
The Macroeconomics of New Labour

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Abstract

This paper focuses on two particular aspects of economic policy pursued by the new Labour government, which we label one of new monetarism. The first concerns the role of the operational independence of the Bank of England and the use of interest rates as the major instrument of economic policy and directed to the control of inflation rather than any regard for the level of unemployment. The second concerns the policy focus on the labour market with an apparent acceptance of the notion of the non-accelerating inflation rate of unemployment and the neglect of the role of aggregate demand and of the creation of productive capacity. Policies on fiscal rectitude, adoption of the so-called golden rule, the virtual abandonment of fiscal policy and the handing over of monetary policy to the Bank of England represent a comprehensive rejection of Keynesian economic policies. The thrust of policy forgets two essential requirements for full employment, namely sufficient aggregate demand and adequate productive capacity.

1. Introduction

The decision by the incoming Labour government in October 1964 not to devalue the pound had a profound effect on the subsequent history of that government as it had to battle to maintain the value of sterling (see, for example, Beckerman, 1972). In a similar vein, it can be argued that decisions by the incoming Labour government in March

1974 over prices and wages (allowing the threshold agreements to continue) and over public expenditure had a similarly profound effect, and subsequent economic policy was often seeking to overcome the impact of those decisions (Artis and Cobham, 1991).

The decision of the new Labour (using new in both senses) government in May 1997 to give operational independence to the Bank of England over monetary policy may also be seen as a defining moment.² Like the decisions mentioned above, this one is significant both for its impact on subsequent economic events and policies and for what it reveals about the underlying economic philosophy of the incoming government. The first year of operational independence of the Bank of England has clearly been associated with higher interest rates and with a high value for sterling. It can be argued that interest rate rises had been delayed by the previous government for political reasons (especially by advocates of Central Bank independence who view the Central Bank as non-political) and that sterling had been rising in value since August 1996 and the value of sterling may be more a reflection of a weak DMark (sterling has risen from around 2.25 DMarks in August 1996 to well over 3 DMarks at times, but from around 1.52 dollars to 1.68 dollars). Insofar as economic policy can influence the exchange rate, this is now in the hands of the Bank of England Monetary Policy Committee with their decisions on interest rates (as discussed further below). Fiscal policy is downgraded,

and clearly plays second fiddle to monetary policy: fiscal policy which is perceived to be say too expansionary can be offset by the tightening of monetary policy.

We have elsewhere labelled the economic philosophy suggested by the operational independence of the Bank of England as new monetarism (Arestis and Sawyer, 1998b). Monetarism (mark 1 in the phrase of Tobin, 1981) was characterised by a belief that inflation was caused by excessive growth of the money supply which could and should be controlled. Further, the private sector was essentially stable and tended to operate at the 'natural rate of unemployment'. Finally, the classical dichotomy prevails with a separation between the real side and the monetary side of the economy and Say's Law operates so that lack of real aggregate demand is not a problem. Monetarism mark 2 added the notion of 'rational expectations' which brought the implications of rapid market clearing and the belief that the (financial) market 'knows best', as well as the conclusion that full employment will be the norm.

New monetarism (which shares many features with the mislabelled new Keynesian economics) has similar characteristics which we would list as:

- a supply-side determined (equilibrium) level of unemployment which would be consistent with constant inflation (i.e. the NAIRU) - unemployment below the NAIRU involves accelerating inflation;
- a conviction that although the growth of the money stock cannot be directly controlled (as under old monetarism), interest rates can be used to influence monetary and other conditions which have an impact on inflation;
- no lasting or long-term impact from

aggregate demand to the level of economic activity;

- inherent stability in the private sector;
- belief in the wisdom of financial markets.

In this paper, we focus on two particular aspects of new monetarism as practised by new Labour. The first concerns the role of the operational independence of the Bank of England and the use of interest rates as the major instrument of economic policy. The second concerns the focus on the labour market with an apparent acceptance of the notion of the NAIRU and the neglect of aggregate demand and capacity constraints.

2. New monetarism

Under the monetarism of the 1980s (which we will often refer to as 'old monetarism'), monetary policy was to control the growth of the stock of money through monetary targets (and the use of interest rates to help reach those targets) with the intention that the growth of the money stock would determine the rate of inflation. New monetarism is rather similar: the inflation rate target is set (currently at 2.5 per cent), and the operationally independent Bank of England is to manipulate interest rates to achieve that inflationary target. The mechanism by which that is to happen is never made clear.³ A central tenet of neoclassical economics is the classical dichotomy, whereby monetary factors influence the level of prices and real factors determine the level and composition of output and employment and relative prices. The policy rule was a constant growth of the money supply, assumed controllable by the authorities, with the presumption that the private sector was stable (in effect the real side of the economy since this approach largely ignored the private financial system).

The attempts at controlling the money supply to control the rate of inflation, soon collapsed, and the causes of the collapse are straightforward. There were evident difficulties in controlling the money supply and the targets for monetary growth were persistently missed. This failure served to confirm that in a sophisticated financial system where money is created through the credit process by banks, it is well nigh impossible to control the stock of money. There had always been a paradox at the heart of monetarism, namely that monetarists argued that markets should not be 'controlled', but the money stock created in the financial markets could and should be controlled with the utmost rigour.

The current manifestation of the classical dichotomy in policy terms is the claim made for the central bank to be given so-called independence. This independence is usually taken to mean independence from politicians, though not from the financial markets who are likely to exert considerable influence over the central bank.⁴ But it is also independence from the fiscal authorities and from the other branches of economic policy. The justification for this is effectively the classical dichotomy: the monetary environment sets the rate of inflation, albeit with a lag, but has no effect on the real side of the economy. It is interesting to observe that the infamous two year lag reappears. Advocates of old monetarism in the 1970s argued that there was a two year lag between growth of the money supply and the rate of inflation, whereas some advocates of the new monetarism favour a two year lag between interest rate changes and the rate of inflation.⁵ The money supply is no longer seen as directly controllable, and the policy instrument is the rate of interest by which the central bank sets some discount rate (repo

rate) on which the pyramid of other interest rates rests. The particular point of interest here is not so much as to whether this policy will be successful but rather the routes by which the policy might work and the effects which could be implied for the real side of the economy.

