

## What is the Sign of the Balanced Budget Multiplier?

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### 1. INTRODUCTION

As already explained in the *Introduction* to this volume (Pressman and Smithin 2022) the original premise was to ask, and to try to answer, what Steve Pressman and I think are the following five currently ‘unsettled questions’ in monetary macroeconomics. I list them in the original order in which they occurred to us and have added my own first reaction about the correct answer to each of them.

1. *Should the central government always try to balance the budget?*  
My answer is: NO
2. *Should trade and financial policies always aim for a current account surplus?*  
My answer is: YES
3. *Are tax increases inflationary or deflationary?*  
My answer is: INFLATIONARY
4. *To fix or float exchange rates?*  
My answer is: FLOAT
5. *Rules versus Discretion in Monetary Policy?*  
My answer is: RULES

I don’t exactly recall what Steve’s original responses were but in several of the cases, at least, they were the opposite to mine. We thought that this was strange, because over the years (and it is getting to be very many years now), we have tended to have quite similar views on questions of macroeconomic theory and policy, typically of either a ‘Keynesian’ or ‘Post Keynesian’

orientation. So, here was something that certainly needed to be debated and discussed. What we eventually did, therefore, was to commission several distinguished contributors to write papers giving their views on these questions, for or against. The results are the contributions to this volume. We hope that their collective efforts will assist readers to make up their own mind on these issues and thereby clarify their own views on public policy issues.

This paper deals (albeit somewhat indirectly) with the third question, about whether a tax increase is inflationary or deflationary. As already seen, I now think that the correct answer is *inflationary*. However, for those of us brought up in a (broadly speaking) ‘Keynesian’ tradition this actually seems quite counter-intuitive. In ‘Macroeconomics 101’, for example, we learn about the effects of changes in both government spending and taxation on aggregate demand. Increases in spending add to the total of aggregate demand, whereas increases in taxes reduce it. Government spending puts money into the economy. Taxation takes money out. These ideas are second nature to most Keynesians and Post Keynesians. In the current volume, for example, Joelle Leclaire, who is a member of the modern monetary theory (MMT) school of Post Keynesian economists, will contribute a paper defending the proposition that tax increases are deflationary. In fact, this a key part of the macroeconomic policy package proposed by MMT. Their view is that the role of taxes is *not* to finance public expenditure (and MMT is surely correct on this point)<sup>i</sup> but, rather, precisely to restrain aggregate demand should inflation threaten. The argument proceeds in what seems to be very much the traditional Keynesian or Post Keynesian manner (Kelton 2020, Mitchell, Wray and Watts 2019, Wray 2012).

On the other hand, in the microeconomic literature in the fields of ‘Public Finance’ and ‘Public Economics’, we get a somewhat different take on taxes.<sup>ii</sup> In the discussions of tax incidence both a specific tax, and an *ad valorem* tax, are thought unambiguously to increase the

price of any particular good and service, by affecting supply conditions.<sup>iii</sup> The price will not increase by the full amount of tax (which is the general conclusion reached in the tax incidence literature), but nonetheless it will definitely increase. Then suppose that we switch the argument back to the macroeconomic level and consider an increase in the average tax rate on all the goods and services included in the measure of GDP. Something similar to the logic of the microeconomic case must continue to apply, this time as applied to the aggregate price level.

I first became aware of these issues, and the potential conflict between them, a long time ago, during the writing of my doctoral dissertation on the *Financing of Unemployment Insurance* (Smithin 1982). The UI<sup>iv</sup> scheme in Canada in that period was financed by a payroll tax on the entire wage bill. What I wanted to do in that work was to take account of both the aggregate demand and supply effects. I learned at that time that these are very difficult topics to get one's head around, and I am very grateful to Joelle for agreeing to present her current views on the issue in the current volume. For myself, however, forty years later, and in the context of my alternative monetary model (AMM) as set out in *Rethinking the Theory of Money Credit and Macroeconomics* (Smithin 2018) and *Beyond Barter* (Smithin 2021), I have finally come to the conclusion that an increase in the average tax rate will tend to both reduce economic growth and increase unemployment, and also increase the rate of inflation. In short, it will cause 'stagflation', a simultaneous increase in both inflation and unemployment.

