominal rates were converted to real rates using a smoothed moving-average of the inflation rate.
* Denotes the 5 per cent level of significance.
** Denotes the 1 per cent level of significance.

For Australia, the results shown in Table 5 clearly support the notion that the yield gap is stationary over a range of time periods. The tests

reject the null that the yield gap is a unit root process. In other words, the evidence is consistent with the statement that the difference between domestic long-term interest rates and short-term rates is stable over time. This is also consistent with the view that Australian monetary authorities are able to pursue their policy objectives and are not at the behest of global funds managers as is often alleged by antagonists of the use of activist deficit-based government policy.

Christiansen and Pigott (1997: 14) perform similar tests for the United States, Japan, Germany, France, Italy, the United Kingdom and Canada and conclude, "the evidence does not suggest that the effects of globalisation have been so great as to prevent monetary authorities from being able to achieve their fundamental objectives.... Most of the studies cited earlier suggest that domestic short-term interest rates have a greater impact on long-term interest rates than do US interest rates, at least for European countries. ... Indeed, for most countries, the gap between domestic long-term interest rates and short-term rates is stable in the long run. This indicates that long-term interest rates are ultimately linked to short-term interest rates. Through their influence on the supply of liquidity to markets, authorities remain capable of controlling the evolution of short-term interest rates over these horizons." Other studies reach similar conclusions (see Radecki and Reinhart 1989; Kasman and Rodrigues 1991).

Table 5 Testing the relationship between short-term and long-term interest rates in Australia

Yield Gap	1980(3)-1997(3)	1984(1)-1997(3)	1990(1)-1997(3)
Cash rate – 3-month Treasury Bills	-6.0912**	-5.0143**	-2.6924**
Cash rate – 90-day Bills	-4.8933**	-3.9441**	-2.6162 *
Cash rate – 10-year Treasury Bonds	-2.8827**	-2.1521 *	-2.4720 *

Notes:
CASHRATE is the 11.00 am cash rate, TB3M is the 3-monthly Treasury Bill rate, BILL90 is the 90-day commercial bill rate, and TB10Y is the 10-year Treasury Bond rate.
There was no constant and trend included in the final augmented Dickey-Fuller tests after starting with 5 lags with a trend and constant. All lags generated test statistics that reject the unit root null.
* denotes significance at the 5 per cent level and ** denotes significance at the 1 per cent level.

Table 6 Cointegration Tests, 1979(1)-1997(3), normalised on the Cash Rate

Variable	Coefficient	t-value	ADF	CRDW
TB3M	0.99168	22.583	-6.7092**	1.64
BILL90	0.97421	45.607	-4.7402**	1.17
TB10Y	1.4063	14.556	-3.2832*	0.55

ADF is the Augmented Dickey-Fuller test and the CRDW is the Cointegrating Durbin Watson Test. Both yielded significant results.
* denotes statistical significance at the five per cent level.
** denotes statistical significance at the one per cent level.

To further examine the stability of the term structure, cointegration tests were performed using the Engle-Granger (1987) approach.[15] The cointegration equations confirmed the evidence shown in Table 6. The pairwise relationships between the cash rate and the medium and long-term rates are cointegrated, which indicates that there are no systematic departures over a long period between the rates of interest.

The finding of pairwise cointegration means that the term structure defined in terms of the rates we are using in this study is also cointegrated and the following cointegrating regression establishes the long-term stability of the term structure over the period 1979(1) to 1997(2):

$$CASHRATE = \ +1.049 \ -0.1929 \ TB3M + 1.248 \ BILL90 - 0.1819 \ TB10Y$$
$$[0.419] \ [0.102] \qquad [0.108] \qquad [0.069]$$

$$R^2 = 0.970139$$
$$ADF = -4.3640**$$

Additional evidence was adduced from a series of error correction models of the form:

$$\Delta r_{st} = \alpha_1 + \alpha_2 \Delta r_{Lt} + \gamma (r_{st} - r_{Lt})_{t-1} + \varepsilon_t$$

The model is consistent with theories of the term structure of interest rates, which imply a long-run relationship between long and short-term rates. If the gap between the long- and short-term rates is large relative to the long-run (equilibrium) relationship, then the yield gap has to close by some amount each period. The models do not tell us exactly how the gap is closed. But the models strongly support the notion that there is a

long-run relationship between the short-term and long-term rates and that the short-run dynamics in the short-term rate are influenced by deviations from the long-run relationship. In each case, the error-correction term, γ, is strongly defined and of the correct sign. The speed of adjustment varies from 0.20 to 0.73. Results are available from the author.