We have noted above that the transmission mechanism by which interest rates influence the rate of inflation has not been made clear, and here we explore a number of possible routes.⁶ At least three can be identified, and these are examined in turn. The first route is that the interest rate rise reduces aggregate demand, which leads to lower output than otherwise, and the lower demand places downward pressure on inflation. An interest rate rise would be predicted to have some adverse effect on investment, though it may be questioned how responsive investment would be to small and possibly temporary variations but, in so far as it does operate, future productive capacity is lower and the ability of the economy to support employment is reduced. The effect of interest rates on savings is usually seen to be ambiguous. But dissavings by households (that is the financing of expenditure through debt) is likely to be affected, and consumer expenditure lower. A more significant sub route may be the 'income effect' - higher interest rates raise mortgage payments (on variable interest rate mortgages), reducing disposable income and then consumer expenditure. This is offset by the increased income of the interest recipients (wealth holders), but it is usually presumed that the net effect on consumer expenditure is negative.

The second route is a monetary one. A higher base rate leads to generally higher interest rates including those on loans; this would lower the demand for loans with fewer loans being granted and less money created.

As a consequence, the money stock is lower than it would have been. But what happens as a result of this lower money stock? One answer would be along familiar monetarist lines, namely that the lower money stock leads to a lower (than otherwise) price level, and this lower price level means a lower rate of inflation. But this would presume that the lower money stock somehow generates a lower demand for money. The monetarist view is that the lower stock (supply) of money forces a lower demand for money, which in turn requires a reduction in nominal income. However, the post Keynesian view would be rather different, namely that the stock of money would adjust to the demand for money, as explored below.

The difficulty with this second route can be indicated as follows. It appears to rely on the equilibrium between stock of money and the demand for money, i.e. $Md(py, r) = Ms(r)$, where py is nominal income and r some relevant interest rate (we return to this point below). If we take a conventional view on this, the (comparative static) effect of a change in interest rate is given by $\Delta(py)/\Delta r = (\Delta Ms/\Delta r - \Delta Md/\Delta r)/(\Delta Md/\Delta(py))$ (we return to this issue below). The sign of $\Delta Md/\Delta r$ is expected to be negative, but the sign of $\Delta Ms/\Delta r$ may be less clear-cut. However, if it is treated in terms of willingness of banks to supply money, then we would expect the sign to be positive, and hence the overall effect of a change in the interest rate on nominal income becomes positive (assuming that $\Delta Md/\Delta(py)$ is positive). An overall negative impact (which is, of course, the view which underlies the use of interest rates to control inflation) requires a substantial negative effect of interest rates on money supply.

The third route is through the effect of interest rates on the exchange rate. At the time of writing, there is much public concern over the level of the exchange rate, and there

is clearly the perception that interest rate rises have contributed to the rise in the exchange rate. A recent review of the properties of the major macroeconomic models of the UK indicates that ‘...the chief mechanism by which the models achieve change in the inflation rate is through the exchange rate’ (Church *et al*, 1997, p.92). This higher exchange rate tends to reduce inflation as the price (in the domestic currency) of imports falls. The fall in import prices may not fully reflect the rise in the exchange rate: that would depend on the strategy of the importers. But the exchange rate rise causes difficulties for exporters: how much difficulty depends on their market power and how far they can raise prices in the foreign currency and preserve prices in the domestic currency. The prices of non-traded goods and services are not directly influenced by this rise in the exchange rate, though expectations on price rises generated by the rise in the exchange rate may feed through into lower wage demands and then into lower prices in the non-traded sector. The rate of inflation is essentially a weighted average of the inflation rate on traded goods (held down by the exchange rate rise) and the rate on non-traded goods. There is a strong possibility that the price of traded goods falls relative to the price of non-traded goods.

This third route can only work if the exchange rate rises: the other side of that coin is that the exchange rate of other countries fall. If other countries then join in, raising interest rates to stem the fall in their exchange rate (and perhaps in the pursuit of inflation targets) the outcome is competitive revaluations of the exchange rate and competitive interest rate rises.

The use of interest rates to influence monetary conditions and the rate of inflation is often presented as only influencing the monetary side of the economy and not the

real side, at least on any long term basis. King (1997, now Deputy Governor of the Bank of England) argued that '...if one believes that, in the long-run, there is no trade-off between inflation and output then there is no point in using monetary policy to target output. [You only have to adhere to] the view that printing money cannot raise long-run productivity growth, in order to believe that inflation rather than output is the only sensible objective of monetary policy in the long-run' (p.6). It is a little worrying that a Deputy-Governor of the Bank of England can still talk about printing money when it is clear that the expansion of money comes largely through credit creation by the banking system. Governments and Central Banks no longer (if they ever did) control the money supply through the amount of money which they print; while monetary policy is actually effected through interest rate variations which may have the effects which have just been described. Significant hysteresis effects from the changes wrought by the interest rate changes would mean that there will be long-term effects (if not on the rate of growth, then on the level of output and employment). To the extent to which interest rate changes impact on exports and imports (via the exchange rate), on investment (via the cost and availability of credit) and on the level of economic activity more generally, there may be some longer lasting effects. In particular, if the rate of investment is influenced then the future size of the capital stock and of productive capacity is affected.

In our view, there are three queries over the relationship between interest rates and the rate of inflation arising from the monetary side (that is leaving on one side the more direct effects of interest rates on the level of aggregate demand). The first two of these arise from the recognition that money is

endogenously created within the private sector as a result of the credit creation process.