As can be seen the title of the present paper does not directly address the question of whether tax increases are inflationary or deflationary. Instead, it focuses on Paul Samuelson's celebrated notion of the balanced budget multiplier (BBM), and asks whether the sign of the BBM is positive or negative. This is also an important issue in its own right and, as the reader

will discover, the original debate about taxes and inflation can easily be subsumed under that heading. The issues involved are exactly the same.

## **2. THE BALANCED BUDGET MULTIPLIER**

The sign of the balanced budget multiplier is yet therefore another of the ‘unsettled questions’ in monetary macroeconomics. Samuelson thought that the sign of the BBM would be positive, and even, at one stage, that it had a value exactly to one. My view is the opposite. It seem to me that the sign of the balanced budget multiplier is likely to negative.

I used to think, and to tell people, that the discussion of the BBM was already present in the very first edition of Samuelson’s famous textbook. Now, however, I actually do have a copy of *Economics: The Original 1948 Edition* (Samuelson 1997) and it is not there. It is in *Economics An Introductory Analysis, 6th Edition* (Samuelson 1964), another old edition of Samuelson that I have on my shelves. In the grand scheme of things I suppose that this was still a relatively early edition. Samuelson’s book eventually went into a total of nineteen editions in the sixty-seven years between 1948 and 2009.

In that sixth edition the discussion of the balanced budget multiplier appears in the key chapter 12, dealing with ‘The theory of income determination’. This is the chapter which includes the famous ‘Keynesian cross’ diagram, explaining how national income and output are determined. It goes on to work out the value of the various ‘multipliers’, such as the investment multiplier and the government expenditure multiplier.<sup>v</sup> The investment multiplier and the government expenditure multiplier are positive, but the tax multiplier is negative. Samuelson also argues that the tax multiplier is less in numerical magnitude than the government expenditure multiplier. Therefore a ‘balanced budget’ increase in government spending offset by an equal increase in taxes will have an overall positive effect.

Samuelson's theory of the relationship between price level and the level of output was not sophisticated by modern standards. Everything hinged on the somewhat vague concept of a 'full employment' level of output. Before the supposed full employment level is reached any increase in aggregate demand will feed through directly to an increase in output and has no impact on prices. After full employment, however, output cannot be increased any further, and the whole effect of any demand change would be on prices. As it happens Samuelson first introduces the concept of the BBM is in the context of a discussion of 'inflation' (meaning by this precisely an increase in prices after full employment is reached). He writes as follows;

To offset an 20-billion-dollar upward shift in  $I + G$  we must increase tax collections by *more* than 20 billion dollars ... [the] needed taxes ... [are] ... 30 billion when the  $MPC = 2/3$ . This means that (1) when increased government spending is added to a full employment economy with a balanced budget, then (2) taxes will probably have to be increased by *more than enough to balance the budget* if we are determined to avoid an inflationary gap. (original emphasis)

Samuelson then adds a footnote to explain how the argument would work out in a situation of less than full employment, in which case the whole effect will be on the level of output;

Advanced treatises call this phenomenon the 'balanced budget multiplier theorem'. This very useful, but highly simplified, doctrine says: a *balanced* rise in  $G$  and  $T$  will raise NNP by just that amount; a balanced cut by \$1 in  $G$  and  $T$  will cut NNP by \$1. So it is not merely the budget deficit,  $G - T$ , that has NNP effects. (original emphasis).

In these two quotes the symbols  $I$  and  $G$  stand for the levels of investment spending and government spending, and  $T$  total tax collection. The  $MPC$  is the 'marginal propensity to consume' and NNP represents the measure of output known as 'net national product'.<sup>vi</sup>

It has always seemed to me to be somewhat contradictory that the discussion of the BBM should both be 'reserved for advanced treatises' and yet, at the same time, is 'highly simplified'. The confused wording certainly tends to suggest that something important is missing from the analysis. In practice, though, whether this really is a 'simple' idea or an 'advanced' one, it did become a key part of the new political economy founded by Samuelson and others. The most important implication is that what (later) came to be called 'tax and spend' policies are a good

representation of Keynesian economics. The benefits of increased public spending are recognized but, lurking in the background, there is still the old idea that somehow the spending must be ‘paid for’ by taxation (which the contemporary MMT school rejects even while holding somewhat similar views on the effects of taxation on inflation). Samuelson seems to have been trying present to his readers both the novel idea (for the time) that the increase in government expenditure will have positive effects on economic activity, but simultaneously seeking to provide reassurance that we need not abandon the traditional idea of ‘fiscal responsibility’. The spending is a good thing, he allows, but it must always be paid for.

