The Scourge of Green Monetarism[1]

Malcolm Sawyer*

Abstract

The idea of full reserve banking (under various names) has been adopted by parts of the green and ecological movements (e.g. Green Party of England and Wales). The paper argues that full reserve banking (FRB) would represent a 'green monetarism'. As with monetarism, FRB would focus on inflation and its control through the money supply. FRB would face problems with the control of the effective money supply as other means of payment developed. Its major problem would though come from the connection which would be established between the budget deficit and changes in the money supply. Fiscal policy would become completely subordinated to the control of the money supply. There is no reason to think that it would enable fiscal policy to be set in a manner conducive to high levels of employment, and at times would lead to substantial unemployment, and at others to 'overheating' of the economy. Through denying fiscal policy's role as an 'automatic stabiliser', full reserve banking would be a force for instabilities.

Keywords: full reserve banking, positive money, monetarism, budget deficit

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[1] This title is a deliberate echo of Kaldor (1984).

* University of Leeds, m.c.sawyer@lubs.leeds.ac.uk

1. Introduction

There have been a number of similar proposals under headings of full reserve banking, positive money, sovereign money and 100 per cent reserve banking which have attracted favourable attention from the ecological and green movements[2]. The crucial element of 'full reserve banking' is that the (clearing) banks hold reserves (in the form of central bank money) which exactly match the volume of deposits held with the banks by the public and which are treated as money – that is are accepted as a generally accepted means of payment and are readily available and transferable from one to another. This contrasts with the present banking arrangements where clearing banks may hold some reserves of central bank money though often not legally required to do so, and in any event a system where reserves would be supplied by the central bank if required by the clearing banks (central bank acts as a 'lender of last resort'). Under the present system, banks create bank deposits in the loan provision processes, and those deposits are widely treated as a means of payment, and hence can be regarded as money. Under 'full reserve banking', the volume of money in circulation would in effect be determined by the amount of money issued by the central bank with the amount in 'transactions accounts' of banks backed by 100 per cent reserves of central bank money. In effect, a system of 'endogenous money' would be replaced by a system of 'exogenous money'.

In the former case money (in the form of bank deposits) is created by the banking system through loans, and the money created depends on loan decisions made by public and by banks, and the amount of money which remains in circulation depends on the willingness of the public to hold money. When loans are repaid, bank deposits and hence money similarly extinguished. In the latter case, money is created by the central bank and brought into the economy through spending by the government. There is an intimate link between the budget deficit and the change in the stock of money, and the amount of money which remains in circulation is a decision of the central bank and not the public. Under this exogenous money situation, a mismatch between the amount of money which the central bank creates and the amount of money which the public is willing to hold. This leads to a situation of either 'excess money' (more money issued than people willing to hold) or 'deficient money' (less than people wish to hold for transactions purposes), though the usual emphasis has been on the 'excess money' case. The monetarist story was largely that if more money is created (supplied) than the public are willing to hold (demand) then there will be excess money holdings, leading individuals to spend the excess, thereby bidding up output and prices, with the eventual predominant effect being felt by prices. Others outside the monetarist camp envisaged an impact of 'excess money' on the demand for financial assets and thereby on asset prices. However, post Keynesians and others using an endogenous money analysis were dismissive of the idea of 'excess money' and that as loans were repaid and money destroyed any 'excess money', that is money in existence larger than people are willing to hold, would be readily eliminate.

The full reserve proposals are designed to place the stock of money under the direct control of the central bank. As such it shares many similarities with the ill-fated proposals of Friedman (1960) and others for the achievement of a specified growth rate of the stock of money[3]. This was in the belief that fluctuations in economic activity come from government

[2] The Green Party of England and Wales (2015) include a set of such proposals as part of their manifesto for the UK General Election of 2015. A set of similar proposals come in the report commissioned by the Prime Minister of Iceland (Sigurjonsson, 2015). Dittmer (2015) provides what he terms a critical appraisal of green perspective on 100 per cent reserve banking.

[3] See Friedman (1967) for his discussion of 100 per cent reserve banking where he writes ''I agree with Simons on the desirability of 100 per cent reserve banking—but I regard it as less important and basic

policies (notably in the evolution of the stock of money) and hence a constant growth of stock of money leads to a constant growth of output (and the difference between them is, of course, the rate of inflation).

