Towards a new framework for fiscal and interest rate policy

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July 2007

Abstract: The central purpose of this paper is to consider the roles of fiscal and interest rate policies in the achievement of high levels of economic activity. It is argued that Central Banks should be restrained from setting high interest rates (specifically above the underlying rate of growth) to make it easier for the fiscal authorities to pursue 'functional finance'. The interest rate should be set in line with social objectives, and a rate of interest in line with the rate of growth. The underlying budget deficit should be set to achieve the highest practical level of economic activity. Short-term fluctuations in economic activity can be partially addressed through a combination of automatic fiscal stabilisers, discretionary fiscal policy and (perhaps) interest rate variations. The operation of fiscal policy should take full recognition of the effects which the current level of economic activity has on investment and future supply capacity. The task remains to find a coherent policy for the containment of inflation.

Key words : fiscal policy, interest rate, monetary policy

Journal of Economic Literature classification : E61, E62, E63, E64

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Towards a new framework for fiscal and interest rate policy

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1. Introduction

The central purpose of this paper is to consider the roles of fiscal and interest rate policies in the achievement of high levels of economic activity. We prefer to speak of interest rate policy rather than monetary policy, simply because it is the setting of interest rate (by the Central Bank) which is the policy instrument, and any effects which that may have on the supply of money are not considered. It is the setting of credit conditions which is relevant for the level of economic activity, and at most the stock of money is a residual set by that level of economic activity. A more substantial reason in the context of the 'new consensus in macroeconomics' approach discussed below is that the equilibrium rate of interest is closely associated with the Wicksellian 'natural rate of interest', and one of the key points of that 'natural rate of interest' is that it is the rate of interest which would equate savings and investment in a non-monetary economy.

Monetary policy has become associated with the control of inflation, most notably in the form of inflation targeting, but why ? It would seem to be some hang over from the days of monetarism when control of money supply was viewed as the means of controlling inflation. Monetary policy became identified with control of (or at least targeting the growth of) the money supply as a means of controlling inflation. Monetarism has long been discarded but the emphasis on monetary policy for control of inflation remains. When monetary policy is clearly the setting of interest rates, and thereby seeking to influence demand, monetary policy is at best only loosely linked with inflation, and there may be more effective ways of influencing the level of demand.

Another line of argument is that Central Bankers have been viewed as uniquely able to influence the level of demand without falling to the temptation to raise demand at inappropriate times and to avoid the problems of time inconsistency. The notion that the Central Bank has, or can acquire, creditability in terms of its commitment to the control of inflation, and that it is the Central Bank alone (the 'conservative' central bankers argument)

* This paper has been much influenced by discussions at a session on monetary policy at the Eastern Economic Association, New York, February 2007, and at a workshop on Fiscal Policy held at Sciences Po, Paris, 15th June 2007. I am grateful to Philip Arestis, Giuseppe Fontana and John Smithin for comments on an earlier draft, and to participants in a session on fiscal policy at 4th International Conference Developments in Economic Theory and Policy in Bilbao 5th/6th July 2007 for questions and discussion.

that has this creditability with respect to the control of inflation. It is argued that a policy that lacks credibility because of time inconsistency is neither optimal nor feasible (Kydland and Prescott, 1977). The only credible policy is the one that leaves the authority no freedom as to how to react to developments in the future, and that even if aggregate demand policies matter in the short run in this model, a policy of non-intervention is preferable. It is because of the time-inconsistency and credibility problems that monetary policy should be assigned to a 'credible' and independent Central Bank, with the sole objective of price stability.

In the present approach, interest rate policy is viewed as influencing the level of economic activity which in turn can influence the rate of inflation. Interest rate becomes the unique policy instrument and inflation the policy objective. This relates to a fine tuning aspect of interest rate setting. This approach raises (at least) three questions, the latter two of which are the focus of attention in this paper. The first is whether demand management is a good policy instrument (however good is defined) for the control of inflation, and this is dependent on, *inter alia*, a relationship between inflation and the level of economic activity. The theoretical basis of this Phillips' curve notion has been addressed in Arestis and Sawyer (2007a), and found wanting. The second is whether interest rates are the most effective way of influencing the level of economic activity, and how does it compare with the use of fiscal policy. The third relates to the setting of the underlying rate of interest, rather than variations in the rate of interest in response to movements in inflation (actual and expected).

The discussion on interest rate policy here relates to non-crisis situations. A crisis situation may well require rapid adjustments to monetary and credit policies more generally with measures taken to ensure the survival of the financial system.