However, ‘tax and spend’ was not the policy combination that Keynes argued for in the *General Theory*. He explicitly favoured a policy of ‘loan expenditure’. The notion of loan expenditure is precisely defined in a footnote to the famous ‘banknotes in bottles’ passage in chapter 10, on the ‘The marginal propensity to consume’. In that chapter Keynes points out that the application of what he calls ‘strict business principles’ to useful public sector projects is likely to cause confusion. According to Keynes (1936);

It is often convenient to use the term ‘loan expenditure’ to include the public investment financed by borrowing from individuals and also any other current expenditure which is so financed. Strictly speaking the latter should be reckoned as negative saving, but official action of this kind is not influenced by the same sort of psychological motives which govern private saving. Thus loan expenditure is a convenient expression for the net borrowings of public authorities on all accounts, whether on capital account or to meet a budgetary deficit.’

There is a very good reason in my view for thinking along with Keynes that this *loan* expenditure (*i.e.*, borrowing) is what is really important. Loan expenditure implies credit (and hence money) creation by the banking system which, as I have explained elsewhere (Smithin 2016, 2018, 2021), is vital for the realization of monetary profits.

### 3. EFFECTIVE DEMAND AND AGGREGATE SUPPLY

I will use an ED/AS (effective demand/aggregate supply) analysis to show that the sign of the balanced budget multiplier is negative, and that a ‘tax and spend’ policy leads to stagflation. In my *Rethinking* (Smithin 2018) I carried out a mathematically rigorous analysis of the issue in the context of the AMM, and also provided a graphical illustration in  $p, y$  (inflation/growth) space - where lower-case  $p$  stands for the inflation rate and lower-case  $y$  for the rate of economic growth. I will reproduce the graphical argument here. *Figure 1* shows the macroeconomic equilibrium as the confluence of the ED (effective demand), SRAS (short-run aggregate supply), and LRAS (long-run aggregate supply) schedules. In this context, of course, ED means the *rate of growth of effective demand*, and AS is the rate of growth of output supplied.

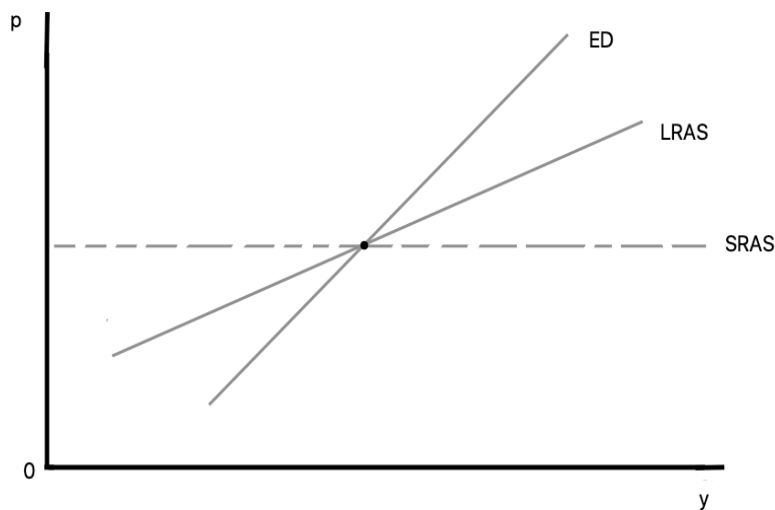
The expression *effective demand* should be taken to mean that at every point along an ED schedule, there would be enough credit and money creation to sustain that demand growth in terms of actual purchasing power. This is somewhat different to Keynes’s treatment in the *General Theory* but is more consonant, or so I would argue, with a genuine ‘monetary analysis’, using this term in Schumpeter sense from the *History of Economic Analysis* (Schumpeter 1954). It also represents a slightly different concept of the *difference* between the mainstream notion of ‘aggregate’ demand and ‘effective’ demand than is sometimes given in the Post Keynesian literature. For example, in Victoria Chick (1983) in her authoritative *Macroeconomics After Keynes: A Reconsideration of the General Theory*, writes as follows;

‘*effective demand*, in contrast to aggregate demand, is not a schedule – it is the point on the schedule ... which is ‘made effective’ by the firms’ production decisions’.