First, if it is assumed that the growth of the money stock influences the rate of inflation, the question arises as to which is the appropriate definition of money and what is the influence of interest rate changes on the stock of money (appropriately defined). To some degree old monetarism ran into difficulties over the first of those questions. Although there was debate over whether M1, M2, M3 etc. was the appropriate definition of money to use in the demand for money function, it has been generally assumed that the different definitions move broadly in line. However, when narrow money is seen to perform a largely transactions related function and broad money a portfolio related one, the different moneys may move in quite different ways. Further, when one is interest bearing (broad money) and one is not (cash, narrow money), then we would expect the effects of interest rates to be quite different.

Let us first consider the case of M1, which we take to be a widely accepted medium of exchange, bearing a low or zero rate of interest. In particular, we will assume that any interest rate paid on M1 is unaffected by a change in the repo rate (Central Bank discount rate). A rise in the general level of interest rates would then be expected to lead to a fall in the demand for M1. Equilibrium between the demand for M1 and an unchanged supply of M1 would then require that nominal income rises (and the new monetarist presumption would be that prices rather than real income rise). But what would be expected to happen to the money supply? Money is (largely) created through loans from the banking system. The demand for loans would tend to fall as interest rates in general rise. On the supply-side there are conflicting forces at work: banks would be more willing

to supply loans at a higher rate of interest (on loans) but the differentials between interest rates on loans, on deposits and the repo rate may change little, providing little change to the incentive to provide loans. Further, higher interest rates may generate perceptions of higher risk on lending. It would seem likely that over-all the loans granted will fall, and hence the growth of the money supply decline. Hence, if the supply effect is greater than the demand effect, then the stock of money will be lower than otherwise following an interest rate rise. This, however, leads us into the second query below.

Turning to the case of broader money (say M2 or M4). Higher interest rates may have little impact on the demand for M2 in that the spectrum of interest rates shifts upwards, leaving little change in the differentials between interest rates on different financial assets. In such an event, it is difficult to see how interest rates can have an impact through the monetary route, though there may still be effects through the exchange rate etc.

Second, in an endogenous money system, the amount of money which remains in existence depends on the public's willingness to hold money. Money may be created through the credit process but it is also destroyed by the repayment of loans. Thus, rather than the adjustment process being that prices and incomes adjust to bring demand for money in line with the supply of money, the process is rather that the supply of money adjusts to the demand for money.

Third, the static equilibrium model of $M_s = Md$ may yield the conclusion that the stock of money would be lower as the level of interest rates are higher. This prediction is of the form: if interest rates are raised at time t_0 , then the stock of money will be lower at time t_1 than it would have been otherwise, and the level of prices at some time, t_2 , will be lower. This would also imply that the growth of the

stock of money between t_0 and t_1 will be lower than otherwise, and the rate of inflation over the period t_0 and t_2 will be lower. Inflation is viewed as the persistent rise in prices, and the question arises as to whether the level of interest rates can influence the growth of the stock of money and thereby the rate of inflation. The broad answer which we would give is 'no': models of money supply and demand relate the level of supply (demand) to the level of interest rates, and hence rate of change of supply (demand) to rate of change of interest rates.

The Labour Party in opposition decried what they termed the 'one club' approach, in which interest rates were the only policy instrument being used to guide the economy, and yet this seems to be what is now happening again. As Kenneth Clarke has observed, 'The Chancellor is a one-club golfer, but he has given the club away to the Governor of the Bank of England, and he now says, "What goes on out there in terms of managing the economy has nothing to do with me"' (Speech, House of Commons, 23rd March 1998).

The room for manoeuvre in fiscal policy is limited through adherence to the Maastricht criteria (limiting the budget deficit to 3 per cent of GDP) and through pronouncements in favour of balanced budgets, the so-called 'golden rule' of public finance (that government should only borrow to meet capital expenditure)⁷ and concerns over the size of debt and of interest payments (which are exacerbated by a high interest rate policy). The government has declared two major strands to their fiscal policy: 'the golden rule that over the economic cycle the government will borrow only to invest and not to fund current expenditure' and 'public debt as a proportion of national income will be held over the economic cycle at a stable and prudent level' (Treasury, 1997, p.1). Thus the

use of fiscal policy to regulate aggregate demand in the economy is much reduced, especially in the direction of stimulating the economy ('Discretionary fiscal changes should only be made if they are demonstrably consistent with achievement of the Government's fiscal rules over the economic cycle', Treasury, 1997, p.16).

Under old monetarism, the government was to act under monetary targets to assure the financial markets on their intentions on inflation. Under new monetarism, the government gives the Bank of England operational independence over the setting of interest rates with the sole objective of meeting a target rate of inflation to assure the financial markets. New monetarism also involves an acceptance of the power and wisdom of the financial markets. In short, fiscal policy is completely subordinated to monetary policy, and this can at most only regulate the inflation rate. Inflation is prioritised over improving the industrial base, promotion of competitiveness, and employment. No regard is paid to ensuring that there is adequate demand in the economy, and fiscal policy is effectively renounced.

It is notable that in its manifesto for the 1997 election, the Labour Party made no proposals for the control of inflation other than to set a target of 2.5 per cent or less. Immediately after the election, the Bank of England was granted operational independence and given the objective of achieving that rate of inflation, and this can be viewed as a signal that inflation can be controlled through interest rate manipulation. It is a rather strange feature of current political debate that inflation is seen as 'evil' (see Blair's Mais Lecture, Blair, 1995) and yet there is little debate over how inflation can be contained other than the use of deflation brought about by higher interest

rates.