The key characteristics of monetarism are:

(i) The growth of the money supply is seen as *the* cause of inflation, expressed in the phrase 'inflation is always and everywhere a monetary phenomenon';
(ii) The growth of the money supply can be determined by the government, and used as the instrument for the control of inflation;
(iii) The establishment of a growth of money supply rule which is deemed credible by the public will strongly influence inflationary expectations, and thereby ease of reduction of inflation;
(iv) There is a short-term trade-off between inflation and unemployment (the Phillips curve), but that trade-off is short-lived and the achievement of a constant rate of inflation requires the economy to operate at the 'natural rate of unemployment';
(v) More generally, the private economy is essentially stable and self-correcting, with adjustment processes which guide the economy towards the 'natural rate of unemployment', though misguided monetary and fiscal policy can inject instability.

The monetarist experiment, particularly as applied in the UK, failed for a number of reasons, with a notable one being that in an endogenous money regime, the growth of the stock of money depends on decisions by banks on granting loans, on private sector in demanding loans, and the willingness of the economic agents hold money. Monetarism sought to apply a money supply rule under the assumption that money was exogenous and controllable in a world where money was endogenous and not controllable (by the monetary authorities). Further, monetarism faced difficulties over the appropriate measure of money, and had to resort to saying the appropriate measure is the one which correlates most closely with inflation. A broad measure of money such as M2 or M3 was often adopted without apparently realising that most of deposits which form M2 or M3 are savings accounts and hence are not an immediately available means of payment. A well-known critique of targeting a specific measure of money ('Goodhart's Law')[4] was that alternative near-moneys and money substitutes would develop, nullifying the relationship between the targeted measure of money and inflation. Specifically, different types of bank accounts emerge which fulfil some of the purposes of money.

In the full reserve banking proposals, the distinction is drawn between 'transactions accounts' (close to current or chequeable accounts) for which banks would be required to hold 100 per cent reserves of central bank money against the bank deposits, and investment accounts for which loans could be made backed by deposits which cannot be readily withdrawn. The purpose of the control of central bank issued money is to influence, if not control, inflation and output. This assumes that the central bank is indeed able to control its issue of money, and that the money issued by the central bank will be placed in transactions accounts which then forms the reserves of the banks, and that deposits in transactions accounts are the effective measure of money. The ability of the central bank to control its issue of money rests on its ability to control the budget deficit, as explored below. The deposits in transactions accounts continuing to be the only form of money (apart from any

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than he did. [I favour it] as a step towards reducing government interference with lending and borrowing in order to permit a greater degree of freedom and variety in the arrangements for borrowing and lending' (Friedman,1967, pp.3-4).

[4] 'Any observed statistical regularity will tend to collapse once pressure is placed upon it for control purposes.' (Goodhart, 1981, p.116).

central bank which circulates in the form of notes and coins) would require that alternative forms of bank deposits which would be used as (partial) means of payment (the key function of money). Some full reserve banking advocates recognize this issue and seek to place limitations any deposit account where withdrawals can be made at relatively short notice (e.g. 7 days) by, for example, requiring that any such accounts would also require 100 per cent reserves. Apart from in effect not permitting individuals access to their savings without 7 days' notice even in an emergency situation, there would have to be measures in place to stop the development of bank accounts where deposits could be transferred between individuals but at 7 days notice[5]. It would also require that the 'shadow banking' system did not offer the equivalent of transactions accounts and no notice savings accounts. There would be significant incentives for such developments. The banks and the 'shadow banks' would not be constrained to hold full reserves offering them no return, yet where the banks have operational costs for the transactions accounts. For non-bank public the bank charges associated with transactions accounts could be mitigated by being able to hold alternative accounts which become 'near moneys'.