However, the point that I wish to stress in the present treatment, is that to be ‘effective’ the demand must actually be in terms of money. I therefore call the whole schedule ‘the ED

schedule'. Nonetheless, Chick is quite correct in stating that the only actual realization of monetary profits is at the point where the schedules cross.

Figure 1: The Initial Macroeconomic Equilibrium



In *Figure 1* I have drawn the ED schedule upward-sloping in  $p, y$  space by analogy to the similar 'ED' in the AMM where this comes about because of the so-called 'forced saving effect' (Hayek 1932) or 'Mundell-Tobin effect' (Kam 2005), as it came to be known in the mid-twentieth century literature. There are analogies also, albeit with different coordinates, to Keynes's original analysis using an upward-sloping schedule, to the Post Keynesian  $Z, N$  diagram and, evidently, even to Samuelson's own approach. Whether positively sloped or not, and as I have shown in Smithin (2021), it is an extremely important point that the limiting position of the ED schedule would be vertical. At the aggregate level the ED schedule should never be downward-sloping. This is a major difference, in fact, from what became the standard textbook macroeconomic model of the late twentieth century.



The presence of a Mundell-Tobin, or ‘forced saving’, effect is nevertheless an inescapable economic reality in my opinion, unless less the CB deliberately tries to contradict or counteract it with something like the application of the ‘Taylor principle’, proactively raising the real policy rate (Smithin 2018, 2021). There are a number of ways of demonstration the existence of the Mundell-Tobin effect. In the world of neoclassical/mainstream economics, for example, this can be achieved by the assumption of an endogenous rate of time preference (Kam 2005, Kam, Smithin and Tabassum 2019). Alternatively, and more simply, by solving the optimization problem of the commercial banks in the overnight market (Kam and Smithin 2012). In the end, however, given the realities of today’s central bank ‘interest rate operating procedures’ (Smithin 2004), the existence of the forced saving effect seems to be nothing more than common-sense. See, for example, the development of an expression for the transmissions mechanism of monetary policy in *Rethinking* (Smithin 2018), as reproduced here in equation (1). This is empirically based, with a pass-through coefficient of around 0.7/0.8 in Canada, and similar numbers elsewhere (Collis 2018; Smithin 2021).

$$(1) \quad i = m_0 + m_1 i_O, \quad m_0 > 0, \quad 0 < m_1 < 1$$

In this expression  $i$  stands for the nominal interest rate in the marketplace,  $i_O$  is the nominal policy rate of interest set by the central bank,  $m_0$  is the mark-up between commercial bank deposit rates and lending rates, and  $m_1$  is the pass-through coefficient. Subtracting the currently observed inflation rate,  $p$ , from both sides of the expression we obtain;

$$(2) \quad i - p = m_0 + m_1 i_O - p$$

And, finally, if  $r_O$  stands for the real inflation-adjusted policy rate;

$$(3) \quad r = m_0 + m_1 r_O - (1 - m_1)p$$

In principle, therefore, there is a negative relationship between the inflation rate and the inflation-adjusted real rate of interest, and ultimately this is what accounts for the positive slope of the ED schedule.

The long-run aggregate supply schedule (LRAS) also slopes upward, reflecting the long-run *non*-neutrality of both monetary and fiscal policy, and the ED schedule cuts the LRAS from above. As with the ED schedule, the slope of the LRAS also represents a major difference from what has become economic orthodoxy. The LRAS is *not* vertical as was usually the case in the standard post-Samuelson textbook approach to Economics 101. On the other hand, the short-run aggregate supply curve (SRAS) is horizontal, which is more consonant with what can be found in the standard textbooks.

My own basic view about, or orientation towards, macroeconomic theory has always been that a truly ‘Keynesian’ approach would summarily dispense with all such things as natural rates of growth, natural rates of unemployment, unique NAIRU’s,<sup>vii</sup> vertical Phillips curves, and so on. In short, the basic analysis should be the same in both the short-run and the long-run. Or, to put it another way, the macroeconomic equilibrium is a moving equilibrium. In principle economic growth and the cycle are always interconnected (Smithin 2018, 2021).

