Seeking to reformulate macroeconomic policies

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Abstract: The paper uses an instruments-targets approach in a Kaleckian macroeconomic framework to seek to reformulate macroeconomic policies. It sets out a Kaleckian macroeconomic model with specific reference to the role of aggregate demand and the nature of the inflation barrier. The following instrument-target links are developed from that model. First, the long-run fiscal stance should be set to underpin the desired level of output and employment. Second, discretionary variations in the fiscal stance should be used in conjunction with automatic stabilisers to modify the business cycle. Third, industrial and regional policies are required to ensure that the inflation barrier is compatible with the full employment of labour. Public expenditure, particularly investment, can also be structured to ease supply constraints. Fourth, interest rate policy should be set to set the real interest rate as low as possible, in line with the trend rate of growth, but may be constrained by world levels of interest rates. The operations of the Central Bank should be directed towards financial stability. Fifth, the need to develop an inflation policy which is not dependent on demand deflation is stressed.

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1. Introduction

The formulation of macroeconomic policies is heavily conditioned by the underlying analysis of the macroeconomy. The underlying analysis tends to focus on some macroeconomic problems and not others and suggest policy instruments and their association with certain policy objectives. The monetarist analysis is a prime example of this whereby inflation comes to be viewed as the major problem rather than unemployment and control of the money supply the appropriate policy instrument. The macroeconomic analysis underpinning this paper is described as a Kaleckian one, and its key components are outlined below. The paper adopts what may be termed a Tinbergen type approach to macroeconomic policy in that the discussion is organised around policy instruments and policy objectives, with the numbers of instruments and objectives aligned, and to a considerable extent each policy instrument is focused on a specified policy objective. The approach should be generalised, and it is recognized that any policy instrument will impact on a range of objectives, and a notable example here is that fiscal policy impacts on the current level of demand and hence of economic activity, and it can affect investment and thereby the future capacity of the economy (which in turn has effects on the inflation barrier).

The major objective of macroeconomic policy is identified here with the achievement of full employment of the available labour force (recognising that the available labour force is socially conditioned and influenced by the path of economic activity). In the short-term a major objective is the attainment of a target level of output, recognising that there may capacity constraints which may prevent the achievement full employment of labour. A constant rate of inflation is also an objective, rather than the alternative of a generally rising or falling rate of inflation. The target rate of inflation should not be associated with the present target levels of circa 2 per cent as rates up to at least 10 per cent could be acceptable (and indeed may be preferred given the evidence on relationship between inflation and growth)[1].

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[1] A recent example is the finding based on 80 countries over 1961-2000 period: 'The paper consistently finds that higher inflation is associated with moderate gains in gross domestic product growth up to a roughly 15-18 percent inflation threshold. .. With the groupings by decade, the results indicate that inflation and growth will be highly correlated to the degree

The argument is set in terms of macroeconomic policy striving in the short term for a target level of output Y_f. The target level is highly conditioned by what is perceived to be the inflationary consequences of high levels of output, and we work with the notion of there being an inflation barrier. However, it must be borne in mind that any inflation barrier (which is akin to a supply-side equilibrium) may be more like a plateau than a peak, and that efforts should 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. A further complication is that the target level of output may be formulated in terms of an output gap, which is in effect deviation of output from trend. Contrary to the orthodox view that the trend is supply-determined, we would see the trend as strongly influenced by the path of demand. A relative low output in time t can lead to low investment and thereby lower (than otherwise) output in the future.

There is little reason to think that Y_f corresponds to the full employment of labour, and 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) will have an impact here.

2. The theoretical framework

The theoretical framework which underpins the analysis here is labelled Kaleckian as a convenient label. The framework reflects key ideas of Kalecki though it also extends those ideas.[2] There are four features of the approach adopted here for the modelling the macroeconomy.

1. The level of economic activity is set by the level of aggregate demand, which is the sum of intended consumer demand, investment demand and government expenditure plus the net trade balance. Since the propensity to consume depends on income source (wages vs. profits) and investment is influenced by profitability for a variety of reasons, the distribution of income between wages and profits plays a significant role in the determination of aggregate demand. Aggregate demand determines the level of output in the short run and in the long

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that macroeconomic policy is focused on demand management as a stimulus to growth. … Our conclusion is that there is no justification for inflation-targeting policies as they are currently being practices throughout the middle- and low-income countries, that is, to maintain inflation with a 3-5 percent band'. (Pollin and Zhu, 2006, p. 593)

[2] See Sawyer (2008) for discussion of Kalecki's approach to unemployment policy.

run. The level of economic activity is then seen to depend on a range of factors including the distribution of income.

2. Money is credit money endogenously created within the private sector with loans created by banks generating bank deposits. The expansion of the stock of money is driven by the demand for loans, which leads to the expansion of bank deposits in so far as the demand for loans is met by the banking sector. However, the stock of money has to be held by people, and the stock of money is largely determined by the 'demand for money', as money can also be destroyed by the repayment of loans. The Central Bank sets the key policy interest rate which governs the terms on which the Central Bank provides 'base money' (M0) to the banking system.

