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CHAPTER 2: APPROACHING BUDGET DEFICITS, DEBTS AND MONEY IN A SOCIALLY RESPONSIBLE MANNER

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Abstract

Government can always finance its expenditure with the co-operation of the central bank. Key issue should be the desirability of proposed expenditure, resource and funding implications. It is argued that 'people's quantitative easing' does not contribute beyond what traditional fiscal policy could achieve. The 'golden rule' whereby borrowing is permissible for public investment is critiqued. It is argued that the target budget deficit should be set to secure macroeconomic objectives and focus on 'full employment', noting the difficulties of defining full employment and capacity. The budget constraint coming from full employment is set out. The structural budget balance alternative is critiqued and argued to be in general infeasible. The possible role of interest rates is discussed. It is then argued that a debt arising from budget deficit along the lines indicated in this contribution is sustainable. It is argued that governments should operate where there is no fiscal space left.

Keywords: fiscal policy, budget deficits, quantitative easing, money creation, public debt

JEL Classification: E61, E62, E50

1. Introduction

This paper is focused on the socially responsible use of fiscal and budgetary policy. Social responsibility is viewed in terms of achieving high employment – the highest level of employment consistent with an economy's productive capacity. This focus on fiscal and budgetary policies comes with the associated view that social responsibility should also be reflected in decisions made over the structure of public expenditure, transfers and of taxation, particularly with regard to income distribution and social benefits, and to ensure environmental sustainability.

The paper opens in section 2 with a detailed discussion of the relationships between the creation of central bank money and budget deficits. Whilst central bank can always enable government expenditure to proceed, the interesting questions are how any government expenditure will be

funded, through a combination of tax revenues, bond sales and net increase in central bank money in the private sector and the availability of resources.

Section 3 examines proposals for so-called people's quantitative easing (and similar). It is argued that such QE does not add anything to that which can be secured through conventional fiscal policy and risks placing expenditure decisions in the hands of the central bank.

In section 4 it is argued that the so-called 'golden rule of public finance' should be regarded as tarnished and that it has little to recommend its adoption other than its political rhetorical appeal.

In section 5 the main theme is that, following the path set by 'functional finance', the budget position should be set seeking to secure high levels of employment. This is followed in section 6 by viewing the political and social obstacles to full employment budget deficit. It is argued in section 7 that the range of estimates of the multiplier (relating to difference in output to difference in government expenditure), particularly as between periods of low levels of economic activity and high levels of economic activity, indicates practical difficulties in the operation of fiscal policy designed to achieve high levels of employment. In section 8, the ideas surrounding a balanced structural budget are critically examined with emphasis on the problematic nature of 'potential output', and the argument that the achievement of a balanced structural budget may not be feasible. Section 9 presents a brief discussion on the use of interest rates to achieve a high level of demand. In section 10 issues of the sustainability of debt are considered where it is argued that a deficit set in accordance with the requirements of a high level of employment does not raise significant issues of sustainability, and that high levels of public debt relative to GDP do not adversely affect the rate of growth. It is also argued that issues of the sustainability of private debt are more significant. Section 11 critically reviews notions of 'fiscal space', and argues that full use of fiscal space corresponds to the general line of argument of the paper though disputing the constraints imposed by existing debt levels. Section 12 offers a summary and some concluding comments.

2. Money creation and budget deficits

Money consists of the financial instruments, which are a generally accepted means of payment. These financial instruments are usually denominated in terms of a government-approved unit of

account, though there are examples of financial instruments in different units of account circulating side by side (e.g. Lebanon). Under present institutional arrangements, money predominantly takes two forms, which is termed central bank money and clearing bank money. Both are, of course, denominated in the country's unit of account, and can usually be exchanged on a one-for-one basis.

The creation of money comes through decisions taken by the banks (central, clearing) and their customers. Government spends by drawing on its own bank account with the central bank, and the central bank can provide overdraft facilities to the government if it wishes. When the government spends, it injects central bank money into the economy that is held by the clearing banks (as reserves) and the public (as notes and coins). Further, the banks holding of central bank reserves is matched by bank deposits held by the public, which can serve as money. In the case of clearing banks, in the process of providing loans, bank deposits are created which are transferable between people and is treated as money in the sense of being a generally accepted means of payment. Clearing bank money that forms the bulk of what is regarded as money under present institutional arrangements. It is the creation and destruction of central bank money, which are closely related with government expenditure and tax revenue receipts which is the centre of attention here. Just as firms cannot finance their "initial spending by future revenues that do not yet exist and, therefore, must rely on bank credit, the same would apply to the state. In both cases, when firms and the state engage in spending, there must be money creation" (Bougrine and Seccareccia, 2002, p.66).

Taxes are paid to government in the form of money that is accepted by government, and taxes cannot be paid unless money has already been created.[1] There is then a sense in which government expenditure precedes taxation – the government expenditure goes alongside money being injected into the economy, and taxes can only be paid through the use of money. If money has not been introduced into the economy, then it cannot be used to pay taxes to the government. In this context, money refers to central bank money that is accepted by government as payment of taxes. When an individual pays their taxes, the usual process would be to write a

[1] See, for example, Cesaratto (2016) on the general topic of 'the State spends first'.

cheque or authorise an electronic transfer to the tax authorities– but the final stage would be for the individual's bank to transfer central bank money to the government.

Phrases such 'there is no magic money tree' are often used to denigrate and dismiss serious proposals for public expenditure and conjures up false images of the ways in which expenditure is financed and funded. The phrase 'magic money tree' is highly misleading for the images that it conjures up and for seeking to block off serious discussion of the desirability and feasibility of particular proposals for public expenditure.

First, there is nothing magic about the creation of money – it is just double entry book keeping! A bank provides a loan (which is an asset for the bank and a liability for the economic agent taking out the loan) and creates a bank deposit (which is a liability for the bank and an asset for the holder of the deposit).

Second, the metaphor of 'tree' suggests taking from the tree– instead of picking apples, it is money that is picked. This completely ignores that money has to be created and is not grown. It ignores that money is not net wealth (whereas as an apple plucked from a tree is) but is an asset and a liability of equal magnitude. It also ignores that money is not only created but also destroyed.

The cry often goes up that 'there is no money left'. It conjures up the image of a person having a money box from which he/she draws money to spend and then finds that the money box is empty, and that money box is his/her only source of money. However, at the level of the economy, money is readily added to 'at the stroke of a pen'. Money is being continuously created (and also destroyed) by the central bank and by banks. For the government it can spend as long as the central bank facilitates that expenditure—that is by permitting the government to draw down on its account with the central bank. Whether a budget deficit is to be deemed too high or too low should be judged by reference to the idea that the objective of fiscal and budgetary policy should be the achievement of a high level of employment and capacity utilisation.

The question so often raised to any proposal for increased public expenditure of 'where's the money coming from?' is readily answered – the government draws down on its account with the central bank. It comes from the same place that money for public expenditure always comes from.

When people buy bonds from government, money is received by the government into its account with the central bank. As far as the private sector is concerned, money has been withdrawn from circulation in payment for the bonds. In the case of clearing bank money, the repayment of loans by the public destroys bank deposits. This notion that money is both created and destroyed underpins the view that the amount of money in existence is heavily dependent on the willingness of people to hold money (generally, and misleadingly, referred to as the demand for money as money is held in order to get rid of it through spending).[2]

Consider the immediate consequences of government expenditure that is financed by the government drawing down on its account with the central bank. In Table 1, there is a simple representation of the changes in assets and liabilities that occur.

Table 1 Changes in assets and liabilities following government expenditure

	Assets	Liabilities
Central Bank		Reserves
Banks	Reserves	Bank deposits
Private sector	Bank Deposits	

Source: own construction

It is helpful to draw on the distinction made in the monetary circuit literature between what is termed there 'initial finance' and 'final finance' which I prefer to refer to as (initial) finance and funding.[3] Initial finance is the idea that in order to be able to spend prior possession of money is required. Funding (final finance) relates to funds used (from receipts, from borrowing, and from use of own assets) to cover expenditure. The (initial) financing of government expenditure can only come from the government's account with the central bank. In contrast, the funding of government expenditure comes, as discussed below, from a combination of tax revenues and borrowing.