The fundamental theoretical reason for upward slope of the LRAS in *Figure 1* is imperfect competition, which implies downward-sloping demand curves for the products of each individual oligopolistic firm at the *microeconomic* level (rather than at the macro level of aggregate demand as just discussed). Samuelson later admitted that imperfect competition was the basis of his version of Keynes, although he did not make the point clear at the time. Kaldor (1983) eventually did make this argument explicitly, as did the ‘New-Keynesian’ economist Mankiw (1985) two years later. The details are explained mathematically in Smithin (2013a,

2013b) and Smithin (2018). In fact, the existence of imperfect competition, in this precise sense, seems to be very closely connected with the underlying idea that effective demand must be in the form of money. In any event, the non-neutrality of both monetary policy and fiscal policy is not ultimately based on short-run nominal wage rigidity.

On the subject of imperfect competition, in an interview in a volume by Colander and Landreth (1996) published nearly half-a-century after the first publication of *Economics*, Samuelson himself plainly states that;

We always assumed that the Keynesian underemployment equilibrium floated on a substructure of administered prices and imperfect competition.

However, Samuelson failed to incorporate these ideas into the original 1948 edition of his book, and thereafter. When asked by the interviewer - why not? - he replied ‘ ... there was no need to ... ’. This seems, in hindsight, to have been a significant tactical mistake on Samuelson’s part. The device of the ‘45<sup>0</sup> line’ inevitably, and in some quarters apparently irretrievably, confused the whole issue of demand *versus* supply, and has led to much misunderstanding and misinterpretation over the years - including most of the discussions that have taken place about both the BBM and the impact of changes in taxation on prices.

Another potential explanation for the long-run non-neutrality of monetary and fiscal policy along the LRAS would be existence of path-dependency/hysteresis in the dynamic process for productivity growth. This is a vehicle favoured by some Post Keynesian economists and also checks out empirically (Lavoie 2009). Either of these two options would prove the point, and I would argue that both are likely to be present in reality (Smithin 2018, 2021).

#### 4. CHANGES IN GOVERNMENT EXPENDITURE AND TAXATION

In this section, and as a first step in developing the argument about the BBM, we will separately work out the effects of changes in both government expenditure and taxation.

Figure 2: An Increase in Government Expenditure as a Percentage of GDP

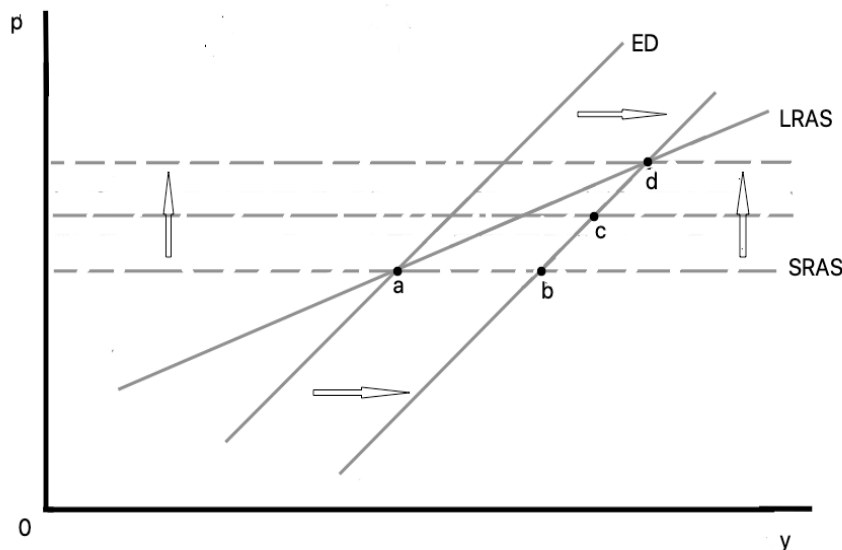


Figure 2 shows how an increase government spending as a percentage of GDP will work out in the context of the simple graphical model. Firstly, the ED schedule shifts out and to the right. In the short-run, however, the price level does not change, as it takes time for the wage-push/cost-push mechanism to begin to operate. There will be an economic boom, shown at point 'b', but no immediate increase in prices. After a while, however, the boom itself will begin to cause an increase in cost pressures. At this stage, the SRS schedule will begin to shift upwards. The boom nevertheless continues, the growth rate continues to increase, and the economy finally settles to a new long-run equilibrium at point 'd' after moving along the path 'a', 'b', 'c', 'd'. The end result of the increase in the government spending ratio is a permanent increase in the

rate of economic growth - as well as some increase in the inflation rate. The inflation rate is not unstable, however. It is not 'ever-accelerating' as would no doubt have been claimed by analysts using the conventional model with a vertical "long-run Phillips curve".