3. The production side of the economy is oligopolistic and imperfectly competitive. Enterprises make interrelated decisions on price, output supply and employment offers in light of the demand conditions which they face and their own productive capacity. The underlying determination of real wages from the wage setting side is represented by a wage curve (based on efficiency wage considerations or on collective bargaining). From the interaction of these price and wage determinations a form of supply-side equilibrium is derived which is labelled CILO (constant inflation level of output), which is seen seen as an inflation barrier. This could be seen as akin to a non-accelerating inflation rate of unemployment (NAIRU), but the CILO differs from the NAIRU in (at least) two major respects. First, the interaction of prices and wages do not take place in what may be described as 'the labour market', and hence the supply-side equilibrium is not set by the features of the labour market. Instead the emphasis is placed on the role of productive capacity. Second, there is no presumption that the CILO acts as a strong (or even weak) attractor for the actual level of economic activity. There are no guarantee that there are market forces which lead the level of aggregate demand to adjust to the CILO. In a model with some Kaleckian features, Hein and Stockhammer find that 'the stability of the NAIRU requires a very low propensity to save out of rentiers' income, a very low elasticity of investment with respect to internal funds, weak redistribution effects of unexpected inflation on labour income and a very flat short-run Phillips curve. Of course, there is no economic mechanism in our model which will guarantee this very special constellation to hold.' (Hein and Stockhammer, 2007, p.16)

4. Inflation is a non-monetary phenomenon in the sense that changes in the stock of money do not in any sense cause determine, but rather the rate of change of the stock of money (endogenously) adjusts to the pace of inflation. Inflation is viewed as multi-causal and the sources of inflationary pressure vary over time and economy. The range of factors which

impact on the rate of inflation including a struggle over income shares, the level of and rate of changes of the level of aggregate demand and cost-push factors coming notably from the foreign sector (change in import prices and the exchange rate).

The economy is an open one and hence aggregate demand includes a foreign component influenced by the real exchange rate and world income, and domestic inflation is influenced by world inflation. Movements in the world economy and the exchange rate have impacts on the domestic economy. But from a policy perspective the significant question is whether the exchange rate behaves in a predictable manner which can be influenced by policy, and we return to this issue below.

It is common place to observe that the level of economic activity is demand determined in the short-run, and that fluctuations in the level of economic activity arise from fluctuations in demand. The Kaleckian analysis views significance of the role of aggregate demand as more extensive than that. Specifically, the lack of unambiguous market based forces leading the level of demand into line with available supply is one basic tenet of a Kaleckian analysis and hence inadequate aggregate demand can be a long term phenomenon. Further, the evolution of the supply potential of the economy in terms of the available work force, the size of the capital and the growth of factor productivity are all strongly influenced by the time path of the level of demand. This is most evident for the growth of the capital stock, where investment expenditure is strongly influenced by the level of economic activity, but it would also be relevant for the evolution of the effective labour force.

Investment decisions involving commitments and rewards which extend far into the future, and when the future is viewed as inherently uncertain investment decisions cannot be approached through optimisation under full information about a pre determined future. Investment decisions (along with many others) are not then approached through seeking to set up some optimisation problem from which first order conditions are derived to be used for an investment equation. Recent and current experience along with views about the future will have a strong influence on investment. Hence investment is path dependent, and specifically is influenced by the path taken by demand and economic activity, and reflected in variables such as profitability and capacity utilisation. There is no sense in which the future time path of the capital stock can be seen as pre determined by relative prices (as in the neo-classical approach). When investment and hence the evolution of the capital stock are path dependent, then macroeconomic policies have an influence on investment, and thereby on the evolution of the supply side of the economy as investment adds to the capital stock.

The way in which the supply-side of the economy is approached is particularly important to the analysis which follows[3]. Building on the remarks made above, the supply side is represented in terms of Figure 1 : the upper section indicates where the supply-side equilibrium involves firms operating with excess capacity (unit costs falling) and the lower section where it involves firms operating above capacity (unit costs rising). The p-curve portrays a relationship between the price:wage ratio and the level of output derived from considerations of the pricing behaviour of firms in which prices are viewed as a mark-up over wages and other costs, and the shape of the curve reflects the underlying cost conditions. The position of the p-curve will depend on, *inter alia*, the level of non-labour costs (including imported materials), the mark-up of prices over costs, and the productive capacity of firms. The w-curve refers to the price:wage – output relationship based on wage determination. It is a negative relationship in price:wage—output space, but corresponds to the idea that there is a positive relationship between real product wage and employment (empirically often referred to as the 'wage curve', see Nijkamp, and Poot, 2005, for recent survey on the empirical evidence). This relationship may be derived from efficiency wage considerations (e.g. Shapiro and Stiglitz, 1984), from 'target real wage' approach (e.g. Sawyer, 1982) or from union bargaining (e.g. Layard, Nickell and Jackman, 1991)

The key features of this Figure are:

(1)   The figure is drawn in price:wage, output space rather than wage:price, employment space to seek to avoid suggestions that the labour market plays the key role in the determination of the supply-side equilibrium. It should also be emphasised that there is no suggestion that the supply-side equilibrium is 'natural' in either the sense that it is normal or acceptable or in the sense that Wicksell used the term that it is not influenced by monetary or demand factors. It does not remain unchanged over time nor that it acts as an 'attractor' for the level of economic activity.

(2)   Investment would lead to a shift in the p-curve: capacity-enhancing investment would shift the p-curve to the right, and capital-deepening investment would shift the p-curve downwards. Note that productive capacity can be destroyed through closures during recessions and by shifts in the composition of demand which leave some capacity unprofitable.