The approach of 'new monetarism' to economic policy has two fundamental weaknesses. First, the Bank of England, seeking to establish a reputation as an inflation hawk, will push up interest rates at (or before) the first signs of rising inflation. Unemployment below the NAIRU is taken as evidence that inflation will begin to rise, and the Bank of England steps in to deflate the economy, even though the NAIRU has proved a slippery concept to estimate (see, for example, Setterfield et alia, 1992). In the first year of the operational independence, the Bank of England's Monetary Policy Committee (MPC) has raised the rate of interest no fewer than five times, precisely on the grounds of the economy being overheated. These implications of the operational independence of the Bank of England, a pre-requisite of the UK's membership of the European Monetary Union, will be replicated by the European Central Bank once the single currency is introduced in the EU. There is, thus, considerable deflationary bias introduced into the system. The prospect of inflation from a decline in unemployment, leads to interest rates rising, slowing down the economy. But further, the slowing down and the high interest rates impact on investment, and that makes subsequent upswings more difficult to sustain as the expansion hits capacity constraints well before full employment is reached.

Second, it is a worthy objective of economic policy to have people who are more 'employable' but will there be sufficient capacity on which they can work and sufficient demand to buy the goods and services which they are capable of producing? Policies to ensure high levels of investment in plant and machinery as well as in people and to create productive capacity in the

particularly deprived areas of many inner cities are required. It is also necessary to encourage a high level of demand, through government expenditure, exports and investment. If there is a budget deficit as a result of the higher government expenditure, so be it: it is a price well worth paying. In the longer run it may not even be a price. Higher economic activity would generate more government revenue and lower unemployment benefits, which should imply smaller deficit than otherwise. However, the conditions for membership of the single currency (the Maastricht criteria, including limits on budget deficits) would not allow such an expansion to take place. In any case, the likely over-valuation of sterling, emanating from the operation of the Bank of England, would adversely effect the generation of high levels of demand.

Financial markets have always posed problems for governments, and especially Labour governments, and placed constraints, sometimes severe ones, on economic policy. The globalisation of financial markets and the very much greater flows across the exchanges have served to increase those constraints. But what is different with new monetarism is the appearance of welcoming those constraints, or at least regarding them as benign. If the markets are all knowing, then they serve the very useful purpose of keeping governments on the straight and narrow. This was expressed by Blair in the following '...errors in macroeconomic policy will be punished rapidly and without mercy' (Blair, 1996): financial markets are right, governments can be wrong. Better to have the financial markets tell you that a policy is not credible than to implement the policy and find that it fails. We would all have to accept that financial markets are powerful and can make or break economies. A number of examples of breaking economies include Mexico in late

1994, South Korea, Thailand, and other Far Eastern economies in late 1997. These are cases where the economy concerned was pursuing neoliberal policies, especially financial liberalisation policies, but were nevertheless undermined by financial markets. Furthermore, sterling's membership of the ERM in the early 1990s, is an example of financial markets welcoming sterling's entry into the mechanism, and then being largely responsible for its exit. Rather than seeking ways of reducing the power of financial markets, new monetarism appears to welcome the guidance of financial markets.

3. The NAIRU and capacity constraints

Old monetarism invoked the 'natural' rate of unemployment. New monetarism draws on a similar concept in the form of the Non-Accelerating Inflation Rate of Unemployment, affectionately known as the NAIRU. The NAIRU is somewhat mislabelled since it involves a non-rising rather than non-accelerating rate of inflation. The idea is simply that a level of unemployment below the NAIRU would involve rising inflation: wages would tend to rise faster than prices, which in turn would respond by rising faster. Unemployment above the NAIRU would lead to falling inflation. For the believers in the NAIRU, it can be calculated from the estimation of equations describing wage and price formation, with some recent estimates, reported by the Treasury (1997) putting it in the range 6 to 8 per cent.⁸ Grieve Smith (1997) summarises the position accurately when he writes that 'at present the objective implicit in the inflation target is to prevent unemployment falling below a certain minimum level' (p.38) where that minimum level is well above the level of unemployment which would correspond to full employment. Various factors are said to determine the level of the NAIRU. These can include factors such

as the power of trade unions and of business but also on skills and 'employability' of the work force (the latter is lowered by a history of unemployment). The policy instruments overlap (e.g. reduce trade union power but in the era of new monetarism, trade union power is no longer considered a problem), and initially seemed to involve a focus on education, skills, improving employability. This leads to declarations such as 'New Labour believes in a flexible labour market that serves employers and employees alike' (Labour Party, 1997, p.15). This again involves what may be thought of as 'market imperfections'. For old monetarism, those imperfections were associated with the level of unemployment benefits, trade unions, minimum wage legislation etc. For new monetarism, the market failure is a lack of training and skills. 'Long-term unemployment is likely to be particularly important in explaining the NAIRU. UK unemployment rose enormously from the late 1960s to the late 1980s, with each successive peak in unemployment higher than the one before. The persistence of high unemployment has been associated with an increased duration of unemployment. An individual's effectiveness in the labour market is widely believed to be related to the duration spent in unemployment - the longer people are unemployed, the more difficult it is for them to find work. There is clear evidence that long spells of unemployment lead to loss of motivation, work discipline, and skills, and progressively weaker attachment to the labour market. Relatively low levels of skills and education are also common characteristics of those who become long-term unemployed. The long-term unemployed are therefore likely to be relatively ineffective in competing in the labour market, putting little downward pressure on wages.' Treasury (1997, p.82). It

is well known that firms will tend to under invest in training and skills. Training is costly for the firm and there is no guarantee that the person trained will stay with the firm for it to reap the benefits of that training. In the economics jargon, provision of training and skill formation are likely to suffer from market failure. However, whilst the new monetarism at first seemed to be rather more humane than the old monetarism (for example, emphasising skill formation rather than the reduction of benefits), this would be to overlook the implications of the welfare to work programme with the reductions of benefits for lone parents and the threatened reductions in benefits for the disabled. This continues the tradition noted by Galbraith: to get the poor to work, reduce their income, to get the rich to work, raise their income. 'New Labour seems to agree with some of my right-wing colleagues who are no longer in the House and who thought that the whole problem was the feckless poor. It was said that out there were many jobs, and that people were unemployed only because they had consulted their tax advisers and had decided that the marginal rate of reduction was too great to make it attractive for them to take advantage of the employment. That is not the case. We simply have not reached the stage where, with the development of the real economy, these jobs are being created in sufficient quantity' Kenneth Clarke, 23rd March 1998).