2. Co-ordination and objectives

A working assumption is that interest rate policy and fiscal policy should be co-ordinated and undertaken within a 'single umbrella'. The 'independence' or quasi-independence of Central Banks limits the practicality of such co-ordination, and an implicit assumption here is that the 'independence' of Central Banks should be in effect abandoned such that co-ordination can be readily undertaken.

The objective for macro-economic policy is taken to be securing the desired level of economic activity, which we will label Y_f. In this paper we focus on output, and largely leave inflation on one side. But we can make some remarks on the relationship between output and inflation. If there is no long-run trade-off between output and inflation, then there is little choice but to target the supply side equilibrium (which would then be equivalent to Y_f), and if that is achieved then constant inflation is also delivered. However, the supply-side

equilibrium may be subject to change, e.g. as investment occurs and the productive capacity changes (Sawyer, 2001). If there is some long-run trade-off, then again we can think in terms of a target level of output which will deliver a particular rate of inflation. Of course, if the inflation rate is the objective of policy, then the target level of output is derived from the target rate of inflation according to the perceived relationship between inflation and output. The third possibility is that there is no systematic relationship between output and inflation, in which case the desired level of output can be set without thought to any inflationary consequences.

In the 'new consensus on macroeconomics' (NCM) literature (discussed further below), the objective of macreoeconomic policy is taken to be a target rate of inflation, but since it is assumed that the supply-side equilibrium is consistent with a constant rate of inflation, the maintenance of the target rate of inflation requires the level of economic activity to be consistent with the supply-side equilibrium. Further, in that framework, there is a positive relationship (via the Phillips curve) between inflation and the level of economic activity, a policy response (usually in terms of the rate of interest) to a deviation of economic activity from the supply-side equilibrium corresponds to a response to higher inflation.

Our argument is going to be set in terms of macroeconomic policy striving for Y_f. In setting some target level of output, it must be borne in mind that any inflation barrier (supply-side equilibrium) may be more like a plateau than a peak, and that efforts must be made to set the target at the 'upper end' of the plateau, or even pitched somewhat above that 'upper end'. Further, there are path dependency effects and the level of economic activity, directly and indirectly (via profitability), has an influence on investment, and thereby on the future supply potential. Insofar as Y_f is interpreted in terms of deviations of output from trend, achieving a relative low output feeds into estimates of trend output. There is no reason to think that Y_f corresponds to the full employment of labour, and that a significant aspect of macroeconomic policy (in combination with others such as industrial and regional policies) should be focusing on bring productive capacity in line with the available work force, and the composition of public expenditure (e.g. infrastructure investment) may have an impact here.

3. Interest rate policy.

Interest rate policy is often discussed in the form of Taylor's rule (equation (3) in the model outlined below) in which the policy rate of interest is varied in response to the difference between inflation and the target rate and the size of the output gap (output relative to trend level). Although it is widely used in the discussion of monetary policy and often used as a 'benchmark' for assessing whether monetary policy has been 'tight' or 'loose', there is a

substantial question mark over its empirical validity[1]. Although Taylor's rule is often set in the context of formal or informal inflation targeting, the setting of interest rate by the Central Bank according to that rule reflects two concerns – the 'equilibrium interest rate' which would (according to the model) generate a zero output gap and a constant rate of inflation, and variations in interest rate to reflect concerns over inflation and output gap. We have questioned elsewhere the extent to which interest rate policy does have an effect on inflation and the level of economic activity (Arestis and Sawyer, 2004), and concluded that empirically the effects on inflation are small (e.g. a 1 percentage point increase in interest rate held for a year may reduce the inflation rate by the order of 0.2 to 0.3 per cent).

To aid some aspects of the subsequent discussion the so-called 'new consensus macroeconomics' (NCM) is set out (see, for example, Meyer, 2001). For simplicity we outline a closed economy version, see Arestis, 2007 for an open economy version).