(3)   The p-curve and w-curve are underlying relationships, and there is an adjustment process involved in both cases. In Figure 1, in each zone, the upper inequality relates to the

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[3] For more details see Sawyer (2001, 2006)

adjustment process with regard to price setting, and the lower inequality to wage setting, where *p* stands for rate of price change and *w* for rate of wage change. Thus, for example, in zone X, it is postulated that prices fall raised relative to wages from the price setting side, and wages rise relative to prices from wage determination considerations.

(4)   The intersection of the p-curve and the w-curve is labelled as the constant inflation level of output (CILO). It clearly depends on the position of the p-curve and the w-curve. In particularly this means that increases in productive capacity which shift the p-curve outwards lead to a higher level of CILO.

(5)   There would be a level of employment corresponding to the CILO level of output *Y+*. But there would not be any strong reason why that level of employment would correspond to full employment (or indeed to any particular level of employment). The CILO has some similarities with the non accelerating rate of inflation (NAIRU). They are levels of output and employment respectively which serve to maintain a constant rate of inflation.

In Figure 1, there are four distinct zones. Zone Z is one of rising inflation (associated with relatively high levels of output), whereas zone W is one of falling inflation (associated with relatively low levels of output). These zones correspond to the positive association between price inflation and level of economic activity. In zone X (Y) the price : wage ratio tends to fall (rise) : price inflation would tend to fall (rise) but wage inflation tend to rise (fall).

Changes in the rate of inflation appear to depend on the level of output. For an output other than the CILO, there is a difference between the actual price:wage ratio and at least one of the equilibrium ratios given by the p-curve and the w-curve. It is the difference between the price:wage ratio and the equilibrium ratio which generates a change in inflation. There are, though, a range of other influences besides the level of output on the pace of inflation. One of these would be the influence of changes in output, whereby on the downward-sloping part of the p-curve, increases in price would tend to reduce prices. Hence the effects of an increase in output there would reduce the rate of inflation. For the upward sloping portion of the p-curve, an increase in output would tend to increase the rate of inflation.

There is another influence on inflation, namely imported inflation, which an element into the inflationary process which is not directly effected by the level of demand.

The CILO has been drawn as though it is a precise point. However, the p-curve may well be horizontal over a considerable range which would correspond to constant unit costs with a constant mark-up. The w-curve may also be relatively flat. In those circumstances, there may be a CILO range; or at least, output above *Y+* would involve only rather small increases in

inflation. In effect, zone Z in Figure 1 could be relatively small, and the pace with which inflation accelerates in that zone relatively low.

In both parts of Figure 1, an increase in the capital stock which enhances labour productivity would shift the p-curve downwards and that can be seen would raise output. However, in the top part of Figure 1 where firms are operating with declining costs, an outward shift of the w-curve (that is a reduction in pressure for wages) could lead to higher levels of output without much change to the real wage. In the bottom part, firms are more constrained by a lack of capacity in that they are operating subject to rising unit costs.

3. Getting aggregate demand right : the role of fiscal policy

It is a basic postulate of a Kaleckian analysis that the forces ensuring that the level of demand is in line with the productive potential (or full employment) are, at best, weak. The Kaleckian analysis rejects the idea that adjustment of relative prices (notably real wages) or the real balance effect would do this job. It is interesting to note that the current orthodoxy (in the form of the 'new consensus in macroeconomics') there is no market based mechanism but rather the adjustment process postulated comes from the setting of the policy interest rate by the Central Bank and the requirement for demand in line with supply is that the Central Bank sets the interest rate such that the real rate of interest equal the so-called 'natural rate of interest'. The use of the interest rate for this purpose faces a number of problems. First, the 'natural rate of interest' proves difficult to estimate, and indeed since it is a theoretical construct may not have a counter part in the real world. Second, in the model there is a unique 'natural rate of interest' only if fiscal policy is deemed completely ineffectual (through Ricardian equivalence) and if the underlying determinants of investment and savings behaviour remain unchanged.

The Kaleckian approach is that fiscal policy is a much more potent instrument than interest rate policy for setting the level of demand (Arestis and Sawyer, 2003). We consider the operation of fiscal policy in respect of the long-term setting and in terms of movements in the fiscal stance in the short term. In the short term, 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. In the longer term, the general fiscal stance can 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 setting the budget deficit in a manner consistent with the target level of output, i.e.

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

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 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.

The underlying budget position should then be set in accordance with the perceived underlying values of the propensities to save, invest, import and export (see Sawyer, 2007a). This approach to fiscal policy can be said to incorporate a clear rule : set the underlying budget deficit compatible with the desired level of output. But it is clear that the estimation of the relevant budget stance would involve substantial difficulties and disputes (though whether the difficulties are any greater than the estimation of key variables in the current orthodoxy such as the 'equilibrium rate of interest' and the 'non-accelerating inflation rate of unemployment').

This approach raises the issue of sustainability of the deficit, which we have discussed at much greater length elsewhere (Arestis and Sawyer, 2006, 2007b). We restrict our comments here to two. First, in this approach governments borrow because private sector wishes to lend; if there were 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 or overseas lending which absorbs those savings. Second, a total budget deficit of d' (relative to GDP) is always sustainable in the sense that the corresponding debt to GDP ratio stabilises at $b = d'/g$ with g as the growth rate. 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.