The monetarist story is based on a 'quantity theory of money' approach in which the stock of money times velocity of circulation is equal to money income. Dyson and Jackson (2012) Chapter 9 provides a clear illustration of the application of this form of the 'quantity theory of money' in the context of full reserve banking, albeit that output as well as prices can change as the stock of money is raised. Monetarism had a focus on the role of the stock of money which was somehow introduced into an economy. This was exemplified in Friedman's 'helicopter money' story in which he carried through a thought experiment of what would happen if money were dropped from a helicopter (Friedman, 1969). This was seen as an exercise in money created outside of the economic system. The proponents of the endogenous money view pointed out that money was introduced into the system through the loan processes, and that loans and thereby creation of bank deposit money was intimately linked with expenditure decisions as loans were taken out in order to finance expenditure. A similar argument applies for central bank money – it is created to enable the government to spend. Further, the monetarist story generally abstracted from the relationship between the budget deficit and the changes in the stock of central bank money. As indicated below the precise relationship between the budget deficit and central bank money depends on the degree to which the budget deficit is bond funded.

2. Inflation and its Control

Monetarism was often associated with the control of inflation. There has been a long history of viewing inflation in terms of 'too much money chasing too few goods', and the monetarist story was a relatively sophisticated version of that. In its 1970s version, a money supply rule was advocated to control the rate of increase of the money supply in order to control the rate of inflation, and the effects of constraints on the growth of the money supply feed through the effects on nominal demand and thereby through a Phillips curve mechanism on the rate of inflation. Further, the commitment to a money supply rule was seen to strongly influence inflationary expectations which would aid the achievement of low inflation.

The advocates of FRB maintain this monetarist perspective on inflation. For example, 'one of the most fundamental tasks of government is maintenance of the currency. Without stable money accepted by all we can't buy and sell things or plan for the future. Inflation in

[5] This would not be unlike the pre-electronic situation where transfer of deposits between accounts through cheques would take the order of 7 days.

particular makes it hard to take the long-term view that the environmental crisis demands' (Green Party of England and Wales, 2015) which, with the exception of the last five words, could have come straight from Milton Friedman. The advocates of FRB state that 'at the simplest level of analysis, if inflation is below the target, for instance the MPC [Monetary Policy Committee of the central bank] could increase the money supply, while if inflation was above the target, the MPC would decrease the money supply' (Dyson et alia, 2011, p.11). This is the adoption of an essentially monetarist stance – that of controlling the stock of money will control the rate of inflation. The stance is contrasted with a 'inflation targeting regime', inflation is deemed to be control through interest rate manipulation by the central bank, with the interest rate having an effect on demand which thereby has an effect on the pace of inflation via some form of Phillips curve relationship[6]. FRB is viewed by its advocates as providing a much more direct way of controlling inflation through control of the money supply than the present indirect method through the use of the policy interest rate.

The FRB approach retains the monetarist perspective that the growth of the money supply can control the rate of inflation, and that inflation is a money demand phenomenon which is to be controlled through manipulation of demand (and in the monetarist perspective through control of the money supply). Hence it ignores any role for cost-push inflation and imported inflation, and is willing to accept, if required, the reduction of employment in order to constrain inflation.

'In addition, monetarists were mainly concerned with inflation, and saw all money creation as inflationary. In contrast, a sovereign money system [i.e. using FRB] recognizes that there are situations in which money creation actually raises demand and output rather than simply causing inflation. Monetarists also saw inflation as the main threat to the economy, and were willing to let unemployment rise in order to keep inflation under control (although in theory this did not work). In contrast, proposals for a sovereign money system have a strong focus on how money creation can be used responsibly to boost employment and output.'(Dyson, Jackson, and Hodgson, 2014). We presume that 'in theory' should read 'in practice' as in theory (according to the Phillips curve) it would work[7]. And monetarist saw growth of money supply in excess of growth of output as inflationary. This statement does though rather conflict with the statement quoted above on the adjustment of the money supply in light of the experience of inflation. We presume that it is a slip of the tongue to say decrease the money supply rather than reduce the rate of growth of the money supply. But what would the purpose be of reducing the (rate of growth of the) money supply when inflation is relatively high (or presumably if forecast to be relatively high) if not to lower demand and raise unemployment in order for inflation to be reduced. The key objective given to the central bank would be monitoring inflation, and the proposals for a sovereign money system and more generally for FRB would lack the instruments to boost employment and output.