(1) $Y^g{}_t = a_0 + a_1 Y^g{}_{t-1} + a_2 E_t (Y^g{}_{t+1}) - a_3 [R_t - E_t (p_{t+1})] + s_1$

(2) $p_t = b_1 Y^g{}_t + b_2 p_{t-1} + b_3 E_t (p_{t+1}) + s_2$

(3) $R_t = RR^* + E_t (p_{t+1}) + c_1 Y^g{}_{t-1} + c_2 (p_{t-1} - p^T)] + s_3$

with $b_2 + b_3 = 1$, where Y^g is the output gap, R is nominal rate of interest, p is rate of inflation, p^T is inflation rate target, RR* is the 'equilibrium' real rate of interest, that is the rate of interest consistent with zero output gap which implies from equation (2), a constant rate of inflation, s_i (with i = 1, 2, 3) represents stochastic shocks, and E_t refers to expectations held at time t. Equation (1) is the aggregate demand equation with the current output gap determined by past and expected future output gap and the real rate of interest. Equation (2) is a Phillips curve with inflation based on current output gap and past and future inflation. Equation (3) is an interest rate policy rule often referred to as Taylor's rule.

The key features of this approach are that a constant rate of inflation requires a zero output gap (from equation (2)), and that inflation on target corresponds to a real rate of interest of

[1] 'As the Taylor rule has begun to be taken almost as given – and not only for the US – it is of interest to see whether this can be motivated empirically. … Given the (near) unit root behaviour of the variables in the Taylor rule found here, the concept of cointegration becomes essential for the model, not only in order to estimate the parameters of the model consistently but also to give economic meaning to the relationship. Absence of cointegration implies no long-run relationship between the variables in a system, and such a finding must lead to the conclusion that the Taylor rule is incompatible with central bank behaviour. The results in this paper show that the Taylor rule seems to provide an accurate description of monetary policy in the US during the 1960s and 1970s, but that there are serious reasons to doubt its relevance in more recent decades as well as in Australia and Sweden.' (Osterholm, 2005, p. 218)

RR* (which may be labelled the 'equilibrium rate of interest' and has some correspondence with the Wicksellian 'natural rate of interest'). However, equation (1) reveals that RR* = -a_0/a_3, implying that the 'equilibrium rate of interest' depends on the exogenous component of demand (including fiscal policy stance) and a measure of responsiveness of demand to the rate of interest.

The operation of interest rate (monetary) policy in some countries (e.g. UK but not really the ECB) claims to be operated in a transparent manner. This may have some validity in that the objective of policy is clearly stated (inflation rate), and there is 'open' discussion of the state of the economy and the reasons for interest rate adjustment. But there is another way in which there is a completely lack of transparency. The determination of the equivalent of RR* and whether real interest rates in any sense move around that level are just not discussed. Yet it could be argued that, at least within the NCM, it is the setting of underlying rate of interest which is crucial in respect of whether the economy reaches the supply-side equilibrium.

In the NCM approach, fiscal policy can be ruled out *if* it is assumed that Ricardian equivalence 'rules', and hence in terms of these equations a_0 is constant no matter what the fiscal stance. The evidence on Ricardian equivalence is not favourable to that extreme position (for example, 'Nor does full Ricardian equivalence or a significant partial Ricardian offset get much support from the evidence' (Hemming, Kelly and Mahfouz, 2002, p. 36). Further, in the context of deficient aggregate demand, the use of fiscal policy and a budget deficit can permit a higher level of savings (and hence of consumption) to occur. This is elaborated below.

In the model outlined above, the economy would operate at the supply-side equilibrium (zero output gap) if the interest rate has to be set at the equilibrium rate, RR*. The achievement of the zero output gap and the corresponding constant rate of inflation is then seen to depend crucially on the ability of the Central Bank to set the appropriate interest rate. A failure of the Central Bank to do so, for whatever reason, would mean a non-zero output gap, and any tendency for the Central Bank to be 'conservative' and set the underlying interest rate above RR* would lead to a negative output gap. There are major questions over its estimation (most attempts have in effect treated RR* as a moving average of actual experience), whether it is positive, and whether there is any validity in the notion of a unique 'equilibrium' rate of interest (or equivalently a Wicksellian 'natural' rate of interest) (see Sawyer, 2007 for further discussion).

The practical application of monetary policy in the NCM framework has though involved the rather frequent potential adjustment of interest rates : for example the Monetary Policy

Committee in the UK meets monthly to make interest rate decisions, the Federal Reserve every six weeks. The decision may be one of no change, but the potential to make frequent adjustments is there (and sometimes exercised). The difficulties which arose with the fine tuning of fiscal policy arose from the lags involved, a recognition lag (including arising from collection and interpretation of the relevant and accurate statistics), decision lag, implementation lag, and lags in the policy change impacting on the economy are well known. These lags, which cumulatively could amount to many quarters, could lead to some destabilising of the economy: fiscal policy designed to address a slow-down may come through as the economy is picking up. But the objections made to fine tuning of fiscal policy largely apply also to the fine-tuning of monetary policy. There is one exception, namely that it is easier to change the policy instrument (interest rate) in the case of monetary policy as compared with fiscal policy, and the associated length of the decision-making and implementation process. But fiscal policy has a 'rapid response' element in the form of the operation of automatic stabilisers, and, as discussed below, institutional arrangements could be devised through which changes in the fiscal stance can be undertaken in an expeditious manner.