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 Kaleckian framework arising from variation in the behaviour of *S*, *I*, *X* or *M*). This would be comparable to the fine tuning that is currently attempted through interest rate changes, with decisions on interest rates being made on a frequent (e.g. monthly) basis, even if the decision is one of no change. 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 of fiscal policy 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 in a manner to increase the extent of stabilisation, but it is an open question whether the tax system should be designed in terms of its stabilisation properties rather than for reasons of equity and incentives. A more progressive tax system would enhance the stabilisation properties but that should be argued for on grounds of equity and income distribution, albeit that there would be the additional benefits for stabilisation.

The question to be addressed is whether discretionary fiscal policy can and should also be used 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, then cannot fiscal policy be used in a similar way ?. 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).

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 ! though, of course, a similar argument is put in the case of interest rates – 'your mortgage payments will rise because the

economy is growing too fast'. But there are taxes, such as value added tax, social security contributions which could be varied in this manner. The role of FPC could then be to judge on say a six monthly basis whether a change in tax rates would be warranted. It would require institutional arrangements which would enable these decisions to be taken in a timely manner under operating procedures agreed through the democratic process. The key role of a FPC would be to use their discretion to adapt the fiscal stance in the face of significant short-run movements in the economy.

An advantage of setting a simple rules (such as balance budget over some time period) is that it should be possible to judge whether the rule has been obeyed, though as is readily apparent from the operation of the 'golden rule' in the UK (see Sawyer, 2007b) there are issues of measurement (e.g. over what time period, dating of business cycle) and of consequences of failure to meet the rules (apart from some political embarrassment). A government wishing to establish some form of creditability may find it advantageous to set rules (provided that the rule can be met – or that there is some 'punishment' associated with not meeting the rule). The disadvantage of a simple rule is clearly that it may not respond to changing circumstances (and seeking to meet the rule may set up perverse incentives).

There are, of course, other ways by which government policy may be able to influence the level of demand. Interest rate policy is one of those, but we would argue that such a policy is not an effective one as compared with fiscal policy (Arestis and Sawyer, 2003). From a Kaleckian perspective two others have to be considered, namely shifts in the distribution of income and the stimulation of investment (Kalecki, 1944). The effects of a shift in the distribution of income as between wages and profits would depend on whether the economy was in a wage-led or a profit-led regime. The stimulation of investment may tend to raise the capital-output ratio, leading to a decline in the rate of profit. In both cases, we would suggest that a demand policy has to take into account the prevailing distribution of income and propensity to invest, and in terms of the coarse tuning approach outlined above the required budget deficit depends on the distribution of income (via its effects on savings and investment behaviour) and on the propensity to invest. However, we would argue that income distribution policies and encouragement or otherwise of investment should not be undertaken for reasons of their effects on aggregate demand but rather assessed in their own terms. For example, there are strong reasons to advocate a less inegalitarian distribution of income in social and ethical terms, rather than because such a policy would stimulate demand.

4. The policy role of the interest rate

The policy rate of interest has become the policy instrument of choice with regard to inflation in many countries with formal or informal inflation targeting. This focus on monetary policy as the method of controlling inflation seems a hang over from the days of monetarism when control of money supply was viewed as the means of controlling inflation. Under monetarism 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 the 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 are more effective ways of influencing the level of demand.

Another line of argument is that Central Bankers are perceived 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) that has this creditability with respect to the control of inflation.

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. It has, though, been argued that this is to underestimate the effects of monetary policy, since an upsurge in actual inflation which does not cause people to change their expectations on inflation will be soon reversed, and there is little for interest rates to 'bite on'. In that argument, the role of monetary policy in the context of inflation targeting and an 'independent' Central Bank is more to convince people that inflation will remain low, rather than that variations in interest rates actually have much effect on inflation.

Even though the effects of interest rate on inflation appear to be small, nevertheless the effects on output (and hence employment) appear to be more substantial. The estimates reviewed in Arestis and Sawyer (2004) vary but a 1 percentage point interest rate rise mentioned above is predicted to lower output by the order of 0.4 per cent to over 1.0 per cent, and investment often by more.

The recent sub-prime lending problems and associated financial crisis has raised two interesting for monetary policy. First, changes in interest rate by Central Banks appear to diverge from any idea of inflation targeting and were rather set with an eye on the evolving

financial crisis. Second, and particularly for the Bank of England, the general credibility of the Central Bank appears to be undermined.

In discussions on monetary policy, a lot of attention is given to the monthly (or thereabouts) decision-making processes and their outcome, but hardly any attention is given to the underlying rate of interest which is being set over time. Within the modelling of monetary policy, there is some equilibrium ('natural') rate of interest, and attempts have been made to estimate it, and while there has been some technical discussions on the nature and estimation of the 'natural' rate of interest, it has not surfaced in more general policy discussions. The Central Bank is instructed to vary the interest rate in response to inflationary conditions, but with no instructions with regard to the general level of interest rates. Yet, according to the theory of the 'new consensus in macroeconomics', the setting of the underlying rate at a level consistent with a zero output gap is crucial.

It is argued here that much more attention should be paid to the underlying rate of interest, rather than to minor (e.g. quarter point) variations in the policy rate. Further, the underlying real rate of interest should be aligned with the trend rate of growth of the economy. The idea of 'rate of interest equal to the rate of growth' can be linked with a range of 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).

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.

The general perspective which this gives is that the government should declare the target real rate of interest. Our previous discussion suggests that a real rate of interest in line with the perceived trend rate of growth would be a good starting point (recognising that estimates of the trend rate may be problematic and that the trend may itself be influenced by demand policies). The setting of the nominal policy rate of interest could then be undertaken on say an annual basis (outside of financial crisis) and the nominal rate would be set equal to the target real rate plus the expected rate of inflation (or some similar rule).