The theory of monetarism included the notion of a 'natural rate of unemployment' and a vertical Phillips curve with no trade-off between unemployment and inflation. The target of a constant rate of inflation through a target growth of the money supply would also involve unemployment at the 'natural rate'. In the application of monetarist policies in the early 1980s in the UK and USA monetarism became associated with unemployment, and the use of unemployment as a route through which inflation was reduced. In the FRB analysis there is no explicit treatment of the mechanisms of inflation, though it does appear that inflation is

[6] See Arestis and Sawyer (2008) for critique of inflation targeting, and Sawyer (2015) for outline of the role of the Phillips curve in monetary policy debates.

[7] I have though long argued that the Phillips curve is theoretically incoherent (e.g. Sawyer, 2008).

regarded as a monetary phenomenon. It is claimed that the money supply would be used to influence unemployment and inflation. There is here an issue of using one instrument to target two (or more) objectives. If some form of vertical Phillips curve is accepted such that there is a supply-side equilibrium rate of unemployment consistent with constant inflation (whether it is given the name of 'natural rate of unemployment' or the 'non-accelerating inflation rate of unemployment') then the growth of the money supply could not be used to influence the rate of unemployment. If on the other hand there is some trade-off between unemployment and inflation, then targeting the rate of inflation would imply reaching a particular level of unemployment. Using the growth of the money supply to (partially) target unemployment faces the issues of the adequacy of aggregate demand to sustain the target rate of unemployment and the adequacy of supply capacity to underpin the target rate of unemployment. Under FRB there is a close relationship between the increase in the money supply and the size of the budget deficit which we now explore.

3. Stock of Money and Budget Deficits

The monetarist experiment in the UK in the early 1980s did to some degree acknowledge the link between growth of stock of money and the budget deficit, and formulated that in terms of the Medium Term Financial Strategy. The weakness of that approach (as argued by Kaldor (1984) amongst others) was that the link was being drawn between a broad measure of M3 and the budget deficit, and there are many other variables involved in that relationship[8] whose size is dependent on decisions made by banks and the public over loans and bank deposits.

The budget deficit funding equation (consolidating government and central bank) reads:

$$BD = G - T = DCBM + DB \quad (1)$$

Where BD is budget deficit, G government expenditure, T tax revenues, DCBM change in central bank money and DB change in government bonds.

From national accounts perspective there is a relationship between net private savings and budget deficit as:

$$BD = G - T = S - I \quad (2)$$

Where S is private savings and I private investment, and for simplicity we deal with a closed economy (the addition of open economy considerations would not affect the basic argument)[9].

It then follows that:

$$S = DCBM + DB + I \quad (3)$$

Private savings are held in the form of (changes in) money holdings, government bonds and in the financial assets issued, directly or indirectly, by corporations to fund investment.

It is generally implied in the writings on FRB that budget deficits will be largely or entirely money funded under a FRB regime. The case of money funded budget deficits is considered first. However, as that approach runs into many difficulties the case where the budget deficit is

[8] For example, 'Change in £M3 equals the PSBR less net purchases of public sector debt by the non-bank private sector plus the change in bank lending in sterling to the private sector (including Issue Department purchases of commercial bills) less any increase in external and foreign currency finance less increases in banks' net non-deposit liabilities' (Bank of England, 1984).

[9] The closed economy is taken for reasons of simplicity: adding on the capital inflow/outflow for an open economy does not make any essential change for the arguments here.

partially bond funded (and partially money funded) is next considered. In both cases, the change in central bank money (and thereby in the transactions account deposits) is treated as set by the central bank in accordance with its mandate, and that the change will be centred on a stock of money growing in line with nominal GDP, though this can be modified as indicated above when inflation is above or below its target. In terms of orders of magnitude, this would imply an increase in the stock of money of the order of 2 per cent of GDP – this comes from a postulated ratio of transactions accounts to GDP of 40 to 60 per cent, and a growth rate of nominal GDP of 4 per cent per annum (2 per cent real growth, 2 per cent inflation)[10].

Writing the equations above for the case where bonds are not issued by government leads to:

$$BD = G - T = DCBM = S - I \quad (4)$$

Where DCBM is equal to the expansion of transaction account balances.