Thus monetary policy has generally attempted a form of what may be termed hyper fine-tuning. It is also attempting this fine tuning at one stage removed in the sense that monetary policy is seen to influence the level of demand, and then the level of demand influences the pace of inflation. But the impact of interest rate changes on the rate of inflation may be small and whether interest rates can play this fine tuning role is doubtful. Arestis and Sawyer (2004) summarise some evidence, see also Bank of England (2005), which suggests that 1 percentage point change in interest rate maintained for a year may trim inflation by 0.2 percent.

4. More on the target rate of interest.

In the formulation of Taylor's rule (cf. equation 3 above), two approaches have been taken to the setting of the equilibrium real rate RR*. The one which flows from the model above is to view RR* as equivalent to the Wicksellian 'natural rate of interest' which in effect would settle the level of aggregate demand consistent with the supply-side equilibrium (in the model above the zero output gap, and also constant inflation), or alternatively expressed which balances savings and investment.

An unchanging 'equilibrium rate of interest' would require that a_0 was not shifted through fiscal policy or through 'animal spirits' (shifting the investment function) (and in an open economy the real exchange rate was stable as some equilibrium value. In this context, if fiscal

policy is asserted to be ineffectual then the fiscal stance variable would drop out of the equation. A unique 'natural rate of interest' could potentially be derived for any given value of a_0 in equation (1), and hence for a given fiscal policy stance, set of 'animal spirits' and exchange rate. But as each of those variables is liable to change, this would be a rather uninteresting proposition. Further, there is no guarantee for a particular set of values for those variables, that the 'equilibrium rate of interest' is attainable. This can arise because the corresponding nominal rate of interest would be negative, because the domestic rate of interest would be incompatible with the rates of interest in the rest of the world and the implications for the exchange rate.

In practice there is uncertainty over the value of RR^* in terms of its imprecise empirical value. Weber (2006), the President of the Deutsche Bundesbank argues that 'within the very active theoretical literature on optimal monetary policy under uncertainty the question remains prevalent what to do with the – up to now very imprecise – estimates of the natural rate of interest' (p. 18). The 'natural rate of interest' can be viewed as the rate of interest which equates savings and investment in a barter economy. Wicksell wrote in the following terms. "There is a certain rate of interest on loans which is neutral in respect to commodity prices, and tend neither to raise nor to lower them. This is necessarily the same as the rate of interest which would be determined by supply and demand if no use were made of money and all lending were effected in the form of real capital goods. It comes to much the same thing to describe it as the current value of the natural rate of interest on capital". (Wicksell, 1965, p. 102). It could be viewed as the benchmark for a neutrality of monetary policy position. But it is well-known that there is pervasive credit rationing, and hence a firm's ability to borrow in order to finance investment depends not only on the interest rate on loans but also on the credit rationing conditions.

The other approach to the setting of the underlying interest rate, which is reflected in Taylor's original piece where he argues that 'One policy rule that captures the spirit of the recent research and which is quite straightforward is: $r = p + .5y + .5(p - 2) + 2$ … where r is the federal funds rate, p is the rate of inflation over the previous four quarters y is the percent deviation of real GDP from a target.' Further 'the 2-percent "equilibrium" real rate is close to the assumed steady-state growth rate of 2.2 percent' (Taylor, 1993, p. 202).

The rule of 'rate of interest equal to the rate of growth' can be linked with other considerations. The 'golden rule of capital accumulation' in the framework of a neo-classical model with the marginal productivity of capital equal to the rate of interest generates such an outcome. Another is the 'fair rate of interest' (Pasinetti, 1981), which 'in real terms should

be equal to the rate of increase in the productivity of the total amount of labor that is required, directly or indirectly, to produce consumption goods and to increase productive capacity. … The fair rate of interest thus maintains the purchasing power, in terms of the command over labor hours, of funds that are borrowed *or* lent and preserves the intertemporal distribution of income between borrowers and lenders' (Lavoie and Seccareccia, 1999, p.544)

The setting of the interest rate has some clear and obvious implications for the operation of fiscal policy. For the sustainability arguments, the key interest rate would be the post-tax rate of interest on government bonds. If $r < g$, then any primary budget deficit of d (relative to GDP) would lead to an eventual debt ratio (to GDP) of $b = d/(g - r)$ (either both of g and r in real terms or both in nominal terms). If $r > g$ then a primary budget deficit would lead to growing debt ratio. In a similar vein, a continuing total budget deficit of d' (including interest payments) leads to a debt to GDP ratio stabilising at d'/g where here g is in nominal terms. This implies that $b + rd = gd$, i.e. $b = (g - r)d$ and hence if g is less than r the primary budget deficit is negative (i.e. primary budget is in surplus).