5. Exchange rate considerations

The level, rate of change and the volatility of the exchange rate have significant effects on the domestic economy both in terms of level of demand (and hence economic activity) and of inflation. The exchange rate can also have significant implications for the real standard of living and to some degree the distribution of income. The exchange rate can though be seen as an intermediate rather than final target for economic policy. With regard to the exchange rate, policy concerns would involve the volatility of the exchange rate (in both nominal and real terms) and general level of the real exchange rate. In terms of policy objectives we would argue for the benefits of a stable (real) exchange rate set at a level which is most conducive for the level of demand. But in an era of market-determined exchange rates and high capital mobility what are the possibilities of achieving a stable exchange rate ? ; or is it a matter of

letting the exchange rate roam where the market determines, and seeking to deal with the consequences ?

The ability of policy to influence the (nominal) exchange rate may be doubted. Interest rate policy can be viewed as one way in which the exchange rate could be influenced. The uncovered interest rate parity notion suggests that the rate of change of the nominal exchange rate is equal to the interest rate differential between the rest of the world and country concerned. Casual observation suggests that large movements in an exchange rate (say of the order of 10 per cent per annum or more changes) go alongside relatively small interest rate differentials (say of the order of 1 or 2 percentage points). As the Bank of England states, 'changes in interest rates can also affect the exchange rate. An unexpected rise in the rate of interest in the UK relative to overseas would give investors a higher return on UK assets relative to their foreign-currency equivalents, tending to make sterling assets more attractive. That should raise the value of sterling, reduce the price of imports, and reduce demand for UK goods and services abroad. However, the impact of interest rates on the exchange rate is, unfortunately, seldom that predictable' (Bank of England, 2006).

The argument sketched above points in the direction of setting a real interest rate broadly in line with the rate of growth. If that is accepted, then the interest rate could not also be varied for exchange rate purposes. It would though need to be recognised that the general global level of interest rates may constrain the domestic rates. Despite the lack of evidence supporting uncovered interest rate parity, the degree to which a country's real interest rate could persistently diverge from real interest rates around the world can be doubted.

It seems rather unlikely that any single country can secure a stable exchange rate without imposition of some form of exchange controls. China appears to have been able to do so (at least in terms of the yuan-dollar exchange rate) but in the context of exchange controls. Even if it were desirable to do so, the use of the domestic interest rate does not appear to be an effective instrument, and in any event depends on some co-operation from others since it is the relative interest rate which would be relevant. This suggests that securing a stable exchange rate requires international co-operation and agreement, and this is particularly relevant for stability between the major currencies (dollar, euro, yen and perhaps sterling and yuan).

6. What about inflation ?

The current orthodoxy in terms of inflation can be summarised in the following manner. The inflationary process can be represented in terms of a Phillips' curve relationship with a short-run relationship between inflation and the level of economic activity, but in the long-run there

is a level of economic activity consistent with a constant rate of inflation (that is zero output gap or some form of NAIRU). There are no systematic cost-push elements acting on inflation in the sense that the cost-push elements average out to zero. Interest rates are to be used to influence the level of demand which thereby influences the pace of inflation. Expectations on inflation are important for actual inflation, and the control of inflation is much enhanced by anchoring expectations of inflation. This is attempted through a commitment to an inflation target and a general belief ('creditability') that the Central Bank will respond to the prospect of rising inflation by raising interest rates and that this would be an effective way of restraining inflation.

The experience, particularly in the USA and the UK, of, in effect, a horizontal Phillips' curve over the past 15 years whereby different levels of economic activity are associated with broadly the same level of inflation casts some doubt on the use of the traditional Phillips' curve as a centre piece of economic policy. Further, the persistent empirical findings from macroeconometric modelling as mentioned above that changes in the policy rate of interest have rather small effects on the pace of inflation could be viewed as further undermining of the approach described in the previous paragraph.

An explanation of the near-horizontal Phillips' curve and the small effects of interest rates on inflation can come from the argument 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.

It can then be argued that the effect of interest rates on inflation would come through a crude demand deflation route, but that it is a rather inefficient route in that the effect of interest rate changes on inflation are small, and come at the cost of loss of output. Interest rate policy is little help in reducing inflation in situations where inflation is already high. It may be more successful in maintaining inflation at a low level when the low level has been achieved. Indeed, inflation targeting has generally been introduced when inflation is already low.

The approach to inflation which underpins this paper is rather different from that summarised in the Phillips' curve. It is a multi-faceted approach which can be briefly indicated. The equations underlying our approach to inflation are for wage setting:

$$w = a_1 + a_2\, p_{-1} + a_3 U + a_4 (W_{-1} - P_{-1} - T)$$

where w is change in log of money wages, p change in log of prices, U is rate of unemployment, W log of money wage, P log of prices, and T log of target real wages, a_3 and a_4 are signed as negative. And for price setting:

$$p - w_{-1} = (1 - b)(f_{-1} - w_{-1}) + cq + \theta((P/W)^* - (P/W)_{-1})$$

where f is change in log of material costs, q change in output. These indicate the influence of foreign prices, of the level of and rate of change of economic activity (reflected in unemployment and output, and changes in output). Thus inflation has a conflict element to it (the target real wage and the target price/wage ratio being in generally inconsistent with each other), and involving cost push elements and changes in the level of economic activity.