Twin Deficits

The Twin Deficits Hypothesis (TDH) was used by monetarists to justify restrictive fiscal policy stances in the OECD economies during the 1980s and 1990s. The hypothesis is based on sectoral flow relationships which hold in an accounting sense in the national accounts. The TDH, however, imputes a strict causality where the private sector savings and investment gap is zero or stable, and changes in the budget deficit translate directly into current account deficit. Noting that in these circumstances the current account deficit represents a nation "spending more than it is earning", the budget deficits are then considered to "cause" a rising external debt. Accordingly, the risk of foreign financial market retribution via downgrading by international ratings agencies and the like is related to rising budget deficits. The cure for a chronic current account deficit then is logically to be found in increased domestic savings emanating from budget surpluses.

Table 7 Twin Deficits Causality

	Lag	Sample Period	Test Statistic
Does Budget Deficit	12	1981(4)-1997(2)	$F(12,38) = 0.5614$
Granger-cause the	8	1980(4)-1997(2)	$F(8,50) = 0.41082$
Current Account Deficit?	4	1979(4)-1997(2)	$F(4,62) = 0.80449$
Does Current Account	12	1981(4)-1997(2)	$F(12,38) = 1.0185$
Granger-cause the	8	1980(4)-1997(2)	$F(8,50) = 1.2217$
Budget Deficit ?	4	1979(4)-1997(2)	$F(4,62) = 2.0031$

Source: Australian Bureau of Statistics, AUSSTATS Time Series Service. The Budget Deficit is expressed as a percentage of GDP as is the Current Account Deficit. The data is quarterly and the Granger-causality testing regression used the change in each variable.

The problem is that the causality is not guaranteed. The evidence in Australia is that the private savings gap is not stable (see Argy 1992). Further, the current account position at any point in time can be driven by international factors like imperfect competition, barriers to entry, economies of scale and general conditions of world trade. All these

factors may constrain export revenue. A world recession may cause a trading economy with automatic stabilisers to experience a current account deficit, which then drives a rising budget deficit. Further, a rising budget deficit can increase domestic income and reduce the private savings gap.

Table 7 shows that the tests fail to support any notion of causality between changes in the Current Account deficit and changes in the Budget Deficit. Neither direction of causality was detected.

4. Future directions

Leading proponents of Post Keynesian economic theory develop the open economy model in terms of fixed exchange rate regimes (see Davidson 1994). The Job Guarantee approach to full employment and price stability requires a flexible exchange rate system to allow monetary authorities the scope to pursue independent policies. Under fixed exchange rates, globalisation of financial markets leads to a convergence of both short-term and long-term interest rates across countries within the exchange rate bloc. The rates also tend to move together and are thus determined by shared conditions. Individual economies cannot run independent monetary policy. The Job Guarantee approach thus challenges not only the monetarist orthodoxy but also the Post Keynesian orthodoxy.

Post Keynesian orthodoxy is also somewhat ambivalent to the role of the budget deficit. Glyn's (1997) idea that taxation should finance spending to avoid issuing debt is an example of the Post Keynesians who are worried about the endogeneity of the deficit. The Job Guarantee policy requires that the deficit is endogenous and not a policy target in itself. A reading of Keynes (1940) suggests that the Job Guarantee approach to full employment, while ostensibly "Keynesian" is in fact not derived from the ideas that he had on functional finance. For example, Keynes (1940: 23) notes: "The last row of figures leaves us with the incomes out of which the increased war expenditure has to be met either by additional taxes or by borrowing, after allowing for what can be provided out of existing capital." Keynes (1919) was also negative about the use of budget deficits to finance reconstruction.

Further work is required to resolve this conflict. The development of a coherent approach to full employment will always be hampered if economists constrain activity by making the budget deficit a target variable, either in absolute terms (the Balanced Budget School) or in relative terms (stable deficit to GDP School). Neither view is consistent with the dynamics of a government, which issues fiat currency.

5. Conclusion

Unemployment arises because the budget deficit is too low in relation to private saving and the desire to hold money. 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 Job Guarantee model is the only logical way of providing jobs for everyone with guaranteed price stability. Whether it is accompanied by an income 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.