The case where $g = r$ is of particular interest. Pasinetti (1997, p. 163) remarks that this case 'represents the 'golden rule' of capital accumulation. … In this case, the public budget can be permanently in deficit and the public debt can thereby increase indefinitely, but national income increases at the same rate (g) so that the D/Y ratio remains constant. Another way of looking at this case is to say that the government budget has a deficit which is wholly due to interest payments' (p. 163).

5. Fiscal policy

The operation of fiscal policy and implications for budget deficit or surplus can be viewed in a number of ways, and here we point to two. The first is that variations in the fiscal stance can be used to offset fluctuations in economic activity arising from, *inter alia*, variations in private sector aggregate demand. At the extreme this leads to the fine tuning of fiscal policy. The second is that the general fiscal stance should be set to support the level of aggregate demand consistent with high level of economic activity.

Coarse tuning

The 'functional finance' approach (the term of Lerner, 1943, but also see Kalecki, 1944 for a similar view) postulates the setting of budget deficit to achieve high level of economic activity. This can be represented in terms of equation (4) and setting the budget deficit in a manner consistent with the target level of output, i.e.

(4) $$G - T = S(Y_f) - I(Y_f) + M(Y_f) - X(WY)$$

where G is government expenditure, I investment, X exports, T tax revenue, S savings and M imports, Y_f is the target level of income, and WY is world income (taken as given here). The rate of interest is not explicitly included here, but it could be assumed that the rate of interest is set by interest rate policy in a manner discussed below (an alternative view would be that interest rate has rather little effect on expenditure).

The budget deficit is to be used to mop up 'excess' private savings (over investment), and the counterpart budget surplus used when investment expenditure exceeds savings (at the desired level of economic activity). It follows, though, that a budget deficit is not required when there is a high level of private aggregate demand such that investment equals savings at a high level of economic activity (and a surplus would be required when investment exceeds savings at the desired level of economic activity). The budget deficit required to achieve Y_f can be clearly seen to depend on propensities to save, invest, import and the ability to export. These vary over country and across time, and may result in budget deficit or surplus.

In the case of fine tuning, the time scale over which the government adjusted the fiscal stance seeking to ensure equation (4) held would be relatively short (say less than a year). In the second case referred to above, the intention would be to set the fiscal stance so as to achieve equation (1) on average (say over the business cycle) but with fluctuations around that level as the level of private aggregate demand varied.

Equation (4) above indicates a possible need for a long-term budget deficit (or indeed surplus) depending on savings, investment, import propensities and export prospects. This raises issue of sustainability, which we have discussed at much greater length elsewhere (Arestis and Sawyer, 2006, 2007b). We restrict comments here to two. First, in this approach governments borrow because private sector wishes to lend; if there is no potential excess of savings over investment, then there would be no need for a budget deficit. Savings (over and above investment) can only be realised if there is a budget deficit which absorbs those savings. Second, a primary budget deficit is sustainable in the sense that the corresponding debt to GDP ratio stabilises provided that $g > r$. It is well-known that a continuing primary budget deficit equivalent to a proportion d of GDP will lead to a debt to GDP ratio stabilising at $b = d/(g - r)$ (where g is the growth rate and r interest rate).

However, in the 'functional finance' approach, the budget deficit which is relevant is the overall budget position rather than the primary deficit (or surplus). To the extent that a budget deficit is required to offset an excess of private savings over investment, then it is the overall budget deficit which is relevant. Bond interest payments are a transfer payment and add to the income of the recipient, and similar in that respect to other transfer payments (though the

propensity to consume out of interest payments is likely to be less than that out of many other transfer payments). In terms of sustainability, then, of a fiscal deficit, the condition under 'functional finance' is generally readily satisfied being the requirement of a positive nominal growth rate.