One of the major constraints on the achievement of full employment is often seen as the non-accelerating inflation rate of unemployment (NAIRU). However, it may not be so much whether the NAIRU does exist (whatever that might mean), but rather that policy makers and others respond as though it did.⁹ In this section, we develop an analysis which suggests that this form of

inflation barrier should be viewed as arising from a lack of capacity rather than as a labour market phenomenon. The argument advanced here is that productive capacity has a significant effect on the inflation barrier.¹⁰ The policy implications of such analysis are clear: means have to be found to raise the level of capacity in the economy, even though the effect of a lack of capacity is expressed as an inflation problem rather than a capacity problem.

The key features of the most formulations of the NAIRU are that it is a supply-side equilibrium position with an emphasis on the labour market. The usual suggestion is that either the NAIRU has to be accepted as a 'fact of life' or in so far as it is 'shiftable' that requires some policy responses directed towards the labour market. Layard, Nickell and Jackman (1991) provide one of the best examples of these last two statements in their derivation of the NAIRU, and in their discussion in Chapter 10 as to how unemployment could be reduced where only policies directed towards the labour market are considered). We would view the NAIRU as a theoretical representation of the idea that there may be an inflation barrier to the achievement of full employment. The level of (un)employment at which the economy operates at any particular time would depend on, inter alia, the level of effective demand. In many of the models of the NAIRU, it is asserted that the level of aggregate demand will adjust to one consistent with the NAIRU. In contrast, we would argue that there is no presumption that the level of aggregate demand will so adjust (Sawyer, 1997a) and hence no presumption that the NAIRU is a 'strong attractor' for the actual rate of unemployment.

The focus of the analysis here is on the role of capacity, and as such we pay most attention to the production side and to price

formation, and little to wage determination. For our purposes here, it will suffice to postulate that wage determination considerations give rise to a positive relationship between the real product wage and employment. The equilibrium wage relationship can be viewed in one of two ways, but in both cases the level of unemployment restrains wages relative to some reference level. The first alternative is an equilibrium relationship between real wages relative to some target or reference level and the level of unemployment¹¹ and this can be expressed as $w - p - T = f(U)$ where w is the log of money wage, p is the log of the relevant price level, T the log of the target real wage and U is the rate of unemployment. The second alternative is an equilibrium relationship which starts from the enterprise level where money wages relative to alternative income (which is a weighted average of alternative wages if employment can be found, and of unemployment benefits if employment cannot be found) are a function of the level of unemployment.¹² This can be expressed as $w - a = g(U)$ where a is the log of alternative income. Since a is a weighted average of alternative wages and unemployment benefits (b), in equilibrium it is usually assumed that all enterprises offer the same wage, and then the relationship simplifies to $w - b = g(U)$. When the level of unemployment benefits in real terms is set by the government, the relationship can be re-written as $(w - p) - (b - p) = g(U)$, which has the same basic form as the target real wage equation above. When the ratio of benefits to wages is fixed by the government, then the equation $w - b = g(U)$ immediately yields the level of unemployment. In each case there are a range of other variables which enter these relationships, but are not of particular relevance to the discussion here. For each of the relationships specified above, the

expected sign of the relationship between real wage and unemployment is a negative one, and thereby a positive one between the real wage and employment. These relationships can be summarised as $(w - p) - T = F(L)$ and $(w - p) - (b - p) = G(L)$, respectively with F' and G' positive. In Figure 2, the curve labelled RWE (real wage employment) is a representation of either of these relationships. In the modelling of enterprise behaviour with regard to price, real wage, employment and output determination (which are, of course, interdependent) we allow for varying returns to scale (and the related possibility that the productivity of labour may vary either positively or negatively with the volume of employment). At the level of the enterprise we make explicit allowance for the capital stock, and at the aggregate level for changes in the number of enterprises. In effect, this distinction corresponds to capacity replacing (though productivity enhancing) investment and capacity enhancing investment. The general environment within which the enterprise is assumed to operate is that of imperfect competition: the position of the demand schedule facing the individual enterprise is assumed to depend on the decisions of other enterprises and on the level of aggregate demand.

The short-run profit maximising decision facing the enterprise is given by maximising $\pi = p(q, Z).q - w.l$ where $q = f(Fk^{1-\alpha})$, Z is a vector of variables influencing the demand facing an enterprise including the level of aggregate demand, lower cases letters refer to the enterprise level. Since the inclusion of material inputs would complicate the analysis without being of importance to the points which we wish to explore here we do not include those inputs. Using the level of employment as the key decision variable, with the capital stock and Z held constant, the first

order condition for profit maximisation yields:

$$\frac{(e-1)}{e} \alpha l^{\alpha-1} k^{1-\alpha} f'(l^\alpha k^{1-\alpha}) = \frac{w}{p(q, Z)} \quad (1)$$

where e is the perceived elasticity of demand facing the enterprise. This first order condition looks rather like a demand for labour schedule but should not be so regarded since the enterprise does not face parametric output prices, though it is assumed to face a given nominal wage (and hence sets the real product wage through its actions over its price). Further, this equation provides a 'point' outcome: it is an equation in l (k being exogenous at this point, p, q being functions of l) which can be solved to give the level of employment, from which the level of output, real product wage and price can be derived.