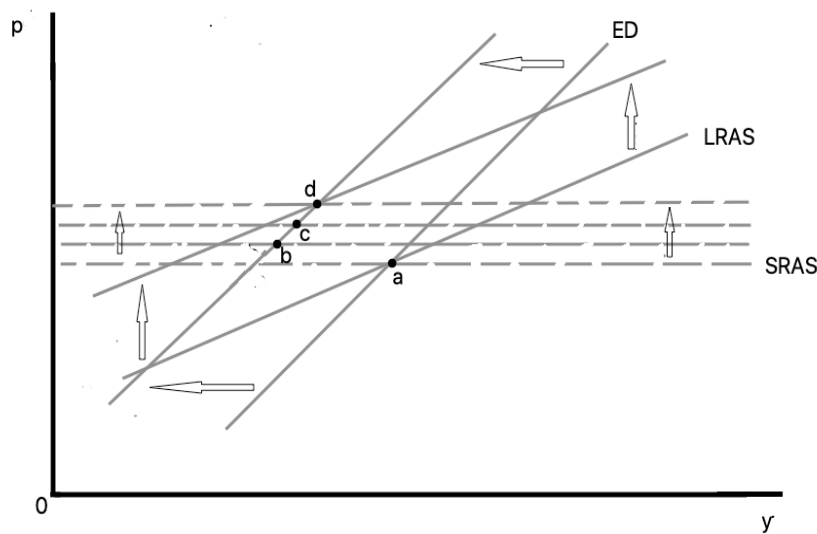
We next turn to consider a different type of fiscal policy to that depicted in *Figure 2*, namely a change in the average tax rate. Reverting back to the question about whether a tax increase is inflationary or deflationary, the original basis for the idea that an increase is deflationary was always that the demand-side effects of tax changes were supposed to be opposite to those of changes in government expenditure. A tax cut therefore would have the same qualitative effect as an increase in government expenditure. It would tend to increase inflation. An increase in taxes, on the other hand, would be considered deflationary. As for a balanced budget change, the only question to ask would therefore be about the relative magnitudes of the quantitative effects. It was not thought to be a question of their algebraic signs.

Things are different in the context of the AMM, as shown by the graphical analysis in *Figure 3*. This deals with an increase in the average tax rate by itself, with no comparable increase in government spending. The most important such difference is that now the supply-side effects of tax changes are taken into account also. The increase in the tax rate shifts the LRAS schedule back and to the left (this supply-side effect would not have been present in the conventional model), and the flat SRAS schedule also begins to shift upwards. As for the demand-side the ED schedule shifts down and to the left which would have been allowed for in the conventional analysis.

There are both demand-side and supply-side effects and they are all negative. The first impact will be a recession at point 'b' in the diagram, but now even in recession there has *already* been some increase in the inflation rate. It has not *decreased*. In the next phase of the

cycle it is true that there will be something of a recovery from the depths of the recession. Nonetheless, the inflation rate will keep rising until it reaches its new higher equilibrium level, and the economy never returns to the original rate of growth. The economy moves along the path ‘a’, ‘b’, ‘c’, ‘d’.

Figure 3: An Increase in the Average Tax Rate



We have already arrived at the answer to the original question about the effect of tax increases on inflation. Contrary to what (sometimes seems be) the consensus view on all sides, an increase in the average tax rate is inflationary, not deflationary. It is one of the possible causes of ‘stagflation’. As mentioned, however, for the purposes of the present paper we are not able just to leave the matter there. The following section, therefore, goes onto discuss the sign of the BBM itself.