A significant aspect can be viewed by reference to Figure 1. With the level of economic activity above Y+ in Figure 1, whether inflation tends to rise or not depends on the real wage (reflecting the distribution of income). The pace of wage and price changes depend on the experience and expectation of price and wage changes. A general belief that inflation will be low provides a substantial boost to the actual achievement of low inflation.

The inflationary problem occurs particularly in zone Z in that with output above the CILO, there is something of a wage-price spiral. The severity of the inflation problem depends not only on the level of output and the distribution of income but also on rate of change of output and employment and imported inflation. The inflationary pressures in zone Z can be interpreted in terms of demand pull inflation in that the level of demand leads to output which is above the CILO. But the other interpretation is that there is a conflict over the distribution of income which at output Y+ is indicated by the gap between price/wage ratio at C and at D. The ways in which demand influences inflation are not straightforward. It can first be seen by reference to Figure 1 that how a specific level of demand (as reflected in the level of output) influences price and wage changes depends on the prevailing price:wage ratio, and that there is not a unique relationship between level of output and price (or wage) changes. Further, the change of output (and hence of demand) may also have an impact, and that the sign of that impact may be positive or negative. This reflects the ambiguity of the effects of higher output on unit costs : when firms are operating with excess capacity, higher output may well be associated with lower unit costs (see also Arestis and Sawyer 2005). The interaction of the p-curve and the w-curve in the previous section also serves to illustrate the role of income distribution and the struggle over income shares. An attempt by one group to increase their share in income (e.g. firms seeking higher profits, which would push up the p-curve) could

spark some increase in inflation, and as other groups seek to restore their income shares inflation persists and may rise further. Cost-push pressures can clearly arise and can emanate from the foreign sector through changes in w ratio of $(p/w)^+$ would be consistent with constant inflation in this model provided that output was at the CILO. This distribution of income becomes inconsistent with import prices and in the exchange rate.

Distribution of income represented by the p:w ratio of $(p/w)^+$ would be consistent with constant inflation in this model provided that output was at the CILO. This distribution of income becomes inconsistent with constant inflation at output above the CILO through the decentralised nature of wage and price determination and the opening up of differences between the claims on national income. A policy (income policy ?) which maintained the distribution of income at $(p/w)^+$ through agreement that wages and prices rise together (or in the growth setting wages rise in line with productivity plus prices) would clearly be consistent with levels of output higher than CILO.

The generally low inflation of the past decade in many industrialised countries is often ascribed to the use of monetary policy and inflation targeting. However, monetary policy cannot address cost inflation and its impact on demand inflation, as argued above, is rather small. Monetary policy may have the effect of locking in low inflationary expectations. An alternative explanation of generally low inflation comes from a combination of the spillover effects of lowering inflation from one country to another and the 'China effect' with declining prices for many manufactured products. The decline in and then low inflation would for any individual country have elements of a cost disinflation. Any reversal of this downward pressure on costs (in the form of import prices) would leave monetary policy helpless.

This brings us back to the design of an anti-inflationary policy. The analysis above suggests that low inflation can be maintained provided that there is not a rapid expansion of demand, that demand does not go way beyond the CILO level and that there are not substantial external cost pressures. Demand management policies can address the first two along with policies designed to ensure productive capacity in line with full employment, as discussed in the next section. The major point of discussion should be whether the development of a prices and incomes policy would be a useful complement. It could usefully help to lock in expectations in the context of upward cost pressures. The difficulties of design and operation of a prices and income policy are well-known, and regrettably we cannot bring forward new ideas which will deal with those difficulties in one go.

7. Full employment and capacity

The point emphasised above is that there are path dependency effects with regard to the capacity of the economy through the simple device of investment impacting on the capital stock. The manner in which the p-curve shifts in response to investment depends on the degree to which it is capital enhancing or capital deepening.

There is no strong reason to think that the inflation barrier (as represented by A in Figure 1) should correspond to any notion of the full employment of labour. We would further add that buried behind the single p-curve in Figure 1 there are regional and industrial p-curves as the p-curve is an aggregation of micro behaviour. The inflation barrier could well represent a situation in which there was sufficient capacity to ensure full employment of labour in some regions but a lack of capacity in others (this should be interpreted as effective capacity : a shift in the composition of demand may leave a lack of demand for some goods even though there is capacity and labour available to produce them). A lack of capacity may arise following a recession which has lead to plant closures. The re-opening of plants does not just require the 'turning of a switch' to bring the plant to life but also the re establishment of the firm and its infrastructure (as an organisation).

The creation of the required capacity can be approached through many routes, and the routes to be followed would depend on specific circumstances as well as the capabilities of government. For example, the replacement of capacity lost as a result of recession may be generated by re-establishment of high levels of demand. The loss of capacity through regional concentrated closures in 'sun set industries' may requires specific regional measures focused on the regions affected.

The structure of public expenditure may also help in so far as it can focus demand onto areas where there is underutilised capacity and by the creation of capacity, notably in the area of infrastructure but more generally.

The present situation in many EU countries can be used to illustrate part of the problem : crudely put unemployment rates of the order of 7 to 8 per cent co-exist with estimates of the output gap close to zero. The aligning of productive capacity with the size and distribution of the work force is, of course, a major task, and one which is rarely accomplished. Nothing here should be taken to suggest that accomplishing the task is easy. The purpose of the present argument is to indicate there are generally supply-side (as well as demand-side) constraints on the achievement of full employment of labour. But the nature of those constraints comes from the lack of productive capacity rather than any notion of them arising from inflexible or rigid labour markets. The inflation barrier above was deliberately expressed in terms of CILO rather than NAIRU to try to avoid suggests that the inflation

barrier arose from failings of the labour market (if such can be said to exist). It then follows that policies which may be described as industrial and regional policies are required to address these issues of lack of productive capacity.