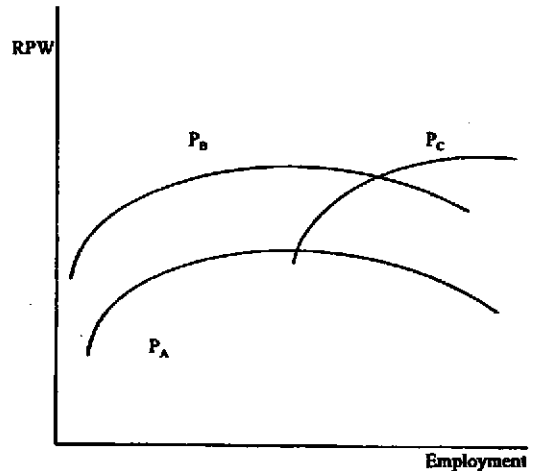
One way to map out a relationship between the real product wage and the level of employment is to vary the Z variable. In particular, movements in the level of aggregate demand would generate movements in employment, real product wage etc.. Making such variations in Z would lead to a relationship, labelled the p -curve, as sketched in figure 1, where it is assumed that the function f is such that it initially displays increasing returns to labour and then diminishing ones. With a constant elasticity of demand (which is not a crucial assumption), the relationship in figure 1 is merely the inverted U-shaped short-run cost curve. The significance of the role of aggregate demand here is that it provide the mechanism for the generation of a curve such as the one in figure 1: without that (or analogous) mechanism, the decisions of the enterprise would merely yield a point outcome (in terms of real product wage and employment). Conversely, any point on the p -curve has to

be supported by a particular level of aggregate demand.

It is readily apparent from eqn. (1) that an increase in the capital stock would lead to an upward shift in the real product wage-employment relationship (and in the case of a Cobb-Douglas production function with $f' = 1$, a 1 per cent rise in k would lead to a 1 per cent rise in l for a given real product wage). However, for a given level of Z , an increase in k would lead to a combination of higher real product wage (induced by the lower price required to sell the increased output) and of employment.

Moving to the aggregate level, the real product wage-employment relationship is the horizontal summation of the individual enterprise relationships. Equation (1) refers to the representative enterprise, and it is assumed that aggregation across enterprises does not raise any particular problems. Figure 1 sketches the aggregate relationship between the real wage and employment based on enterprise behaviour and price, output decisions, and again labelled the p -curve. An increase in the number of enterprises will shift the p -curve to the right, whereas an increase in the capital stock of the representative enterprise shifts the relationship up (though this may be combined with some change in the shape of the curve depending on the nature of the production function). In Figure 1, the shift from P_A to P_B reflects an increase in the average capital stock per enterprise and the shift from P_A to P_C an increase in the number of enterprises. This distinction is immaterial in the case of a Cobb-Douglas production function with constant returns to scale, since the scale of the representative enterprise is not relevant (and it can be noted that the widely quoted Layard, Jackman and Nickell, 1991 relies on the use of the Cobb-Douglas production function).

Fig. 1: Real product wage - employment relationships



It can readily be seen that investment will lead to rightward and upward shifts in the p -curve, and the mix of those shifts depends on the degree to which the investment leads to a rise in the average capital stock (per enterprise) and the degree to which to an increase in the number of enterprises.¹³ This leads to the important perspective that it may be possible through appropriate macroeconomic policies to generate increases in the capital stock and its composition which can be represented as a shift in the p -curve. The achievement of full employment would still require the appropriate level of aggregate demand (so that enterprises would choose to operate at point P_A in figure 2), recalling that each point on the p -curve corresponds to a specific level of aggregate demand.¹⁴

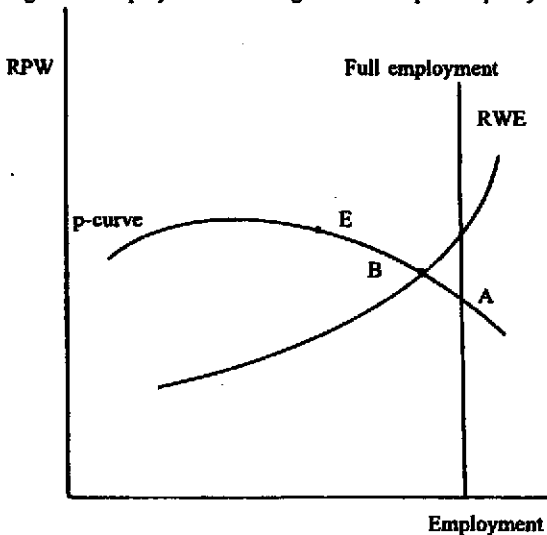
In figure 2, the slope of the p -curve around point B is clearly negative. However a relationship which was positively sloped would not change any significant conclusions, though it can be noted that if the real wage employment relationship has a significant portion for which the p -curve is horizontal, then moving toward full employment would require an increase in the capital stock of the

representative enterprise.

In the approach adopted here, there would be unemployment in equilibrium if there is insufficient capacity for the enterprises to be willing to employ the whole of the work force at the real wage generated by the wage equation at full employment. This can be illustrated in figure 2, where the NAIRU would be at point B, which falls short of full employment. But even here there is no particular reason to think that the level of aggregate demand will be sufficient for the level of unemployment to correspond to the NAIRU. Thus a point such as E (or indeed many other points on the diagram) might be reached as a result of the level of aggregate demand prevailing in the economy.

Any NAIRU which falls short of full employment is viewed in terms of a lack of capacity (rather than being viewed in terms of, for example, labour market imperfections). The notion that sufficient capacity can lift the NAIRU to full employment does not, of course, mean that such capacity will be forthcoming, and in particular high levels of unemployment will provide a strong disincentive for such capacity to be built.