[2] I have argued that at length in Sawyer (2017a).

[3] The terminology comes from the circuitist literature: see Graziani (2003). For discussion of government and central bank money in a circuitist context, see Sawyer (2014).

An obvious, though it seems often forgotten, feature of money is that once it has been created it has to be held by someone. The question arises as to whether the amount of money which has been created (whether by the central bank or through clearing banks) is in some sense held willingly by individuals and firms. In answering that question, the two functions of money mentioned above have to be recognized. Money as a means of payment is only held temporarily between the time of its receipt and the time of expenditure of the money. Money as a store of value is held on a longer-term basis. The average amount of money that an individual seeks to hold in respect of means of payment is often summarised as the transactions demand for money.
Turning to the funding of public expenditure, and consider accounts relating to a specific period of time (say a year). Then for the government (excluding central bank):

(1) $G = T + DB$

that is government expenditure G is funded by tax revenues T and the net sale of government bonds (DB). The government expenditure will have been initially financed by the use of central bank money, and the equation here refers to the final funding of government expenditure. The tax receipts and the sale of bonds by government will withdraw money from circulation.
Some of the government bonds will have been acquired by the central bank through forms of open market operations. Then

(2) $DCBM = DBb$

where DCBM is the net increase in central bank money (held as reserves by banks) and DBb is the quantity of bonds purchased by the central bank. This net increase in central bank money comes about because of a gross increase from the financing of government expenditure and the decrease from tax receipts.
The consolidated accounts of central government and central bank would then read:

(3) $G = T + DBh + DBb = T + DBh + DCBM$

where DBh is the net increase in bonds held by the public. At the consolidated level government expenditure is funded by a combination of tax receipts, bonds and increase in central bank money held by banks (where for convenience the notes and coins issued by the central bank and held by the public are ignored).

There is a straightforward relationship between private savings and investment and the budget deficit (here for simplicity, the case of a closed economy is assumed):

(4) $S - I = G - T$,

where S is private savings and I private investment (over the relevant time period).

In turn, this provides:

(5) $S - I = DBh + DCBM = DBh + DBD$

where DBD is the increase in bank deposits which correspond to the increase in bank reserves with the central bank, which are equal to DCBM.

Thus, there is the funding of budget deficit by a mixture of sale of bonds to the public and the increase of central bank money held in the private sector. The mix is influenced by monetary policy and open market operations and by the willingness of the public to hold bonds and to hold bank deposits. It is also the case that private savings are held in the form of the funding of investment (generally indirectly), bonds and bank deposits.

If the budget deficit were entirely funded by an increase by the equivalent of public holding of central bank money (banks would hold the increase in central bank money as reserves, public would hold bank deposits of an equivalent amount), then the public would be holding the equivalent of net private savings (excess of private savings over private investment) in the form of bank deposits. The banks would be holding additional reserves of an equivalent amount. The specific reactions of banks and depositors would depend on any interest paid by central bank on the reserves. Although it has often been the case that no interest was paid by central bank, that is a position which has tended to change in recent years. The Bank of England, for example, pays interest on those reserves at the bank rate. The bank rate is the rate of interest paid on reserves held by commercial banks at the Bank of England, which in turn has a strong influence on the interest rates on loans and deposits.[4]

The above discussion relates to a closed economy in which government expenditure is financed by domestic currency. Government expenditure is mainly, but not entirely made domestically, and as such central bank money is provided to enable the expenditure to proceed and that money is accepted by the private sector. When the economy is open, the question arises as to how

[4] See https://bankunderground.co.uk/2015/09/28/are-reserves-still-special/

government finances (in the initial finance sense) imports (e.g. purchase of missiles) and transfers (e.g. payments to international organisations). In the case of an open economy, two related issues arise[5].

First, insofar as government expenditure involves imported goods and services there is question of the currency in which payment is made and whether foreigners will accept the domestic currency. In general, this involves somewhere along the line exchange of domestic currency for foreign currency. There can then be limits on the volume of government transactions in so far as payment in a foreign currency is required.

Second, in terms of funding, the size of the current account position changes (directly from the government expenditure on imported goods and services and indirectly through multiplier effects on the private demand for imported goods and services. From a funding perspective (and the sectoral balances):

The other issue concerns the funding of current account deficit that may result.

(6) $G - T = S - I + CA$

Where CA is capital account inflow, which is required to cover current account deficit.

From given level of economic activity, current account deficit would arise: question is whether that can be covered by capital account inflows and at what price. If government borrowing is denominated in its own currency whether from overseas or internal, then 'print money' to pay interest and repay principal.

Arestis and Flavio (2015) use a finance-investment and saving-funding circuit to investigate some of the divisions of funding between domestic savings and the capital account inflows. The general framework is similar to that adopted here. They show that "the distribution of aggregate savings between the national and foreign parts depends on the RER [real exchange rate] level" (p.455). Arestis et alia (2017) analyse the finance-investment and saving-funding (FISF) circuit in a closed and in an open economy setting including government. They "show that the basic features of the FISF circuit remain unchanged for the closed and open economies when government is considered in the circuit" (p.832).

[5] These remarks are much influenced by Coppola (2018).

3. 'People's Quantitative Easing'

There are a range of policies under headings such as 'helicopter money', overt monetary financing, strategic QE (Quantitative Easing), green QE, peoples' QE and sovereign money creation (van Lerven, 2016). These proposals, particularly in the titles adopted, have echoes with the QE programmes of many central banks (which in general are now being unwound), but with differences of purpose and of operation. van Lerven (2016) provides an overview of the proposals under the general heading of 'public money creation'.

The proposals have involved the central bank creating money to finance various forms of expenditure, including by private bodies (usually some forms of infrastructure and green investment) and a variety of expenditures are proposed by different bodies though often include enhanced income transfers (basic or citizen's income being a favourite), and investment (often with a focus on 'green investment'). The expenditure proposals are generally designed to appeal to progressive minded people – I haven't yet heard of 'quantitative easing to buy Trident' or 'QE to build nuclear power stations!

The key feature of QE is that the central bank purchases financial assets from the private sector to reach a target level of purchases and then holding of financial assets. QE is at heart a balance sheet rearrangement from which some changes to asset prices, interest rates and spending may follow. The central bank buys bonds from banks and the public. The central bank's balance sheet changes are illustrated in Table 2.

Table 2: Simple balance sheets of central bank, banks and public

Assets	Liabilities
Central bank	
Bonds purchased	Central bank money issued
Banks	
Central bank money held	Bank deposits
Public	
Bank deposits	Bonds sold

Source: own construction

The central bank now owns more interest-bearing assets than before. The banks hold reserves with the central bank, and as their reserve ratio is now much higher (and in effect not able to reverse the change), the hope is that they would be encouraged to extend loans, though in order to do so there would need to be an increase in demand for loans from credit-worthy customers. The public may feel in a more liquid position with the rise in bank deposits at the expense of decline in bonds held. The hope of QE is indeed that there would be favourable effects of spending decisions. What is in effect an increased demand (from the central bank) for bonds may serve to raise the price of bonds, and as such to aid the balance sheets of holders of bonds.

The central bank has enabled central bank money to enter into the private economy. Could that money creation not be used instead to finance some elements of public expenditure (or indeed private expenditure)? Recall that if public expenditure is to occur then it has to be (initially) financed, and this is done through the issue of central bank money. In the nature of money creation as a book keeping entry, from the money finance perspective the two are by no means mutually exclusive. Using central bank money to finance public expenditure is to be treated as fiscal policy. However, people's quantitative easing appears to place decisions on the scale, composition and timing of public expenditure into the hands of the central bank. The timing of parts of public expenditure becomes tied to the timing of quantitative easing – if there is deemed to be a monetary policy need for further quantitative easing, then additional public expenditure can be sanctioned. Decisions on the appropriate composition of public expenditure have to be made, and it remains unclear in whose hands those decisions would lie. However, people's quantitative easing may place decisions on the scale and composition of public expenditure into the hands of the central bank.