The first point which features in this equation is that the increase in the stock of money will need to be held as part of private savings. But the motives for holding money as a means of payment are largely related with transactions and expenditure, and indeed money is largely held in order to get rid of it. The transactions demand is often represented in textbooks in terms that the holding of money rises when income is received by an individual and then the holding gradually diminishes as money is spent. On that basis the transactions demand at the level of the individual would approximate, on average, around half of income per pay period. Transactions demand for money would be related to the level of income (per pay period), and tend to increase only in so far as nominal income increases. However the implications of the central bank getting it wrong in the sense of creating more or less money than individuals are willing to absorb into their savings have to be considered. When there is 'too much money', then the monetarist response was clear – individuals will seek to spend the 'excess', thereby bidding up output and prices (monetarist rarely considered the case of 'too little money'). Another response is that individuals would seek to hold their savings in the form of financial assets rather than in the form of money, thereby bidding up the price of financial assets.

The second point is that there is an intimate link between the budget deficit and the change in the stock of money. It is then significant as to whether it is in effect decisions on the size of the budget deficit which determines the change in stock of money or whether it is decisions over the desired change in the stock of money determines the budget deficit. Under the FRB proposals it is clearly the latter. The central bank then imposes a target growth for the stock of money for the coming period (say year), and that in turn imposes a target for the budget deficit. Thus fiscal policy becomes completely subordinated to monetary policy.

The imposition of a constraint on the budget deficit (or surplus) to be achieved in a specific year faces two major issues.

The first comes from the observation that the arguments raised against a budget to be balanced in each calendar year apply when the budget deficit is to be set in accordance with monetary policy aims for a specified increase in the stock of money, and thereby a specified budget deficit. Is there reason to think that the pre-specified budget position target is compatible with a high level of employment?. This can be illustrated by a simple model. Intended savings are taken as s.Y (s propensity to save, Y output), and intended investment as I, and the pre-specified budget deficit (equal to target change in stock of central bank money) as x, then the balance between net private savings and budget deficit would give:

[10] The ratio of M1 to GDP is around 80 per cent; however M1 covers current accounts and instant access savings accounts, and we treat transactions accounts as very similar to current accounts.

$$s.Y - I = BD = x \quad (5)$$

and the level of output would be (I + x)/s. There is no reason to think that the level of output determined in this manner would correspond to a desirable level (e.g. one based on a high level of employment).

An alternative way of expressing this is to simply ask how would $sY^* - I$ where Y^* is the high employment level of output as compared with x. If it is the case that $sY^* > I + x$, then there would be a deflationary situation, and $Y = (I + x)/s < Y^*$. If $sY^* < I + x$, then there could be an inflationary situation.

There have been long debates in macroeconomics as to whether a budget deficit is required for high level of employment or whether a balanced budget would correspond to a high level of employment. There are none (as far as we are aware) who argue that a budget deficit equal to the growth of the transactions demand for money (and as indicated above broadly in line with the nominal growth of the economy) would be compatible with a high level of employment.

The second problem arises from the well-known proposition that the tax and expenditure systems provide some degree of 'automatic stabiliser' – that as private demand fluctuates, a progressive tax system would tend to dampen down fluctuations in output and employment. It is also well-known that budget deficits move counter-cyclically falling in booms, rising in recessions, reflecting the operation of the automatic stabilisers. The FRB proposals would prevent the operation of automatic stabilisers, and would require that in the face of a downturn in the economy for taxes to be raised and public expenditure cut, hence reinforcing the downturn; in an upturn taxes would be reduced and the upswing reinforced.

Budget deficits can be forecast, and attempts made to set tax rates and public expenditure levels to achieve the target budget deficit. The actual outturn on budget deficit depends on evolution of the level and composition of demand and of income (and the occurrence of unexpected events and emergencies). The achievement of a stock of money target would require the fine tuning of the budget deficit position to be compatible with the stock of money target.

'While changes in taxes are made infrequently, the amount of new money to be created will be determined on a monthly basis. Not being able to predict or influence the decisions of the MCC [Monetary Creation Committee] will mean the government will have little idea how much new money will be created each year and therefore by how much it can be able to reduce taxes' (Jackson and Dyson, 2014). This seems to suggest that the MCC does not announce what its money supply target is, and leaves the government guessing. The creation of 'new' money is required on a continuous basis in order for government expenditure to be financed and hence take place. But money is also destroyed when tax revenue is received, and the net increase in the money supply depends on the balance between public expenditure and tax revenues.