Fig. 2: Unemployment resulting from inadequate capacity



However, if investment increases capital intensity (represented by an upward shift in the p -curve), then it is possible that the higher productivity which thereby results leads to an upward shift in the RWE equation (based on wage determination considerations). In terms of the two equations used above, that is $(w - p) - T = F(L)$ and $(w - p) - (b - p) = G(L)$, this would mean an increase in T or in $(b - p)$. Clearly, if a 1 per cent rise in the p -curve (as a result of increased capital stock) was associated with a 1 per cent rise in the target real wage (real benefit level) then the NAIRU would remain unchanged. This is, in effect, the case which Layard, Jackman and Nickell (1991) examine, and to which they restrict their analysis. In such a case, it could be said that if the response of the wage equation to a shift in the real wage employment relationship arising from an increase in the aggregate capital stock, then workers (or at least those in employment) in association with employers are to that extent taking the increase in productivity in the form of higher wages rather than as an increase in employment.

It may be tempting to read figure 2 as saying that a NAIRU below full employment is the result of the workers' demands for real wages (i.e. the target real wage is too high) or the level of real unemployment benefits are too high. But clearly what is relevant is the interaction of the two curves, and the figure could also be read as saying that the p -curve is too low as a result of enterprises' profit margins (and hence prices) being too high (and hence real product wage too low).

It would seem that through some apparently innocuous assumptions the models developed in the influential book by Layard, Nickell and Jackman (1991) imposed conditions to the effect that any shift in the real wage employment relationship generated a corresponding shift in the wage equation, such

that the equilibrium level of unemployment did not change (and the benefits of higher productivity fed through into real wages). Layard, Nickell and Jackman use a Cobb-Douglas production function with constant returns to scale (and hence there is no significance to be given to the division of increases in the capital stock between the average per enterprise and the number of enterprises). In the Cobb-Douglas production function case, $w - p = (e - I)/e \cdot \alpha \cdot L^{\alpha - 1} K^{1 - \alpha}$ and it can readily be calculated that the employment level will be constant if the proportionate rise in the real wage (imposed on the enterprise) is equal to the proportionate rise of output following a rise in the capital stock for a given level of employment. Any mechanism which imposes that condition (whether by a rise in the target real wage, the level of unemployment benefits or some other means) would lead to constant equilibrium level of employment (and hence a constant NAIRU). In the case of a CES production function, with the elasticity of substitution less than unity, then such a proportionate rise in the real wage would be compatible with a rise in employment.

In Layard, Nickell and Jackman (1991), there are a number of reasons why the capital-labour ratio does not influence the equilibrium level of unemployment. In the union bargaining model deployed in their Chapter 2, they conclude that 'if the production function is Cobb-Douglas (not a bad assumption) and benefit replacement ratios are kept stable, then unemployment in the long run is independent of capital accumulation and technical progress. If, however, the elasticity of substitution is less than one, capital accumulation (with no technical progress) raises the share of labour and reduces unemployment' (p. 107). Rowthorn (1998) argues that the estimates of the elasticity of substitution between labour

and capital are considerably below unity, and hence that a rising capital-labour ratio reduces the equilibrium level of unemployment.

In Layard, Nickell and Jackman (1991) Chapter 2, the mark-up of the wage over alternative income (a weighted average of wages elsewhere and the unemployment benefits) in a bilateral bargaining model does not depend on the capital-labour ratio, whereas Rowthorn (1998) shows (his eqn. A3.30) that with a CES production function, that mark-up does depend on the capital-labour ratio. The equilibrium level of unemployment depends on the relationship between actual wage and the alternative wage. In the case of the Cobb-Douglas production function with a constant wage to benefit ratio, the level of equilibrium unemployment remains unchanged in the face of changes in the capital-labour ratio since the relationship between the wage-alternative wage and the level of unemployment remains unchanged. In the case of the CES production function, that relationship changes when the capital-labour ratio changes permitting a change in the equilibrium level of unemployment (and specifically if the elasticity of substitution is below unity, the equilibrium level of unemployment falls when the capital-labour ratio rises).

These considerations would appear more relevant when investment takes the form of increasing the average capital stock per enterprise for then labour productivity would rise, whereas in the case of increasing number of enterprises the main effect is on capacity.¹⁵

We would conclude from this discussion that when capital investment takes the form of increasing the average capital stock per enterprise, and where the elasticity of substitution is unity and the wage equation shifts up in line with the rise in output (and hence the labour share in national income remains a constant) then the NAIRU may

become stuck below the full employment level, and it cannot be shifted through the expansion of the capital stock. But when the elasticity of substitution is below unity, or when the wage equation does not shift up in line with the rise in output, or when capital investment takes the form of more enterprises, then the NAIRU can be guided into compatibility with full employment through capital investment.

There are two conclusions from this analysis which are relevant for economic policy. The first is that, in general, an expansion of capacity would help to push back any inflation barrier. This point would be reinforced if spatial aspects were taken into account in that the spatial distribution of capacity has to match with the corresponding distribution of workers. Policies to create capacity become anti-inflation policies and in particular an industrial strategy which has capacity expansion as one of its objectives links with macroeconomic policy designed to constrain inflation.

The second is that when an economy has a capital stock (and the related p-curve) which cannot readily support the real wage claims being made, then the NAIRU will appear to be relatively high. The reduction in the NAIRU requires a sustained increase in the level of aggregate demand to stimulate investment (and also to underpin higher levels of employment). According to the NAIRU approach, unemployment below the current NAIRU stimulates inflation, which often leads to policies that tend to abort the higher levels of demand. But unless the higher levels of demand are sustained, the lower NAIRU cannot be reached.

The usual discussion on the NAIRU provides a strong suggestion of the restoration of the classical dichotomy between the real side and the nominal sides of the economy. It

is often specifically argued that the reduction of inflation (through control of the growth of the money supply) can be achieved without detriment to the real side of the economy, and that there is no long-run trade off between inflation and unemployment. The discussion here suggests that the nature of any association between inflation and unemployment will be heavily dependent on the time path of unemployment and its effects on the level of the capital stock.