There is a conflation here between QE, which involves the exchange of one set of financial assets for money, and 'public money creation', which involves the creation of money to finance expenditure. The former can have effects on asset prices, on the reserve position of the banks, etc., which may have some indirect effects on expenditure decisions. The latter involves direct expenditure, which is resource-using and income-generating. Further, money is being continuously created and destroyed—in the case of central bank money, destroyed when taxes

are paid and when new bonds are sold. Whether 'public money creation' would enlarge the stock of central bank money would depend on the extent to which that money creation was followed by money destruction.

Decisions over the scale, composition and timing of public expenditure should rest firmly in the hands of the government answerable to Parliament and debate. It can always be (initially) financed by government drawing on its account with the Central Bank. There are then further decisions to be made on how the public expenditure is funded—what mix of tax revenues, bonds and money is appropriate.

4. The tarnished 'golden rule of public finance'

The basis of the so-called 'golden rule' of public finances is that (at least averaged over the business cycle) the budget position with regard to current expenditure and tax revenue should be in balance, and that government borrowing can be undertaken for public investment. A similar rule can be set where it is the structural current budget, which is to be in balance. The rationale for the 'golden rule' is straightforward and has some common features with a similar rule for personal finance. An individual (or firm) may wish to stick to something like the golden rule for one of (at least) two rules. First, the individual would wish to avoid the situation where her current expenditure always exceeds her income since that would mean borrowing more and more, and hence paying more and more interest, which is ultimately unsustainable (not least because of a lack of financial institutions willing to finance the continuing deficit). Second, when capital expenditure produces future income for the individual, there is the hope that the capital expenditure will pay off in that the future additional income more than compensates for the costs of the capital expenditure.

The justification for the 'golden rule' has been expressed in the following terms. "The basic principle is clear. Spending that produces benefits that are consumed in the same year as the spending occurs is classed as current spending. By contrast, spending that produces a stream of services over time (in excess of one) is classed as capital expenditure." (p.159). "It is not practical … to match the timing of the streams of costs and benefits for each and every spending proposal. But, in aggregate, the Government takes the view that current spending, which mainly provides benefits to existing taxpayers, should be paid for by the current generation of taxpayers.

Similarly, because capital spending produces a stream of services over time, it is *fair* that this form of spending is financed initially through borrowing. This behaviour should ensure that, to the extent practicable, each generation pays for the benefits of the public services it consumes" (HM Treasury, 2002, p.162).

The operation of 'golden rule' runs into a series of issues, which are placed here under four headings.

First, in this context public investment refers to net fixed capital formation. It does not follow the general notion of investment as the use of resources in the present in the hope of securing future benefits. Capital investment in its present definition includes investment in areas which are non-productive (e.g. defence equipment) and does not regard expenditure on education and health. The investment covered by the golden rule is physical infrastructure investment but not social infrastructure investment. Investment in social infrastructure, social and health care etc. is not included in this measure of public investment. There is no case (as argued above) for allowing borrowing for investment as currently defined but not for other public expenditure.

Second, the argument for 'borrowing to invest' comes across as treating government like a firm on the basis that investment is undertaken to yield future returns and that the returns on investment will cover the interest payments on the borrowing. It is analogous to the way in which the government is often treated akin to a household, and suffers from the same difficulties. Public investment is (or should be) undertaken on a social benefit/social cost basis, and not on the basis of 'private' costs and returns to the government. In general, public investment does not yield direct financial returns to the government (though some such as social housing for rent and toll roads would), though it yields indirect financial returns through tax revenues generated by the construction of the public investment and any further private investment and growth stimulated by the public investment. These indirect financial returns can be, of course, difficult to predict and to measure.

Third, the 'golden rule' says nothing on the appropriate scale of public investment or the appropriate scale of government borrowing, which would thereby be entailed. In this context, the way in which Keynes (1980) advocated what appears to be a 'golden rule' is of interest. Keynes (op. cit.) appeared to consider capital expenditure as yielding profits: "the very reason

that capital expenditure is capable of paying for itself makes it much better budgetwise and does not involve the progressive increase of budgetary difficulties, which deficit budgeting for the sake of consumption may bring about or, at any rate, would be accused of bringing about" (p.321).

Fourth, the 'golden rule' has political rhetorical appeal coming from the (implied) comparison of government with private firm as mentioned above, in a similar manner to the appeal which 'government must balance its books' has by comparison with households and 'not spending beyond your means'. Using a term like investment suggests prudent use of resources, though obviously 'white elephant' projects are by no means excluded!

From the perspective of fiscal policy and its effects, capital expenditure is similar to current expenditure in being resource using and requiring to be financed and funded. From the perspective of fiscal policy and the appropriate level of budget deficit (or surplus) there is not any rationale for the separation of current expenditure from capital expenditure (in the ways in which the two are defined in the national accounting framework). For other government decision-making purposes there would be justification for thinking in terms of the extent to which resources are to be devoted now to provide future benefits relative to using resources for generation of immediate benefits.

5. What should the budget position be and how should it be funded?

The basis of the approach adopted here is that the budget position (whether deficit or surplus) should be targeted to achieve a high level of employment which is as close to full employment as possible given the productive capacities of the economy and their locational distribution.[6] This general stance follows the positions of Lerner (1943) and Kalecki (1944b) that fiscal policy should be seeking to balance the economy at full employment rather than balance the budget. Lerner (1943) used the term 'functional finance' which rejected "completely the traditional doctrines of 'sound finance' and the principle of trying to balance the budget over a solar year or any other arbitrary period" (p.355), and adjustment of total spending to eliminate both unemployment and inflation. Kalecki's (1944b) argument was that a budget deficit was generally required to correct

[6] This is to recognise that the achievement of full employment requires not only an appropriate level of demand but also sufficient capital equipment in the relevant locations, and that industrial and regional policies are needed to complement fiscal policy.

a deficiency of aggregate demand, and it is precisely in conditions of deficient aggregate demand that funds will be available to fund the budget deficit since the propensity to save runs ahead of the propensity to invest. The running of a budget enabled the excess of savings over investment to be realised. Kalecki (op. cit.), like Lerner (1943), envisaged the need for long-term budget deficits. Many have though argued that budget position should fluctuate over the trade cycle rising in times of recession and falling in times of boom, with deficits and surpluses averaging out: the present incarnation of this view is the arguments for a balanced structural budget, which are examined below. An early expression of this came in the UK White Paper on Employment Policy of 1944. It stated that "to the extent that the policies proposed in this Paper affect the balancing of the Budget in a particular year, they certainly do not contemplate any departure from the principle that the Budget must be balanced over a longer period" (Ministry of Reconstruction, 1944, p.25). In contrast, Kalecki (1944b) argued that the 1944 White Paper on Employment Policy did not provide a programme for achieving lasting full employment, which would have to be based on a long-run budget deficit policy or the redistribution of income towards wages thereby stimulating aggregate demand. He argued that even if counter-cyclical were successful in stabilising effective demand, it did not follow that full employment would be achieved. The simple reason was that the relatively stable level of private investment may well fall below the level required to match savings out of full employment income (Kalecki, 1997, pp.243-4).

Domar (1944) noted that "it is possible that private investment will be able to absorb all savings year in and year out, or that private investment will at least fluctuate around a sufficiently high average so that deficits which may be incurred by the government in some years will be offset by surpluses made in others". But this could not be assured and he examined the case "where private investment is insufficient to absorb intended savings over a relatively long period of time" (p.798). He argued that "since government is absorbing a part of savings, it is of course desirable that its expenditures be productive" (p.820) where he interpreted productive in a broad sense including expenditure on education and health.

These basic arguments from Lerner (1943), Kalecki (1943) and Domar (1944) remain highly relevant and form the basis of the elaborations in this section. The achievement of a high level of employment essentially depends on the level of aggregate demand, and hence the target budget

position depends on the forecast level of private demand. It has to be acknowledged that the actual budget position not only does it depend on the tax structure and rates and public expenditure plans but also on the state of economic activity, which itself is influenced by the tax and expenditure decisions.

The idea that the budget position should be set to be consistent with high level of employment means that the tax rates and public expenditure plans conform to the equation (1) for budget deficit.

(7) $G - T(Y^*) = S(Y^*) - I(Y^*) - CA(Y^*)$

where Y^* is the level of output/income consistent with a high level of employment and CA is current account position. The appropriate scale of the budget deficit or surplus then depends on savings, investment and the current account position functions, and as those functions shift around so would the appropriate budget position. It clearly follows that if the right-hand side of the equation equalled zero, then the appropriate budget position would be in balance, and if the right-hand side were negative, then a budget surplus would be appropriate.