The argument which is applied in the quote with respect to taxation would also apply to public expenditure. Public expenditure can only take place if it is financed; if the central bank perceives that by financing public expenditure through money creation the overall increase in the money supply will exceed their target (after allowance for tax revenues and hence destruction of money), then the expenditure would be blocked. It could operate in the other direction as well – if the money supply were not increasing by the target amount, then the central bank would have to instruct the government to spend more.

It is not the target growth of the stock of money which would be unknown under a FRB regime but rather the actual budget deficit outcome. The planned budget deficit may have

been in line with the target growth of the stock of money (which would illustrate the complete subordination of fiscal policy to monetary policy). But the actual budget deficit would in general differ from the planned deficit, and if the planned deficit is to be achieved late adjustments to public expenditure and tax rate would be required. This can go in either direction – that is public expenditure may have to be suddenly reduced as the accounting period draws to a close, or suddenly increased. Not a recipe for the good management of public expenditure.

4. Bond Sales

An alternative scenario comes when the government continues to issue bonds as payment of the funding of a budget deficit. Equation (1) above is restored, that is BD = DCBM + DB, though here DCBM also becomes change in the overall money supply. The target (forecast) for the budget deficit is made by the fiscal authorities, tax rates and public expenditure plans made, and the resulting achieved budget deficit then depends on the 'state of the economy'.

This is a situation similar to the present one and the growth of central bank money is dependent on the conduct of monetary policy with the setting of interest rates and decisions made by the private sector in terms of the division between expansion of central bank money and (net) sale of bonds. It would however differ in two significant aspects. First, it would appear that DCBM would be set by the central bank in a monetarist fashion in pursuit of a monetarist target. The sale of bonds by the government would then need to conform to the above equation, and bonds in effect put out to auction to cover the difference between the budget deficit and the target increase in the money supply. This contrasts with the present policy under which the policy interest rate is set whether in attempts to target inflation, influence the exchange rate, aid financial stability or whatever.

Second, DCBM would be equal to the expansion of the money stock (as defined as transactions accounts deposits), whereas under present arrangements DCBM only relates to central bank money and the over-all expansion of the monetary stock is much greater (and, of course is out of the control of the monetary authorities and depends on decisions by banks and the non-bank public over loans and deposits). The FRB would have the effect of changing the balance in the funding of budget deficit away from interest bearing bonds to non-interest bearing money. If that were successful then the interest payments made by government would diminish over time as central bank money replaced bonds as the component of public debt. However recall that since S – I = BD the private sector has to be willing to hold its savings in the form of non-interest bearing money.

The diminution of interest payments on government debt is also a diminution of income of the bond holders. For a given budget deficit this would enable the replacement of interest payments by other forms of public expenditure. However, the public would face charges on their transactions accounts which are largely not present in the current system. The size of those transactions account is equal to the monetized component of government debt. The reduction in interest payments by the government would be equal to rate of interest times the monetised component of public debt, whereas the additional transactions account would be *c* times transactions account deposits (equal to monetised component of debt) where *c* is percentage banking service charges. These two we would estimate would be of similar order magnitude.

Under the present arrangements, there are low or no charges made on current (transactions) accounts, and for banks there is revenue from loans; on investment accounts interest is paid on deposits, and received on loans. For both sets of accounts, a relatively small amount of central bank money is held as reserves. The government funds its deficit through a

combination of central bank money and bonds. Under FRB, there would be charges on transactions accounts, and banks would receive no income on reserves held. For banks, charges on transactions accounts rise to compensate for loss of revenue from loans. The government funds its deficit through a combination of central bank money and bonds, but now there would be more central bank money and less bonds. The government would pay out less interest to the extent to which central bank money is larger.

5. Concluding Comment

Full reserve banking would constitute monetarism on steroids. It would face similar though not as acute problems in the control of the effective money supply as other means of payment developed. Its major problem would though come from the connection which would be established between the budget deficit and changes in the money supply. Fiscal policy would become completely subordinated to the control of the money supply. There is no reason to think that it would enable fiscal policy to be set in a manner conducive to high levels of employment, and at times would lead to substantial unemployment, and at others to 'overheating' of the economy. Through denying fiscal policy's role as an 'automatic stabiliser', full reserve banking would be a force for instabilities.

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