Finally, it has to be acknowledged that capacity should be viewed as having other dimensions, including the skills of the work force and the regional distribution of the capital stock. Insufficient capacity in either of these respects may be sufficient to prevent the achievement of full employment.¹⁶

4. Conclusions

The policies so far pursued by the new Labour government can be seen as the final triumph of monetarism, albeit of the form we have labelled new monetarism. Policies on fiscal rectitude, adoption of the so-called golden rule, the virtual abandonment of fiscal policy and the handing over of monetary policy to the Bank of England represents a comprehensive rejection of Keynesian economic policies. The central concern of government policy is with inflation and with the appeasement of the financial markets, whose judgement on economic policies is accepted. The thrust of policy forgets two essential requirements for full employment: sufficient aggregate demand and adequate productive capacity. Only when those requirements are addressed will there be any prospect for the achievement of full employment, which could then be achieved without the revival of inflation.¹⁷

Endnotes

1. University of East London and University of Leeds, respectively.
2. We say the decisions of the government, but it is doubtful if any outside the small circle of advisers around the Chancellor were involved in the decision.
3. The Treasury Committee requested in November 1997 that the Bank of England makes its views of the monetary transmission mechanism known.
4. Given the significant number of economists appointed to the MPC, it could also be added that the Bank of England is not independent from the influence of economists.
5. For example, Eddie George, Governor of the Bank of England stated that 'we think that [two years] is the period over which monetary policy tends to have largely its full effects, but of course this is uncertain like everything else in economics' and his Deputy Mervyn King that 'It is quite clear as the Governor said, that our overriding objective is to hit the inflation target and we normally look two years ahead to do that' (Treasury Committee: Bank of England November *Inflation Report*, Minutes of Evidence, HC 379 i and ii, p. 30 and p. 22 respectively).
6. One other possibility, which echoes a new classical macroeconomics argument popular in the early 1980s is that if the announcement by the government and central bank of an inflation target is accepted as credible by the financial markets, then agents would modify their expectations on inflation accordingly. Inflation falls because inflation is expected to fall.
7. Under this rule, borrowing to finance the purchase of military equipment is permissible as it counts as capital expenditure; borrowing to finance the employment of teachers, health service workers or to pay disability benefits (and many other measures) is not.
8. 'The sustainable rate of unemployment, or NAIRU, is believed to have risen in the UK during the 1970s and 1980s, but there is broad agreement that this increase has been partly reversed since the late 1980s. Although the magnitude of any fall is very difficult to estimate, most estimates of the current level of the NAIRU lie in the range of 6 to 8 per cent on the LFS measure of unemployment. However, considerably lower levels should be achievable in the long run through re-integrating the long-term unemployed back into the labour market, upgrading skills, and reforming the tax and benefit systems to promote work incentives' (Treasury, 1997, p.82).
9. For a critique of the concept of the NAIRU see Sawyer (1997a).
10. The approach outlined here is more fully developed in Sawyer (1997b).
11. See, for example, Sawyer (1982a, 1982b), for the theoretical aspects and Arestis (1986), Arestis and Skott (1993) and Arestis and Biefang-Frisancho Mariscal (1994) for empirical estimation of the target real wage approach.
12. See, for example, Layard, Nickell and Jackman (1991), Chapter 2.
13. Although the term 'enterprises' is used, if

the cost curve being used is considered as relating to the plant or factory level, then the number of plants would be the relevant consideration.

14. It is outside the scope of this paper to discuss the determinants of the level of aggregate demand, and we confine ourselves here to making the point that there is no strong reason to think that the wages and profits generated at point A would lead to a level of expenditure which would purchase the output produced at A.
15. However, if the typical enterprise is operating in the range of diminishing returns to labour, an increase in the number of enterprises lowers the average employment and output per enterprise but raises productivity.
16. See Arestis and Biefang-Frisancho Mariscal (1997) and Arestis and Biefang-Frisancho Mariscal (1998) for some empirical support.
17. We have outlined our case for the pursuit of Keynesian policies (which we take to include supply-enhancing measures to provide adequate capacity as well as a wide range of demand management measures) in Arestis and Sawyer (1997b, 1998a); see also Arestis and Sawyer (1997c).

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Appendix

This appendix provides the formal algebra for the figures in the text. Lower case letters are used to signify enterprise (plant) level and upper case aggregates.

Suppose the typical enterprise has capital stock of k , and for that typical enterprise $q = f(l, k)$ where f_l (the first partial derivative of f with respect to l) > 0 and f_{ll} is seen as initially positive and then negative (so that the marginal productivity of labour initially increases with the amount of labour and then declines). We can write $Q = nq = n f(l, k)$ where n is number of enterprises (plants). The capacity of enterprise is

denoted by q^* , and this is not to be thought of as physical capacity necessarily but some 'normal' level. Capacity utilisation is then defined as $u = q/q^*$, and the mark-up of price over marginal costs is taken to be a function of u . Then $w/p = b(u) f_l(l, k)$ where b is the inverse of the mark-up of price over marginal labour costs and it is expected that b' may be positive (i.e. mark-up falls) for low values of u but negative for relatively high values. Then $u = q/q^* = f(l, k)/q^*$ and $L = nl$ and hence $w/p = b(f(L/n, k)/q^* f'_1(L/n, k))$.

An increase in n would reduce L/n . At high levels of L/n when $f_{11} < 0$ this would raise f_1 , and reduce f thereby raising the value of b . Hence real wage (at a given level of total employment) would rise for increase in n . However at low levels of L/n , $f_{11} > 0$, and the effect on the real wage would depend on the net effect on the inverse of the mark-up b and on f_1 .

An increase in the average capital stock k would have lead to a rise in f_1 , and it can be postulated that the effect of increased k is that q rises by the same proportion for all levels of employment, then $f(l, k)/q^*$ would not be affected. Then rise in k would lead to higher real wage (for given employment).

The real wage equation given above suggests that the real wage can be viewed as a function of the rate of capacity utilisation, average employment per enterprise and the average capital stock (per enterprise).