A belief that, whether through interest rate variations or otherwise, there is a strong tendency for intended savings and intended investment to come into balance at full employment, combined with exchange rate adjustment, which lead to a current account balance, would lead to a balanced budget being appropriate. Outside of such a belief, the appropriate budget position could be a deficit or a surplus. That should not be regarded as a universal truth – at the present time, Germany has a small budget surplus and high level of employment (unemployment rate of below 4 per cent) though aided by a large current account surplus that offsets high level of savings relative to investment.

There should be full recognition that the budget deficit position of government is endogenous in two senses: tax rates, expenditure set—the resulting deficit depends on private decisions; deficit/surplus required to achieve full capacity utilisation depends on propensities to save and to invest.

The fine tuning of the macroeconomy under which government expenditure and tax rates would be varied on a frequent basis to seek secure continuous high levels of employment, faces difficulties of information (data on position of economy inevitably lags behind), difficulties of

implementation etc.. It may though be possible to design the tax system so that it is progressive (and hence rising incomes raises tax revenues disproportionately), which would aid to some degree fine-tuning. However, budget decisions are taken on an annual basis, and for whatever reasons tax rates and expenditure plans are adjusted annually.

It has been argued above that the availability of money to pay for public expenditure is not a constraint in so far as the central bank is willing to permit the government to spend. There can be constraints on the expenditure actually occurring through unavailability of the relevant resources. From a funding perspective, G = T + net borrowing, and the net borrowing comes from the private and foreign sectors and is equal to S – I + FA (= - CA). The funding constraint on government expenditure then appears to be tax revenue and borrowing. Nevertheless, the level of government expenditure is a significant determinant of tax revenue, savings, investment and the financial account position. The funding constraint is then the sum of net private savings and financial account position generated at high level of employment. This can be written in terms of the funding limits on the budget position that

(8) $BD \leq S^* - I^* + FA^*$

where * after variable signifies its level if high level of employment were achieved.

The question can also be asked as to the appropriate manner in which the budget deficit be funded as between issue of bonds and of (central bank) money. Recall from above that BD = DB + DCB = S – I + FA. In other words, the net private savings and borrowing from overseas have to be held as a combination of bonds and central bank money. As explained above, the central bank money is held as bank reserves to which there is a counterpart in the form of bank deposits held by the public. The limitation on the use of money funding of budget deficit then comes from limits on the willingness of people to hold their (additional) savings in the form of bank deposits (and for the banks to accept holding reserves with the central bank as assets corresponding to their liabilities in the form of bank deposits).

An economic agent may face a liquidity constraint on their expenditure plans – they do not have money immediately available to finance those plans. Government does not face such a liquidity constraint in so far as the central bank can (and usually will) always provide any required liquidity. An economic agent faces a funding constraint in so far as expenditure = income plus borrowing.

At the individual level, there is a tendency to think in terms of a budget constraint as being that income constrains expenditure, though the constraint can be eased by borrowing. However, it is feasible to think in terms of expenditure 'constraining' income, in that someone who wishes to pursue a frugal lifestyle with low expenditure only requires a low income and may adjust their work/life balance accordingly. There is a funding relationship on government, which specifies that government expenditure is equal to tax revenue plus borrowing. For government, tax revenue depends on tax rates and level of income, which in turn will be influenced by the level of government expenditure. Its ability to borrow depends on the willingness of the private sector to lend to – and that in effect depends on the excess of private savings over private investment. There is then the question of how much should the government be prepared to borrow. The thrust of the argument here is sufficient to secure full employment. These arguments are simply illustrated in Figure 1. A line, such as s(Y) – I(a) in Figure 1, for savings minus investment in effect forms an upper boundary for government borrowing in light of what people wish to save and firms wish to invest. Reaching point such as A for the size of budget deficit would require some combination 'forced savings' and below desired investment.

Figure 1 near here

With 'animal spirits' at *a* with corresponding investment *I*(*a*), and government expenditure at *G*(α), and treating the savings and tax revenue functions as dependent on *Y* and not subject to shifts, the equilibrium value of income would be at Y_s. A shift in the budget deficit function to G(β) – t(Y) would lead to an equilibrium level of income equal to Y* which is deemed to correspond to the high level of employment. The appropriate size of the budget deficit for high level of employment can then be read off. Now if 'animal spirits' shift to b and investment function becomes I(*b*) it is evident from Figure 1 that the equilibrium level of income Y_c would be above the high level of employment. For some this could signal inflationary pressures and for others would be infeasible. At Y*, the budget deficit would exceed the available net private savings. In the equivalent of these circumstances it would be the case that the attempted budget deficit is too large; in the first scenario portrayed the budget deficit would be too small.

It is argued here that the appropriate target for budget deficit should relate to the overall budget position including current and capital expenditure as it is that position which is relevant for

aggregate demand purposes. The objective (as argued above) should be a fiscal stance consistnet with high level of employment. Over a five year time horizon, it is difficult, if not impossible, to formulate what the scale of budget deficit (however defined) should be, which corresponds to high level of employment, and put a corresponding commitment in a political manifesto. As indicated above, the appropriate size would depend on the path of private demand.

The basic proposition is to seek to set the budget deficit to secure high level of employment. In doing so, as argued above, recognizes that fine-tuning is problematic and that the scale of the required budget deficit varies over time. The budget deficit appropriate for fiscal policy purposes is the overall budget deficit. In the case of an on-going total deficit, it can readily be shown that the debt to GDP ratio converges on debt = deficit/g[7] where *g* is the nominal growth rate. For a primary budget deficit, the debt to GDP ratio converges on deficit/($g - r$), where *r* is the nominal rate of interest payable on government debt, and hence depends on relative size of *g*, *r* for sustainability. A given primary budget deficit would lead to perpetually rising debt if $r > g$, and over time the balance between public expenditure (other than interest payments) and tax revenues would need to be adjusted.

What may be termed the optimal sustainable level of government debt (relative to GDP) would be c^*/g where c^* is the desired budget deficit – that is the budget deficit which secures high levels of employment. This is not to underestimate the difficulties of calculating what c^* would be nor that it would shift over time as there are shifts in investment, savings behaviour and the in the current account deficit. With that in mind, c^* is interpreted as an average of the budget deficits required to secure full employment. At any time, it will be difficult to ascertain what the average desired budget deficit is (and indeed it will evolve over time as private sector behaviour changes) and the corresponding appropriate debt to GDP ratio. The significant point here is though that the appropriate ratio should not be plucked out the air (as has happened with the 60 per cent ratio in the Stability and Growth Pact, and is used in the 'fiscal space' literature as noted below). Nor should the figure be derived from some phoney assessment of a 'tipping point' for the debt ratio beyond, which the economic performance suffers. It is rather to assess the debt

[7] Hence, the convergence criteria for membership of the euro under the Maastricht Treaty of 3 per cent deficit, 60 per cent debt ratio can be viewed as mutually consistent under conditions of 5 per cent nominal growth.

ratio, as the deficit position, with assessments of what is needed to underpin high level of employment.

The position with regard to the level of public debt (relative to GDP) depends in an arithmetical manner on the relationship between the present debt ratio and the one implied by the budget deficit. Whether it is appropriate to aim for a declining debt ratio obviously depends on an asessment of whether in some sense the current debt ratio is too high, that is interpretted as high relative to the equivalent of c^*/g. A period of budget deficits higher than required to sustain full employment, for example, could lead to a debt ratio above c^*/g**.** This would though not include cases where what appears to be a high debt ratio has come about through large budget deficits necessary to maintain employment. For example, the period after the global financial crises when deficits had been needed to avoid an even greater slump (though not put sufficiently high to maintain high employment rates). It would though follow that as economy recovers and moves to a lower budget deficit requirement the debt ratio will decline.