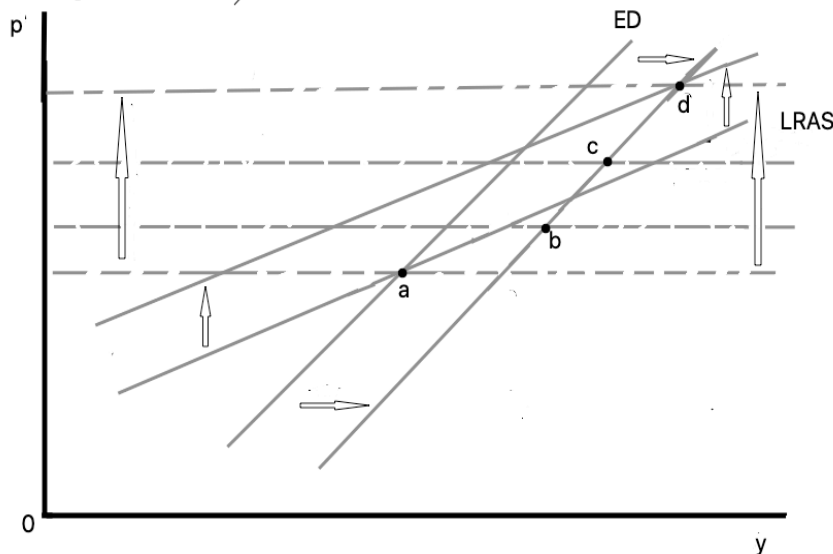
## 5. 'PARTIAL' VERSUS 'GENERAL' EQUILIBRIUM ANALYSIS OF THE BALANCED BUDGET MULTIPLIER

The next task is put together the separate analyses of changes in both government expenditure and taxes to address the issue of the sign of the BBM. In *Figure 4*, we first undertake what in economics is sometimes called a partial equilibrium analysis. It is 'partial' in the sense that only the most obvious or immediate effects of the fiscal policy changes are taken into account, rather than some of the more long-term ramifications.

Putting together the results previously obtained in the graphical analyses in *Figures 2* and *3* above, we first consider the case of an increase in government spending ratio, offset by an equal increase in the average tax rate. This will reinforce the argument that, in effect, what Samuelson did in the original discussion of the BBM was to focus only on the demand-side of the model. As mentioned from his point of view, the increase in government spending would tend to increase effective demand and the increase in taxes to reduce it. Because the effect of the government spending on demand is supposed to be numerically greater than that of the taxes the net effect on demand would still be positive. In terms of *Figure 4*, the ED schedules shifts out and to the right. However, Samuelson ignored all of the supply-side effects as illustrated in the previous diagram, in *Figure 3*. In *Figure 4* we have to include these effects also.

The increase in the average tax rate shifts the LRAS back and to the left, and the flat SRAS also starts to shift upwards. Overall, the economy moves along the path 'a', 'b', 'c', 'd'. The end result is a higher rate of economic growth (due to the demand-side effects) but also a higher rate of inflation. We retain the basic notion that an increase in the average tax rate increases the inflation rate (by now that seems to be pretty well established). At the same time, however, Samuelson's original balanced-budget multiplier result on output (translated into the growth context) is preserved.

Figure 4: A Balanced Budget Increase in Government Spending as Percentage of GDP: 'Partial Equilibrium' Analysis



But this still remains only a *partial* equilibrium analysis. In section 2 above I have already remarked that I thought that ‘something was missing’ from Samuelson’s original analysis of the BBM. As we have just seen, one such thing was the lack of any treatment of the supply-side. However, that was not the only omission from the analysis. We will now go on to argue that even the demand side analysis was incomplete. Thus far we have not really looked at what might be some of the longer term effects of a tax increase *on the demand-side*. These should presumably include (in fact, I would say must include) in particular the likely effect of a general tax increase in the profitability of the business firms. This must surely ultimately be the decisive factor in their willingness to continue making both ‘investment’ expenditures and other types of spending. To see the argument, it will be useful to now return to the standard expenditure breakdown of GDP, namely;