The particular significance of this line of argument is that policies designed to improve the production side of the economy and to create the supply side conditions which are compatible with full employment are industrial and regional policies, and *not* labour market policies along the lines of de-regulation and increased 'flexibility'.

8. Summary of policy implications

This paper is based on the proposition that the way in macroeconomic and other policy instruments are to be used is heavily dependent on the objectives of policy and the underlying view ('model') of the economy. The level of economic activity and the associated level of (un)employment as the centre of policy concerns. In the longer term sustainable economic growth would be the centre of attention, though we consider that high levels of economic activity in the short-term are conducive to high rates of economic growth. The distribution of income, reduction of inequality and poverty should also be central concerns, though we have not directly addressed them in this paper. Low(ish) inflation can also be a concern of policy concerns though in the current era of low inflation I would not put that as the centre of attention.

A Kaleckian approach to macroeconomic analysis has formed our underlying view of the economy. From that analysis we have drawn five sets of policy conclusions.

First, the long-run fiscal stance should be set to underpin the desired level of output and employment. This is firmly based on the view that there is no strong reason to think that a balanced budget is compatible with the desired levels of output and employment, and hence an unbalanced budget is required. Whilst for many countries this is likely to involve a budget deficit, this is not necessarily the case. It follows that seeking to impose the same fiscal policy rules across a number of countries a la Stability and Growth Pact is misguided. Further, we have argued that a budget deficit (including interest payments) which bears a constant relationship with GDP is always sustainable (and leads to a debt ratio equal to the deficit ratio divided by the nominal growth). This approach replaces monetary policy as the mechanism which seeks to ensure the desired level of economic activity.

Second, discretionary variations in the fiscal stance should be used in conjunction with automatic stabilisers to modify the business cycle. The hyper fine tuning currently associated with monetary policy where the policy instrument (policy rate of interest) is set on a monthly basis is not sought here. It is rather to argue that automatic stabilisers should be re-enforced

(through the adoption of more progressive taxation) and that arrangements (such as a Fiscal Policy Committee as noted above but see Sawyer, 2007a for further discussion) should be put in place which enable adjustments to be made to the fiscal stance on a relatively frequent basis (say six monthly) in light of macroeconomic developments.

Third, industrial and regional policies are required to ensure that any inflation barrier is compatible with the full employment of labour. Public expenditure, particularly investment, can also be structured to ease supply constraints. It is argued here and elsewhere (e.g. Arestis and Sawyer, 2005) that there is often a mismatch between available productive capacity and the labour force and its geographical distribution. Specifically, the zero output gap (where output equals trend output) and the full employment of labour cannot be used interchangeably. Higher levels of employment require more productive capacity.

Fourth, interest rate policy should be set to set the real interest rate in line with the trend rate of growth, but this may be constrained by world levels of interest rates. The operations of the Central Bank should be directed towards financial stability. Insofar as the control of inflation is pursued through demand deflation, then monetary policy is a rather ineffectual policy instrument, and fiscal policy would be more effective – though we return to this in the next paragraph. At most, a belief in the 'high priests' aka Monetary Policy Committee locks in inflationary expectations, and an alternative set of 'high priests' may be required. Enabling the government to borrow at a post-tax rate of interest which is at or below the rate of economic growth gives more lee way to fiscal policy.

Fifth, there is the need to develop an inflation policy which is not dependent on demand deflation. Under the present arrangements the only policy aimed at the control of inflation is monetary policy, and we have argued that is an ineffective policy instrument in terms of the influence of interest rates on the pace of inflation. Monetary policy may have some success in terms of generating low inflation expectations, and the search should be on for a policy which can have a similar effect without the threat of deflation.

The prevailing orthodoxy in macroeconomic policy can be summarised as : use interest rates to address demand issues with fiscal policy left in neutral, to use the 'credibility' of the Central Bank to hold down inflationary expectations and to 'reform' labour markets to lower the non-accelerating inflation rate of unemployment. The alternative Kaleckian perspective advanced here can be summarised as: use fiscal policy in the short term and in the long term to address demand issues, to use regional and industrial policies to create the required capacity and to develop incomes policy to maintain low inflation.