The relationship between the rate of growth and the rate of interest can be of considerable significance to sustainability. In Arestis and Sawyer (2004) it was argued that the two were often close, and particularly if tax on government bonds were taken into account the rate of growth could often exceed the rate of interest. In recent times, there has been a range of authors arguing to a similar effect. For the long run, interest-growth differential for a sample of advanced economies, Barrett (2018) found that "point estimates are indeed negative, [but] a variety of statistical techniques cannot reject the possibility that this differential is small and positive". He concludes that to be conservative with respect to sustainable debt levels, "models of debt sustainability should feature interest-growth differentials which are small and positive" (p. 38). Blanchard (2018) also suggests that "the current situation in which, in the United States, safe interest rates are expected to remain below growth rates for a long time, is more the historical norm than the exception. If the future is like the past, this implies that debt rollovers, that is the issuance of debt without a later increase in taxes may well be feasible." (p. 2). It could though be noted that rollover of debt could be subject to the credit rating of the government concerned not having changed.

Blanchard (2018) reports that for the USA over the period 1950 to 2018 the 1-year nominal interest rate on government debt averaged 4.7 per cent, the 10-year rate averaged 5.6 per cent while nominal GDP growth averaged 6.3 per cent. In the three decades until the early 1980s, the 1-year and the 10-year rate were consistently below the growth rate. In the more recent decades, both nominal rates and nominal growth have declined with interest rates declining faster than growth. IMF (2018) (Tables A23 to A25) provide forecasts for the interest rate-growth rate differentials over the period 2018-2030. For 34 advanced economies the average differential is -1.2 per cent, for 38 emerging market and middle income economies -3.9 per cent and for 40 low-income countries -6.7 per cent.

It has often been taken as a given that the rate of interest exceeds the rate of growth. A rate of return on wealth greater than the rate of growth forms an integral part of Piketty's thesis (Piketty, 2014) on rising inequality. The figures just quoted suggest that treating the rate of interest on government borrowing to be less or equal to the rate of growth is to be treated as a serious possibility. In such a case, a primary budget deficit can be sustainable in the sense of leading to a stabilising debt to GDP ratio, albeit a relatively high one.

6. Political and social obstacles to full employment budget deficit

The idea of seeking to achieve high employment using macroeconomic policies, notably fiscal policy, would appear on the surface to be a highly attractive one. Why then is there such apparent resistance? A few remarks are offered here, as per below. There is the issue of public acceptance of the ideas of using fiscal policy to secure full employment with its implications for budget deficit and public debt. The issue was expressed by Keynes (1980): "I recently read an interesting article by Lerner on deficit budgeting, in which he shows that, in fact, this does not mean an infinite increase in the national debt, since in course of time the interest on the previous debt takes the place of new debt which would otherwise be required. (He, of course, is thinking of a chronic deficiency of purchasing power rather than an intermittent one.) His argument is impeccable. But, heaven help anyone who tries to put it across the plain man at this stage of the evolution of our ideas" (p. 320: originally written in 1944).[8] Many of the responses to rising deficits after the

[8] See Aspromourgos (2014) for extensive discussion on this point and more generally the relationship between Keynes and Lerner.

global financial crisis may bear this out. The perceived necessity to reduce deficits was backed by arguments of 'credit card maxed out', 'burden of debt for the next generation' etc.. Yet governments tend to run deficits (rather than surpluses) and have substantial public debts, which are, of course, the accumulation of deficits. There is something of a disjuncture between what governments often do (run budget deficits) and the political and social hostility to budget deficits.

In many respects, advocacy of the use of fiscal policy, particularly when it involves increasing budget deficits, has fallen outside what can be termed the Overton window that described the range of ideas tolerated in public discourse. For much of the time, budget deficits falls outside the Overton window and those seeking to stimulate the economy dismissed as 'deficit deniers'.

The difficulties of advocating the use of budget positions for securing full employment have been clear over the past decade in response to the recession following the global financial crisis (and of course before). When money is to be created to spent on increasing public expenditure, the cry often goes up that it will be inflationary. There were similar response to quantitative easing. An open letter to Ben Bernanke, then Chair of the Federal Reserve in November 2010 signed by 24 economist, financiers and commentators[9] stated that "the Federal Reserve's large-scale asset purchase plan (so-called "quantitative easing") should be reconsidered and discontinued. We do not believe such a plan is necessary or advisable under current circumstances. The planned asset purchases risk currency debasement and inflation, and we do not think they will achieve the Fed's objective of promoting employment".

It would seem more the case that often fears on deficit are played on as a smoke screen behind which austerity can be pursued. This is in line with the general thrust of the arguments of Kalecki (1944b). He saw political motivations at play. "The entrepreneurs in the slump are longing for a boom; why do they not gladly accept the synthetic boom which the government is able to offer them?" (p.349). Kalecki divided the reasons for "opposition of 'industrial leaders' to full employment by government spending" (p. 349) into three: "dislike of government interference in the problem of employment as such" (pp.349-350), "dislike of the direction of government spending (public

[9] Including Michael Boskin, John Cogan, Niall Ferguson, Ronald McKinnon and John Taylor. Letter available at: https://economics21.org/html/open-letter-ben-bernanke-287.html

investment and subsidizing consumption)", "dislike of the social and political changes resulting from the maintenance of full employment" (p.350). "The social function of the doctrine of 'sound finance' is to make the level of employment dependent on the state of confidence" (p.350). In addition, of course, it is the 'state of confidence' of a small group who make investment decisions, without regard to the 'state of confidence' amongst workers!

7. On multipliers and expansionary austerity

The idea that the fiscal position should be geared to the achievement of high employment runs into practical difficulties of gauging and then achieving the appropriate budget deficit. From any existing economic situation, the question can always be posed what would be the required scale of fiscal expansion to achieve high employment. One way of approaching that is to think in terms of the effects that an expansion in public expenditure or reduction in tax rates would have on output; in other words what is often seen as the multiplier. In this section, estimates of the multiplier are reviewed including arguments that the multiplier can be negative (the case of so-called expansionary fiscal consolidation or austerity).

A multiplier relationship between government expenditure (or budget deficit) and output starts as a comparative static, ceteris paribus relationship. The empirical relationship between government expenditure (budget deficit) and GDP depends on many factors. These include the purposes lying behind the change in public expenditure (e.g. was it what may be termed discretionary in response to economic conditions), the responses of private expenditure to government expenditure (e.g. was investment stimulated or discouraged by change in public expenditure) and what would have been happening to GDP otherwise (notably that capitalist economies fluctuate). These considerations suggest that the observed relationship between government expenditure and output will vary considerably and will depend on what factors are taken into account.

In Sawyer (2017) it was noted that there are a wide range of estimates of the multiplier, and hence uncertainty over the size of the multiplier at a particular time and at a particular place. Gauging the scale of fiscal change, which is then relevant (to achieve a particular objective), is then particularly difficult. Further, any estimated multiplier is a mixture of causal relationship and association, and again the application of fiscal policy requires well-based forecasts of what would

happen in the absence of fiscal changes. As Setterfield (2019) remarks there is "a growing empirical literature [that] demonstrates that the size of the expenditure multiplier varies over time, being both larger and consistently greater than one during periods of slow growth and/or recession" (p.42). Qazizada and Stockhammer (2015) use a panel of 21 industrialised countries over the period 1979 to 2011. They find a spending multiplier of close to one during expansion, and values up to three during contractions. Further, their results did not indicate any difference of the spending multiplier during nominal interest zero lower bound periods.