The underlying and sustainable deficit position can potentially be worked out. To give a simple illustration, expand the expression for the budget deficit to give:

(5) $$R + A + B - T = (S - I) + (M - X)$$

where R is resource using public expenditure, A government transfers, B interest payments on public debt and T taxation. Divide through by Y_f, assume constant marginal propensities, and use lower case letter to denote upper case divided by Y_f

(6) $$r + a + b - t = s(1-t) + s_a a + s_b b - i + m - x$$

which provides an equation in b and t. In this example, we treat r and a as given, b as evolving over time and the tax rate t adjusted to ensure that the equation holds for Y_f. The output level Y_f is taken to be growing at rate g over time, and the variables in equation (5) growing at the same rate with the exception of B and T which evolve over time.

Now $b = iD/Y_f$ where D is outstanding debt. The condition for b to be constant over time, i.e. some form of steady state reached, leads to:

(7) $$b(g - i) = [r + a - t]i$$

These two equations can be solved to provide equilibrium solutions for b and for t.

(8) $$b[(1 - s_b) + (1 - s)\frac{g - i}{i}] = s + (s_a - s)a - i + m - x - sr$$

(9) $$t[(1 - s_b)\frac{i}{g - i} + (1 - s)] = (1 - s_b)(r + a)\frac{i}{g - i} - [s - s_a a - i + m - x - r - a]$$

The long run budget deficit would then be given by the equation for b, which would serve as the benchmark for fiscal policy. In the long run, the required tax rate is given by the equation here for t. In terms of setting long run goals for fiscal policy (e.g. comparable to the so-called 'golden rule' adopted in the UK which can be interpreted as balance the current budget over the cycle and allow an overall budget deficit of around 2 per cent of GDP) the target tax rate would be given by equation (9), which in conjunction with the target levels of r and a would generate a target primary deficit.

It will, of course, be immediately recognised that the calculation of the target budget deficits is not straightforward, and that being able to incorporate significant changes in the underlying parameters (e.g. the propensity to invest) would also be complex. But this type of approach

would make more sense that imposing some arbitrary rule, such as balance the budget over the cycle. It also recognizes that there are likely to be significant differences between countries reflecting differences in investment behaviour, export opportunities etc.. It strongly suggests that uniform rules such as imposed by the EU's Stability and Growth Pact are misplaced.

Fine tuning

The ultimate in fine tuning would arise when the budget stance was continuously changed in response to variations in economic activity (in a Keynesian framework arising from variation in the behaviour of *S*, *I*, *X* or *M*). This would be comparable to the fine tuning attempted through interest rate changes. The problems of fine tuning are well-known in terms of the various lags involved including those of recognition, decision making, implementation and effect. However, the automatic stabilisers already perform part of that task in the sense that a downturn is met by reduced tax and increased expenditure which modify but do not eliminate the degree of fluctuations in economic activity. The tax and expenditure regime could be designed to increase the extent of stabilisation, though it may be an open question whether the tax system should be designed in this manner. It could be noted that the degree of progressivity of the tax system is relevant, and a more progressive tax regime should have the side benefit of enhancing the stabilisation properties.

Is there a role for discretionary fiscal policy to help stabilise the economy ? A Fiscal Policy Committee (FPC) analogous with a Monetary Policy Committee (MPC) has been suggested in a number of forms. If interest rates can be varied to seek to fine tune the economy, can this not be extended to fiscal policy. There can be seen to be a basic similarity between interest rate policy and fiscal policy in this respect. For example, it has been argued that 'the literature stemming from Barro and Gordon that is often cited by economists as justifying ICBs [Independent Central Banks], does not specify what instrument is used to control output and inflation, and so it applies equally to fiscal countercyclical policy' (Leith and Wren Lewis, 2005, p. 595). As Arestis (2007) indicates the NCM model can be readily adopted to substitute the interest rate rule by a fiscal policy rule, and the equation which he uses is $(PSBR)_t = (PSBR)_0 - c_1 Y^g_{t-1} - c_2(p_{t-1} - p^T)] + s_7$ where PSBR is public sector borrowing requirement and $(PSBR)_0$ some base level.

It is often objected that the politically sensitive nature of tax and expenditure decisions and the need for those to be taken by Parliament prevents this. Further whilst lowering taxes and

raising transfers may be an acceptable way of responding to a downturn, it is unlikely to be acceptable way of dealing with an upturn – 'your benefit has been cut this week as the economy is growing too fast' would not be well received ! But there are taxes, such as value added tax, social security contributions which could be varied in this manner. Interest rates, which appear as a cost to many (though income to others) are, of course, already varied in this type of way. The role of FPC could then be to judge, on say a six monthly, basis whether a change in tax rates would be warranted.