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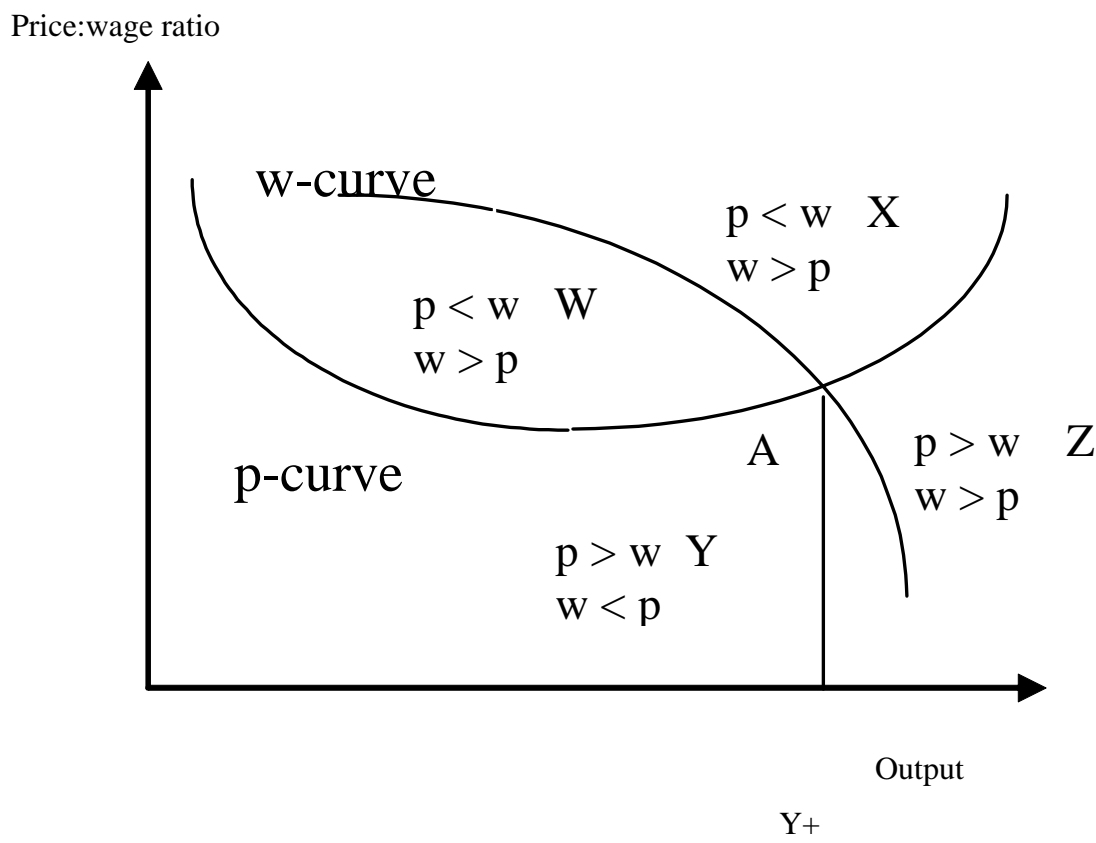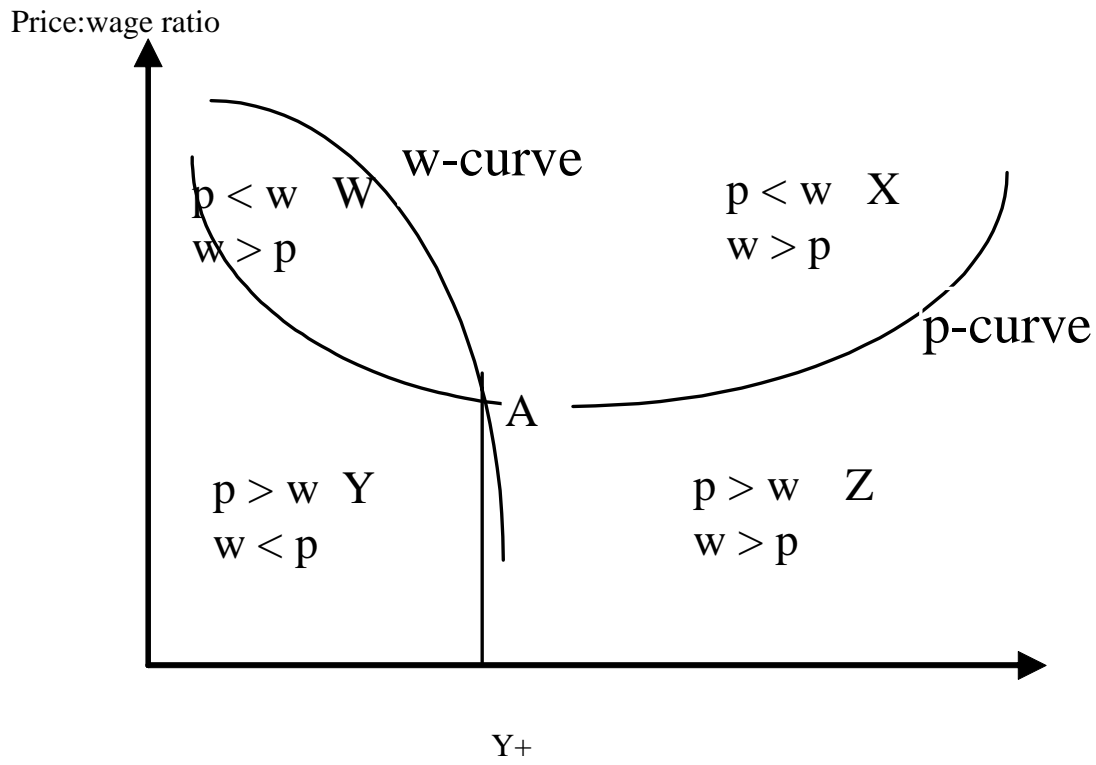
Price:wage ratio

w-curve

p < w W
w > p

p < w X
w > p

p-curve

A

p > w Y
w < p

p > w Z
w > p

Y+

Price:wage ratio

w-curve

p < w X
w > p

p < w W
w > p

p-curve

A

p > w Z
w > p

p > w Y
w < p

Output

Y+

Figure 1 Determination of the Constant Inflation Level of Output (CILO)