Perotti (2011) examines four episodes of large fiscal consolidations in small open economies (Denmark, Finland, Ireland and Sweden).[10] Two of these episodes occurred immediately after pegging the exchange rate, while two occurred in the opposite circumstances, immediately after floating. He finds that "all four were associated with an expansion. But only in the Danish exchange rate based stabilization was domestic demand the initial driver of growth; and, as the effects of incomes policies faded, after four years the gradual loss of competitiveness led to a slump that lasted six years.". "These results cast doubt on some versions of the "expansionary fiscal consolidations" hypothesis, and on its applicability to many countries in the present circumstances". He does though argue that "even in the short run budget consolidations were probably a necessary condition for output expansion for at least three reasons: first, they were instrumental in reducing the nominal interest rate; second, they made wage moderation possible by signaling a regime change that reduced inflation expectations; third, for the same reason they were instrumental in preserving the benefits of nominal depreciation and thus in generating an export boom" (p.42)

Alesina, Favero and Giavazzi (2019) define austerity (rather like fiscal consolidation) as sizeable reduction of budget deficit and stabilization of public debt by combination of public expenditure cuts and tax increases. Note they say austerity would not be needed if while deficit in recession offset by surpluses in boom. Argue that austerity may be required because of past policy mistakes. In one sense could agree with that in the sense that our approach indicates that there is an upper limit on budget deficit and that through misjudgement or deliberate policy actions governments may exceed the limit on budget deficit. It was also acknowledged that the

[10] See Arestis, Goodwin and Sawyer (2007) for a similar exercise.

calculation and implementation of the appropriate budget deficit were difficulty and hence mistakes in both directions likely. They also argue (p.4) that 'austerity' through expenditure cuts have different effects than through tax rises. They then go on to look at explanations for the differences. They argue that 'austerity' may be expansionary, but not always, and depends on accompanying changes in private demand. This is consistent with arguments (e.g. in Arestis and Sawyer, 2014) that the apparent relationship between government expenditure (budget deficit) and levels of output and employment depends on the stage of business cycle and in responses to aggregate demand, which would have occurred anyway.

Arestis et alai (2018) use annual data over the period 1980 to 2014 for six countries (Portugal, Ireland, Italy, Greece, Great Britain and Spain). They use Boot-strap Granger causality analysis from Konya (2006), which allows testing for causality on each individual country and accounting from cross country dependencies. Their "findings indicate that in no country does fiscal consolidation promote growth. However, fiscal consolidation negatively affects employment in Portugal and Italy, whereas it positively influences employment in Great Britain" (p.300).

Botta and Tori (2018) identify the three channels through which the proponents of 'expansionary austerity theory' (EAT) (i.e. 'expansionary fiscal consolidation') view reduced government expenditure and/or tax increases having a favourable effect on output and employment. These are (i) the 'expectation channel' through which economic agents develop optimistic expectations by anticipating future tax reductions, stimulating consumer expenditure; (ii) a 'financial channel' through which reduced budget deficit and public debt lower interest rates, (iii) 'external channel' through which exchange rate depreciates.

Botta and Tori (2018) note that the EAT literature has generally taken on board that the recorded budget deficit moves with the business cycle and use such measure of cyclically adjusted budget. As other authors (such as Guajaro, Leigh and Pescatori, 2011, Baker and Rosnick, 2014) have argued, the use of cyclically adjusted budget does not entirely remove the cyclical elements of the budget deficit. They find that "the theoretical fundamentals of EAT turn out to be extremely fragile and state- or institution-contingent, to say the least. Surely they cannot be taken as well-established and universal guidelines for conducting fiscal policy." (p.367)

The empirical investigation of Botta and Tori (2018) uses annual data from a sample of 28 developed countries from 2007 to 2016, providing an unbalanced panel dataset of 216 annual observations. Through estimation of a set of six equations, they explore each of the three channels mentioned above (i.e. two specifications for each of the three channels) focusing on effects of budget deficit and debt on interest rates, exchange rate and private consumption and gross fixed capital formation. They find that "the results of our empirical exercise tell us thjat, from 2007 to 2016, austerity measures did not deliver the expected results. Most of the time, their effects were even contrary to the EAT's hypothesies" (p.389).

A final note is that one objection to the use of fiscal policy and budget deficit to secure high employment is that in effect it is not required. This can be formalised in terms of Ricardian equivalence, namely that any proposals for changes in the government budget position will be offset by matching changes in private expenditure, leaving the level of demand and thereby level of economic activity and employment unchanged. But from that perspective, it is difficult to understand why unemployment ever occurs as private demand would appear to be always sufficient to ensure full employment. At most, departures from full employment would arise from (unexplained) shocks and in the nature of such shocks, over full employment would match unemployment. The observation of substantial unemployment for moist of the time should be sufficient to rule out that line of argument.

8. Structural budgets

It has long been recognized that the actual budget outcome should vary with the business cycle, and that attempts to balance the budget during a downturn would worsen the recession. The pre-Keynesian view of seeking to balance the budget at all times has been replaced for many by notions of balancing the budget over a period of time (e.g. specified number of years, over the business cycle) and more significantly by the idea of a balanced structural budget. This can also be seen as a reformulation of old debates on whether budget deficits should be temporary during recessions or permanent.

The idea of structural budget position in terms of the budget position, which would result with present expenditure plans in place (if possible stripped of discretionary expenditure plans) and present tax rates if the economy were operating at 'potential output'. This can be critiqued along

many lines; here focus on two. First, the measurement of 'potential output' is problematic, may not exist, and its estimates tend to be path dependent. 'Potential output' is a theoretical construct, which is a property of a corresponding theoretical model, and the model may fail to correspond to the real world (or may apply at sometimes but not at others and not be a universal theory) (see Sawyer, 2017b, section 8 for further discussion). In its simplest form, the theory from which 'potential output' emerges is one summarized in the idea of the Phillips' curve in which inflation is based on output gap (actual output relative to 'potential output') and expected inflation. The theory requires that output gap has a positive effect on inflation, and the coefficient on expected rate of inflation is unity. However, what if that theory does not accord with reality? For example, what if the coefficient on expected inflation turns out to be different from unity?

A range of methods has been deployed for the estimation of 'potential output' that can be placed under two headings. The first comes from estimation of inflation—economic activity relationships including those between inflation, output and between inflation and unemployment (from which a non-accelerating inflation rate of unemployment, NAIRU, is calculated and then in turn a corresponding level of output). The second comes from treating potential output as some form of trend output. The estimation of 'potential output' is inevitably backward looking in the sense that it has to be estimated from previous data, which is often subject to revision.

A range of methods have been deployed for the estimation of 'potential output' (as indicated in Murray, 2013), which can be placed under two headings. The first comes from estimation of inflation—economic activity relationships including those between inflation and output, and between inflation and unemployment (from which a non-accelerating inflation rate of unemployment, NAIRU, is calculated and then in turn a corresponding level of output). The second comes from treating potential output as some form of trend output.

The estimation of 'potential output' is inevitably backward looking in the sense that it has to be estimated from previous data, which is often subject to revision. These observations lead into two sets of issues. First, different ways of modelling 'potential output' can give different estimates (and thereby different estimates of the structural budget). Second, how far do

estimates of 'potential output', for a specific period of time, change as further data becomes available?

Jarocinski and Lenza (2016) point to a range of analyses, which have suggested that the great recession resulted in a decline in growth of potential output, and that estimates of 'potential output' would be affected depending on the view taken on growth of 'potential output'. In their work, seven alternative modelling assumptions relating to real activity indicators and models of trend components of variables are used. The resulting estimates of the output gap agree on the timing of peaks and troughs of the business cycle, but differ significantly on its level. For 2014-2015, for example, the estimates for the output gap lie in the range -2 per cent to -6 per cent; such a range of estimates could be expected to impact on estimates of structural budget position of around 2 per cent of GDP.

The reliability of measures of 'potential output' and structural budget can also be gauged by seeing how the estimate of structural budget for a specific year changes over time as further data becomes available: see Sawyer (2016) Figure 1 for illustration.

Heimberger and Kapeller (2016) review how the estimates of potential output and structural budget position are formulated, and further show (for example their Table 2) the extent to which downward revisions of potential output have increased pressures for fiscal consolidation. Heimberger and Kapeller (2016) base their study on the performativity of economic models – that economic models "do not merely record a reality … but contribute powerfully to shaping, simply by measuring, the reality" (Callon, 1998, p. 23). Heimberger and Kapeller (2016) "analyze the PO [potential output] model not primarily as a scientific device that allows economists to assess the position of an economy in the business cycle and to draw conclusions on the 'structural component' of the fiscal balance, but rather as a conceptual foundation for an authoritative political practice that structures the room for fiscal policy manoeuvring in EU countries" (p. 3). They note the pro-cyclicality of NAIRU and potential output estimates.

There is also the complicating factor of shifts in the assessment of 'potential output'. An example of this is that "essentially all of the convergence [between 2009 and 2014] between the economy's level output and its potential [i.e. output gap] has been achieved not through the economy's growth, but through downward revisions in its potential… Today, it is increasingly

clear that the trend in growth can be adversely affected over the longer term by what happens in the business cycle" (Summers, 2014, p. 66). Changes such as these would clearly affect the assessment of the fiscal stance.