'The main problem with the ICB analogy is how to separate fiscal stabilization policy from issues of longer-term sustainability and equity, and also from microeconomic budgetary policy. Wren-Lewis (2003*a*) suggests giving a 'fiscal stabilization authority' a small number of fiscal instruments, chosen for their potency in influencing the macroeconomy. This authority would only be allowed to make temporary changes in these instruments, and might even be given its own budget which would have to be balanced within a specified time frame.' (Leith and Wren-Lewis, 2005, p. 595-6).

Seidman (2003) seeks to develop a 'new automatic fiscal policy … analogous to, and complementary with, the "Taylor rules" that have been proposed for the Federal Reserve's conduct of monetary policy. The proposed automatic fiscal policy was once called "formula flexibility" to distinguish it from "built-in" automatic stabilizers' (p.21) using the terminology of Musgrave (1959). He advocates 'the establishment by Congress of a fiscal policy advisory board. …. Its main task would be to recommend to Congress the design of automatic fiscal policies to combat recession and emergency fiscal policies in a severe recession. Congress would retain full control of all fiscal policies' (p.xx). His specific proposals relate to tax cuts in the face of recession. However, a shortcoming of Seidman's approach is that he also seeks to have a balanced budget at 'normal unemployment', and 'automatic fiscal policies that automatically generate deficits in recession will be more acceptable to the public if Congress runs balanced budgets or surpluses when the economy is at "full employment", thereby maintaining a low ratio of government debt to GDP. As indicated above a constant debt to GDP ratio is compatible with an on average budget deficit, and there is no reason to think that full employment can be achieved without a budget deficit.

These type of proposals are viewed here as relating to the variation of fiscal policy towards the fine tuning end of the spectrum. The underlying fiscal position, the composition and level of public expenditure and the structure of the tax system could be set as discussed under 'coarse tuning' and through the existing democratic processes.

Golden rule

The appeal of the 'golden rule' arises from the notion that borrowing is not undertaken for current expenditure but is undertaken for capital expenditure, perhaps under the misapprehension that capital expenditure by government generates future income (for government), which can be used to pay off the borrowing. But capital expenditure by general government (which is here distinguished from capital expenditure by pubic corporations) does not yield any direct future 'profit' to the government. Some forms of capital expenditure (e.g. roads) may aid national prosperity and thereby raise national income and tax revenue, but some (notably defence) does not. But that is also true of many forms of current expenditure, most notably that on education, health services.

The focus of the 'functional finance' approach is that budget deficits should be used to stimulate aggregate demand, and from that perspective a euro spent on capital expenditure is the same as a euro spent on current expenditure. The 'functional finance' approach is concerned over the level of public expenditure relative to the level of taxation : it is not particularly concerned over the allocation of public expenditure between different areas. The advocates of 'functional finance' would also advocate that public expenditure is spent wisely. But there is no reason to think that a level of capital expenditure equal (on average) to the budget deficit is the appropriate level of public capital expenditure.

Golden rule is arbitrary in terms of the definition of investment (that has been mentioned above) and in terms of the budget deficit which is thereby implied. The figures in Balls and O'Donnell (2002, p. 161) indicate a fall in public net investment to GDP from over 7% of GDP in the mid 1960s to well below 1% in the late 1980s

Keynes also advocated that "in peace-time budgets through the Chancellor making a forecast of capital expenditure under all heads, and comparing this with prospective savings, so as to show that the general prospective set-up is reasonably in accordance with the requirement of equilibrium. The capital budget will be a necessary ingredient in this exposition of the prospects of investment under all heads. If, as may be the case, something like two-thirds or three-quarters of total investment will be under public or semi-public auspices, the amount of capital expenditure contemplated by the authorities will be the essential balancing factor. This is a very major change in the presentation of our affairs and one which I greatly hope we shall adopt. It has nothing whatever to do with deficit financing" (Keynes, 1980, p.352).