The evidence presented in this chapter suggests that the major financial objections raised to fiscal activism do not hold. Under flexible exchange rates, there appears to be no enduring constraints against a government running an independent monetary policy.

Notes

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

2 Mitchell (1996, 1998, 1999), Mitchell and Watts (1997), Mitchell and Burgess (1998a, 1998b), and Mitchell, Watts and Burgess (2000) outline a case for the introduction of a full employment policy based on the Job Guarantee model developed by Mitchell (1998). Mitchell and Burgess (1998b) place the Job Guarantee approach within the context of human rights and argue that the government has to be responsible for the maintenance of rights in this regard.

3 NAIRU refers to the Non-Accelerating Inflation Rate of Unemployment and is used in this chapter to characterise the approach to inflation control advocated by monetarists, whereby a stock of unemployment is required to discipline the wage-price process.

4 NAIBER refers to the Non-Accelerating Inflation Buffer Employment Share and is the ratio of buffer stock employment to total employment that is required to stabilise inflation.

5 The Buffer Employment Ratio (BER) is the ratio of buffer stock employment to total employment and rises (falls) as the private sector contracts (expands).

6 A third approach is a special case of the BSE policy. The government may not wish to let the market drive the BER high enough to equal the NAIBER and can intervene using an income policy to maintain a lower than otherwise BER while still maintaining price stability.

7 Mitchell and Watts (1997) indicate that the daily losses from unemployment in

Australia are around $156 million or $3100 per capita per annum. This is more than twice the alleged microeconomic inefficiencies estimated in the 1991-92 Annual Report of the Australian Industry Commission.

8 Post Keynesian economists 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. However, the standard Post Keynesian view also fails to take into account issues of environmental sustainability. Even if it were 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? There is a need to change the composition of final output toward environmentally sustainable activities. It is not increased demand per se that is necessary, but increased demand in certain areas of activity.

9 What would this cost? Three recent studies estimate the costs of such schemes in the United Kingdom, the United States, and Australia, respectively [Gordon 1997 for the United States; Kitson et al. 1997 for the UK; and Mitchell and Watts 1997 for Australia]. All three studies produced estimates that lie in the range of 0.06 percent (United States) to 3.5 percent (Australia) of current GDP. The costs are overstated because they ignore the multiplier effects from the rising incomes of buffer stock workers. More detailed cost analysis can be found in the above references. The conclusion from all studies is that the Job Guarantee proposal is a very cheap option compared to the Okun gap losses that are incurred daily due to unemployment. High unemployment also places increased costs on the health system and is associated with increased family breakdown and higher crime rates. Gordon (1997, 831) 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' labor. The laborer 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."

10 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.

11 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. The coincidence of high inflation and high unemployment in the 1970s – the period of stagflation – appeared to be contrary to orthodox Keynesianism. Blinder (1987, 39) said "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."

12 Thurow (1983, 186-87) rejected this approach and asked, "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."

[13]While the MRU defines a (transitory) steady state relationship between unemployment and inflation, it has no connotations of voluntary maximising individual behavior or market clearing that underpins most orthodox versions of the NAIRU concept.

[14]In a hysteretic economy aggregate demand influences the long-term steady-state unemployment rate, and activism can permanently reduce the unemployment rate. The dynamics of this interaction are examined in Mitchell (1987).

[15] The Maximum Likelihood method of Johansen (1988) was also used with no significant differences in outcome.

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7 | Full Employment, a Neglected, but Indispensable and Feasible Human Right

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Human rights are the foundation of human existence and coexistence. Human rights are universal, indivisible and interdependent. Human rights are what make us human. They are the principles by which we create the sacred home for human dignity. [Message by Kofi Annan, Secretary-General of the United Nations, on the fiftieth anniversary year of the Universal Declaration of Human Rights 10 December 1997]

1. Introduction

December 10 1998 was the fiftieth anniversary of the Universal Declaration of Human Rights. This Covenant of the United Nations was a direct result of the atrocities committed during the two world wars. It has provided the starting point for most discussion of human rights issues for this century.

Within this context, it is appropriate to be discussing the issue of the right to employment, as, despite the fact that a later Covenant specifically dealt with economic rights, it was deemed sufficiently important to be incorporated in that original covenant, alongside an important right to economic well being:

> Article 23: Everyone has the right to work, to free choice of employment, to just and favourable conditions of work and to protection against unemployment. .... Everyone who works has the