Second, there is the implicit assumption that a balanced structural budget is feasible. Consider the equation:

(9) $S^p - I^p + FA^p = 0$

Where superscript p indicates that the variable concerned refers to the desired (by economic agents) conditional on the level of economic activity being at potential output. Would that equation indeed hold, and hence the structural budget deficit would be zero? It may then be seen that an unbalanced budget may be required in the long term if high level of employment is to be secured.

9. On interest rates and fiscal policy

The alternative (or perhaps complement) to fiscal policy has long been monetary policy. In recent decades, monetary policy came to be the dominant arm of macroeconomic policies albeit to be used for inflation targeting through variations in the policy rate of interest. Within that framework, a policy (Taylor) rule is often invoked with the policy rate set according to a formulation such as:

(10) $i = i^* + a(p - p^T) + b(y - y_P)$

where i is policy interest rate, i* some form of 'natural rate of interest', p^T target rate of inflation, and y_p potential output. In the background there is a Phillips' curve type relationship in which inflation is related to expected inflation and output gap. Hence there is rate of interest i* which is consistent with inflation at target and output at potential output. It is implicitly assumed that the economy is stable and can be guided through interest rate policy to reach constant inflation and potential output. Fiscal policy is deemed unnecessary as interest rates can do the job. Our perspective is rather different, and essentially challenges the notion of an equilibrium consistent

with potential output (which may or may correspond to full employment of labour) achieved by the 'natural rate of interest'.

The 'natural rate of interest' is a concept derived within a particular theoretical framework, and doubts about the validity of the theoretical framework casts doubts on the validity of the notion of the 'natural rate of interest'.

Authors, notably Portes and Wren Lewis (2015), have argued that fiscal policy comes into its own when monetary policy is at or tending towards the 'zero lower bound' – that is the lowest feasible policy rate of interest.[11] Hence, any further stimulus from lowering interest rates cannot taken place. Two questions here (i) in terms of short-term influence on the economy, if some form of fine tuning is to be attempted can debate the relative merits of interest rate and fiscal policy. Interest rates have arguments of flexibility in their favour, though doubts (Arestis and Sawyer, 2004) on the impact of interest rates. Using interest rates to influence output and inflation ignores their effects on asset prices and thereby financial stability. (ii) the limits on the use of interest rates is derived from the (non) existence of a 'natural rate of interest' and its ability to secure full employment balance between savings and investment.

Angeriz and Arestis (2009) review empirical evidence (as well as theoretical arguments) from which they conclude that the results "point to a relatively weak effect of interest rate changes on inflation. Also, monetary policy can have long-run effects on real magnitudes." (p.567)

10. Sustainability of debt

An argument against running budget deficits over a number of years is that even if it does not involve unsustainable rise in public debt (relative to GDP), the resulting higher (than otherwise) debt ratio will be detrimental to growth. Authors such as Cecchetti et al. (2011), Reinhart and Rogoff (2010) have argued that a debt to GDP ratio of around 80 to 90 per cent endangers, though serious doubts on the results of Reinhart and Rogoff have been cast by Hendon et al. (2014). However, authors such as Panizza and Presbitero (2012) do not confirm any causal relationship

[11] This approach has been adopted by the UK Labour Party (2017). Further, "when the Monetary Policy Committee decides that monetary policy cannot operate (the 'zero-lower bound'), the Rule as a whole is suspended so that fiscal policy can support the economy. Only the MPC can make this decision" (p.2)

running from debt ratio to growth. In Arestis and Sawyer (2014), we illustrated how from a theoretical perspective a low growth (with a low investment to GDP ratio) could be anticipated to be associated with a high budget deficit requirement and resulting high debt to GDP ratio.

Rogoff (2019) is a remarkable about turn. In the context of discussing Brexit, he argued that "a hard Brexit would provide an overwhelming argument for using the government's strong balance sheet to cushion the transition. What's the point of saving for a rainy day if you don't use savings in an epic storm?" and argues for investment in physical and human capital rather than seeking to reduce debt ratio. "To be frank, it has never been remotely obvious to me why the UK should be worrying about reducing its debt–GDP burden, given modest growth, high inequality and the steady (and largely unexpected) decline in global real interest rates. It is one thing to have an exit plan for controlling the rate of debt increase after a deep financial crisis; it is entirely another thing to be in any rush to bring debt levels down".

In considering the sustainability of debt and its possible impact on growth, the role of other debts has to be considered. Carney (2019) notes that the globally the outstanding stock of debt almost doubled in the decade following the global financial crises, and that public debt had risen above 90 per cent of GDP for the first time in the post-war era. He then argues that "public sector debt is important for intergentational equity" although it represent an intragenmerational transfer. He also argues that "high levels of public indebtedness tend to result in lower growth over the long run", a result which has been disputed above as a general result though it would be recognized that a deficit larger than required to secure high level of employment could crowd out investment and lead to a higher debt than indicated above and a lower growth rate. Carney views high public debt as a "chronic not an acute problem". He does then cite research at the Bank of England and elsewhere to the effect that growth of private sector provides one of the best early warning indicators of a downturn.[12] Further, over a half of recessions are preceded by booms of private sector credit and private credit booms often (to the extent of two-thirds) end in recession. IMF (2017) found "a trade-off between short-term boost to growth from higher

[12] Carney (2019) cites Bridges et alai (2017), Borio et alai (2018), Taylor and Schularick (2012) and Ailman et alai (2018).

household debt and a medium-term risk to macroeconomic and financial stability that may result in lower growth, consumption, and employment and a greater risk of banking crisis. This trade-off is stronger when household debt is higher can be attenuated by a combination of good policies, institutions, and regulations." (p. xii). IMF (2017) Chapter 2 provides a lengthy discussion on the financial and economic instabilities arising from household debt. In Table 3 regression results from IMF (2017) are reproduced to illustrate findings of an inverted U-shaped relationship between household debt and economic growth.

11. Fiscal space

The degree of constraints on government expenditure has come to be discussed in terms of 'fiscal space', particularly within the international organisations. The IMF (2018), for example, described fiscal space "as the room for undertaking discretionary fiscal policy relative to existing plans without endangering market access and debt sustainability" (p. 1). IMF continue by arguing that most countries have some fiscal space, reflecting low financing needs, and favourable interest rate-growth differentials (as indicated in the projections noted above). In terms of equation (8) above, fiscal space could be interpreted in terms of the degree to which the inequality applies, and the difference between the prevailing budget position and that, which would appertain under high level of employment. The notion of fiscal space places though emphasis on issues of debt sustainability and ability to borrow.

IMF (2018) among others indicate the difficulties of making assessments on the degree of fiscal space. For example, "fiscal space is a forward-looking and dynamic concept such that today's fiscal space depends on the future effect of policies given the particular conjuncture the economy faces. For instance, in the face of a severe negative shock, a large fiscal oncsolidation could acually reduce fiscal space by dampening growh. Alternatively, a temporary stimulus could create fiscal spce and improve medium-term debt prospects, if it is used wisely, e.g. to fund investment in productive infrastructure, support structural reforms, or help repaid private balance sheets" (IMF, 2018, p.2). IMF (2016) indicate a range of methods for assessing fiscal space. The significance of the range of methods is that it provides an indication of the difficulties in making the assessment. In terms of the central proposition of the use of budgetary position to secure high levels of employment, one interpretation would be that governments should seek to

operate where there is no fiscal space left, and that the government has in effect pushed the budget position to its limit. However, the limiting factor on fiscal space is taken to be the public debt ratio, often pitched at 60 per cent or less. IMF (2016)) talk of the need for long-term adjustment to "reduce public debt to 60 and 40 percent of GDP (by 2030) respectively for advanced and emerging economies while offsetting expected increases in age-related spending" (p.21). There would seem little reason to accept a 60 per cent (or 40 per cent) of GDP as the limit on public debt. Doubt has been cast above on such a limit in terms of impact on economic growth and performance. It has also been argued that the desirable level of public debt should be related to the average budget deficit that is required to achieve high levels of employment. It was argued above that the implications for the current account position and for borrowing from overseas (particularly when denominated in a foreign currency) that could serve to limit the use of budget deficits to achieve high level of employment.