6. Proposals

The NCM approach has a remarkable property, namely that a market economy only operates at the 'supply-side equilibrium' (zero output gap) *if* the Central Bank can successfully set its interest rate at the 'equilibrium level' (RR^*) (equivalently expressed as the 'natural rate of

interest'). The NCM approach does not contain any market mechanism by which the economy reaches that 'supply-side equilibrium', but rather it depends on the administrative decisions of the Central Bank.[2] The achievement of achievement of Y_f as we have labelled it above would require the appropriate interest rate to be set. But we have argued that fiscal policy has a major role to play, one which we suggest is more potent that interest rate policy (Arestis and Sawyer, 2003). In terms of equations (1) to (3) above, the 'supply side equilibrium' can either achieved through setting the a_0 through fiscal policy or through RR^*. But we have argued that the determination of RR^* is problematic, apart from doubts on its existence and the degree to which interest rates may affect the level of economic activity. The key role to the achievement of Y_f should come through fiscal policy. For a country in which savings tends to outrun investment, this would typically involve a continuing budget deficit, but we have argued this does not raise any insuperable problems. Essentially it is the existence of the excess of savings over investment which leads to the requirement for a budget deficit, but it is that very excess which enables the budget deficit to be funded. Insofar as some fine tuning of the economy is concerned, the debate should be around the effectiveness and practicalities of varying fiscal policy and interest rate policy.

This leads us to two questions, namely how should the interest rate be set ? and can inflation be controlled ?.

For the interest rate, we argue that the policy should take form of a target real rate of interest based on social objectives such as the real rate of interest set in line with the underlying rate of economic growth. The setting of this interest rate is advantageous from the perspective of fiscal policy. As Pasinetti indicated (quoted above) with an interest rate equal to the growth rate, the borrowing by government would be covering interest payments and the primary budget position would be in balance. Yet the budget deficit could be set to underpin the desired level of economic activity. Further, if the post-tax rate of interest paid by government was actually less than the growth rate, that all issues of sustainability of the budget deficit evaporate.

One version of this would be that the Central Bank interest rate would be set annually (outside of crisis) and on the basis of the agreed real rate plus forecast inflation for the coming year plus the difference between actual inflation and forecast inflation for the

[2] The exogenous money case encapsulated in the IS-LM approach has the potential market mechanism operating via the real balance effect: low levels of economic activity generate lower price level and higher real money stock which stimulates aggregate demand. We may

previous year. This would ensure that over the long haul the real rate of interest achieved the target level, along with building in expected inflation (and seeking to avoid the forecasters understating inflation in order to keep down the rate of interest). The changes in the nominal rate of interest would be anticipated since information on the rate of inflation and the target real rate would be readily available. There would be some costs savings in the decision making process, and the Central Bank would concentrate on its prime task of underpinning financial stability.

The approach to the control of inflation is more problematic. Insofar as the adoption of a target rate of inflation pins down inflationary expectations, and the Phillips' curve provides a good representation of the inflationary process, then the use of fiscal and interest rate policies in a fine tuning form can be adopted. In effect, the argument would be for a co-ordination of fiscal and interest rate policies which respond to some weighted average of inflation (minus target) and output (minus target).

There are two difficulties with this argument. First, interest rate variations appear to have little impact on the rate of inflation, as indicated above. A partial reason for that finding may be that inflation is largely driven by expectations on inflation, and if those remain firmly anchored around the target rate, then any deviation of inflation from target will be 'corrected' through the expectational effects. The use of interest rates relies heavily on people being convinced that interest rates work, even though the evidence is that they do not. If the belief in the use of interest rates were to be broken (through say an upswing in inflation which could not be prevented through interest rate rises) then the policy would collapse.

Second, reductions in demand are a crude and costly way of dampening down inflation, and can, at best, address demand driven inflation. The reductions in demand themselves (whether coming from increases in the policy rate of interest or raising tax rates) have the first round effect of raising prices. Inflation of the cost push variety cannot be controlled through demand reduction measures. An alternative policy instrument is required !

7. Conclusions

'Restraining the fiscal authorities from engaging in excessive deficits financing thus aligns fiscal policy with monetary policy and makes it easier for the monetary authorities to keep inflation under control' (Miskin, 2000, p. 2). Our argument here is the reverse. Central Banks should be restrained from setting high interest rates (specifically above the underlying rate of growth) to make it easier for the fiscal authorities to pursue 'functional finance'. The interest

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well doubt the effectiveness of such a mechanism but the point here is that a market based

rate should be set in line with social objectives, and we propose in line with the rate of growth. The underlying budget deficit should be set to achieve the highest practical level of economic activity. Short-term fluctuations in economic activity can be partially addressed through a combination of automatic fiscal stabilisers, discretionary fiscal policy and (perhaps) interest rate variations. The operation of fiscal policy should take full recognition of the effects which the current level of economic activity has on investment and future supply capacity. The task remains to find a coherent policy for the containment of inflation.

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mechanism is postulated.

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