A specific and 'high' debt ratio does not preclude fiscal response to economic downturns for the simple reason that the characteristic of an economic downturn is a decline in investment and a rise in savings (which can only be realised if there is a corresponding budget deficit). In other words, the circumstances in which an increase in the budget deficit would be appropriate (whether arising from the operation of automatic stabilisers or through discretionary actions) are precisely those where the funding of the deficit would not create difficulties.

12. Summary and Conclusions

The central proposition on which this paper is based is that the prime purpose of budgetary policy should be to secure a high level of employment and not to produce a balanced budget. The purpose is to balance the economy rather than to balance the budget. The achievement of what may be regarded as full employment can be constrained by the quantity and location of productive capacity, and appropriate fiscal policy is a necessary but not sufficient requirement to achieve full employment. The basic arguments for this approach are set out in section 5.

In section 2, it has been pointed out that for government expenditure (and expansion thereof) can always be financed by the actions of the central bank. The first key question should be the social desirability of the expenditure proposed, and not 'where is the money coming from'. A budget deficit has to be funded through domestic and foreign borrowing. This raises the question

of the appropriate balance in funding between net central bank money creation and net bond sales, bearing in mind that the counterpart of budget deficit is private sector net savings (domestic private savings minus private investment plus borrowing from overseas). It is also relevant to consider the limitations on government expenditure and budget deficits, which come from open economy considerations, and the degree to which government expenditure on imports can be financed in the domestic currency and the degree to which the over-all current account deficit can be funded.

Let us consider a proposal (say Green New Deal) for increased government expenditure and investment. The proposal is treated as socially beneficial. It would first be acknowledged that the expenditure would need to be financed by the use of central bank money. The proposal would need to be considered in terms of its resource requirements, whether resources appropriate for the proposal are available, and the degree to which resources will need to be drawn from other activities. We focus on the financing and funding elements. The degree to which the proposal would be matched by an increase in the budget deficit should depend on the state of economic activity. The degree to which it is funded by an increase in central bank money is governed by banks willingness to hold reserves (in the form of central bank money) and the public's willingness to hold bank deposits. For an increase in public expenditure, and associated increase in economic activity and in savings, the additional desire for banks to hold reserves and public to hold bank deposits may be expected to be rather small.

Section 3 argues that ideas such as people's quantitative easing do not contribute anything that is not available from traditional fiscal policy. Use of quantitative easing risks putting decisions on government spending (level and composition) in the hands of an unelected central bank. It also threatens to hypothecate funds via quantitative easing for specific projects.

Section 4 argues against ideas of a 'golden rule' under which borrowing for public investment is allowable but not for current expenditure. It is the overall budget position which is relevant here, and there are no persuasive reasons for the borrowing involved to be matched with the level of public investment. The extent and structure of public investment should be judged, as other forms of public expenditure, by their contribution to economic and social benefit.

In section 6, there is a brief reminder of what is perhaps obvious by observation of the world, namely that the obstacles to achieving high levels of employment through fiscal policy are social and political. The experiences of the last decade where the supposed urgent needs to eliminate budget deficits (described by the incoming UK coalition government as the most urgent economic problem facing the UK) has provided cover for austerity and attacks on the welfare state.

It is acknowledged that there are severe practical problems of achieving the right scale of budget deficit (or surplus) consistent with a high level of employment. There are well-known problems of seeking to fine tuning a capitalist economy. The range of estimates of the multiplier are cited to indicate the difficulties – if the size of the multiplier is uncertain, how much change in public expenditure or tax rates would be required. In the operation of fiscal policy designed to achieve high levels of employment. However, it is argued in this section that the notion of expansionary fiscal consolidation can be dismissed though there can be fortuitous occasions when scaling back of public expenditure goes alongside a rise in economic activity generated by, for example, booming exports.

Much attention has been paid to macroeconomic policies involving a balanced structural budget, which contrasts with the approach to budget deficits adopted in this paper. It has, though, been argued here that the idea of a structural budget and the related notion of 'potential output' are problematic. The key point is though that there is no reason to consider that the achievement of a balanced structural budget is feasible, and the pursuit of such a deficit situation could result in continuing austerity and damage to longer-term growth prospects. This line of argument is reinforced in section 9 where the idea of a 'natural rate of interest' capable of securing a high level of employment is dismissed. There is a line of argument, which portrays the use of budget deficits as leading to high and perhaps unsustainable levels of debt. In section 10, it is argued that budget deficits operated to secure high level of employment can firstly be funded. The appropriate public debt to GDP ratio would then be the one that would emerge from budget deficits applied to secure high employment. This may be relatively large or relatively small depending on the scale of the required budget deficit and the nominal rate of growth. It is then argued that the notion that high levels of public debt undermine growth is theoretically and empirically weak. It is further argued that private debt levels pose much more of a threat to

stability than do public debt levels. Ideas on fiscal space have been examined, and it is argued that in a number of respects the view of a country operating where it has no further fiscal space has correspondence with the 'functional finance' view followed in this paper. However, discussion of 'fiscal space' does not place sufficient emphasis on the achievement of high employment and places too much on constraints imposed by prevailing debt levels.

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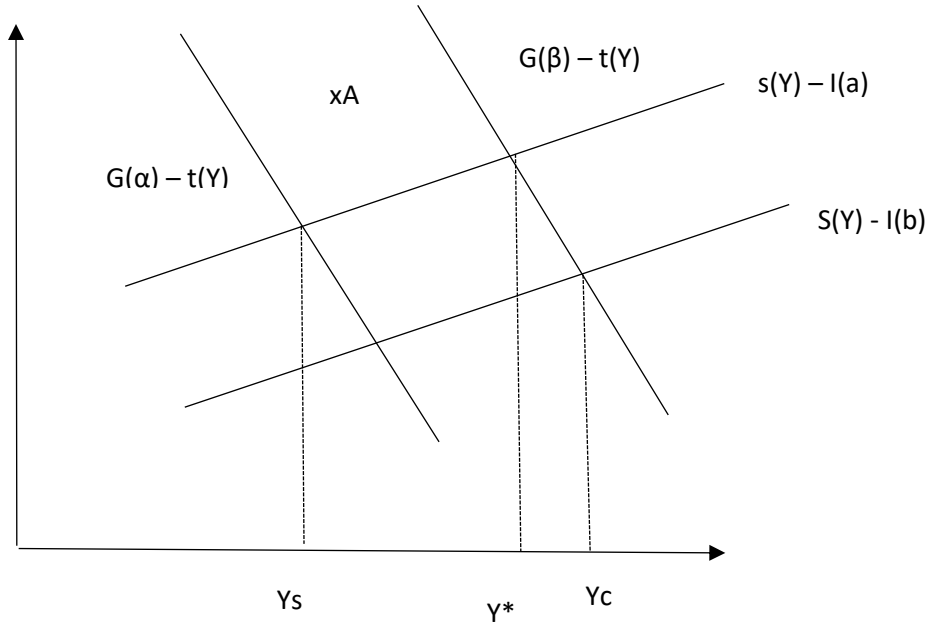
Figure 1 Budget deficits and the level of income



Source: own construction

Table 3 Panel regression of per capita GDP growth

Variables			
HHD	0.051*	0.007	0.021
	(1.726)	(0.346)	(0.762)
HHD^2	-0.048**	-0.024	-0.051
	(-1.980)	(-1.494)	(-2.057)
Crisis		-0.017***	-0.015***
		(6.319)	(-4.688)
EMExHHD			-0.000
			(-0.015)
Education	0.028	0.018*	0.017
	(1.117)	(1.818)	(1.576)
Initial per capita GDP	-0.012**	-0.004	-0.000
	(-1.973)	(-1.227)	(0.078)
Constant	-0.035	-0.038	-0.066
	(-0.353)	(-0.933)	(-1.507)
Observations	278	278	278
Number of countries	73	73	73
AR^2	0.0186	0.137	0.185
Hansen	0.253	0.797	0.361
Instruments	55	73	68

Z-statistics in parenthesis
*** p <0.01, ** p<0.05, * p<0.1
Five year average growth rates
HHD household debt to GDP
Crisis: dummy for banking crisis
EME emerging market economy dummy.
Source: IMF (2017)