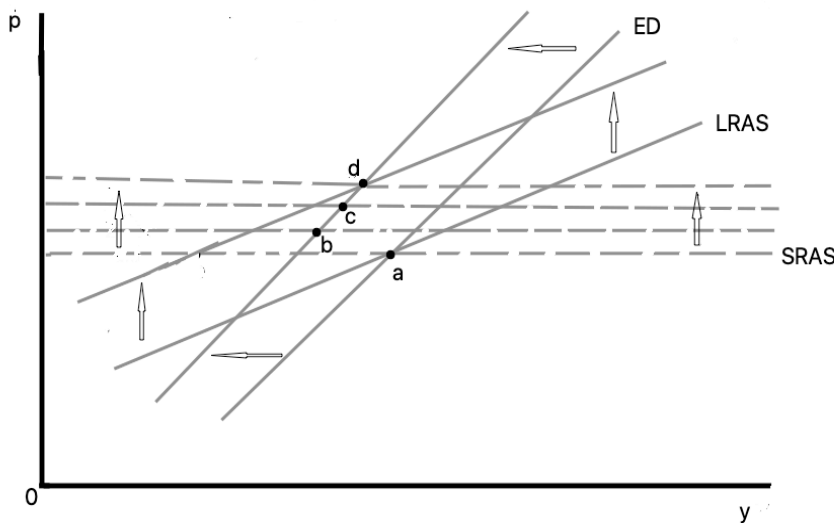
$$(4) \quad Y = C + I + G + (X - IM)$$



In equation (4) the symbols have their standard meanings,  $Y$  stands for real GDP,  $C$  stands for real consumption expenditures,  $I$  stands for real investment expenditure,  $G$  for real government expenditure, and  $X - IM$  for real net exports (foreign demand). If, for simplicity, we choose to neglect the component of foreign demand and focus only on the ‘closed-economy’ case, this reduces to;

$$(5) \quad Y = C + I + G$$

Figure 5: A Balanced Budget Increase in Government Spending: ‘General Equilibrium’ Analysis



The BBM analysis has always suggested that a government expenditure increase adds directly to effective demand, and that an increase in taxation reduces it by a somewhat more indirect route. That is, by reducing consumption expenditures. As far as investment is concerned, Samuelson’s original argument was that investment spending was governed primarily by Keynes’s ‘animal spirits’ (Keynes 1936), or business confidence. There is general agreement that this is a very important factor. At the same time, however, an increase in the average tax rate

must also cut into firms's profitability (as well as the impact on other income recipients) and is therefore a disincentive to continued investment spending. In a formal analysis of this question in the context of the AMM, in both *Rethinking* (Smithin 2018) and *Beyond Barter* (Smithin 2021), it was discovered that the effect is, in fact, so pronounced as to *more* than offset the positive impact on effective demand canvassed in Samuelson's BBM analysis.

The *general* equilibrium analysis of a balanced budget increase in the government spending ratio therefore actually works out as shown in *Figure 5*. The increase in the average tax rate shifts the LRAS up and to the left, as before. But now the negative effect of higher taxes on profitability more than offsets any increase in effective demand arising from the increase in government expenditure. Total effective demand falls. In short, the ED schedule also shift up and to the left. The result is stagflation as the economy moves along the path 'a', 'b', 'c', 'd'.

## 6. CONCLUSION

In the *General Theory* (Keynes 1936) did not advocate a 'tax and spend' policy but rather a policy of 'loan expenditure'. He seemed to understand, at least intuitively, that 'someone, somewhere, must be willing to continuously go into debt to provide profits for others', as I have put the point in the past Smithin (2006, 2018). However, because of his unfortunate decision to 'let technical monetary detail fall into the background' in his exposition, it seems that very many of his readers, including Samuelson, did not fully grasp the point.

As I now see it, therefore, it seems that what Samuelson was trying to do in the mid-twentieth century, in interpreting Keynes for an American audience, was to try to combine Keynes's message that government spending *per se* would add to effective demand with the traditional concern for 'sound finance'. The spending must be 'paid for'. But this does not work. It cannot work. The sign of balanced budget multiplier is negative, not positive. Therefore, a tax

and spend policy is nothing more than one of the possible causes of stagflation. In the actual historical record stagflation duly arrived in the 1970s, and was responsible for the backlash against what was called ‘Keynesian economics’ (but it was really Samuelsonian economics) in that time period. The analysis answers the question ‘are tax increases inflationary or deflationary?’ in the same way as my original response. Tax increases are inflationary. They are part and parcel of the overall stagflation scenario.

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## Endnotes

<sup>i</sup> The idea is rather that the purpose of taxation is to create a demand for base money (that is the liabilities of the state central bank). This is sometimes expressed by the slogan 'taxes drive money'. Elsewhere (Smithin 2021) I have commented on what I have called 'logically unassailable' nature of the core MMT proposition, namely 'that the central government of an economy with its own sovereign currency, and either a floating exchange rate or a fixed-but-adjustable' exchange rate, faces no binding financial constraints'.

<sup>ii</sup> I have used capital letters here to emphasise that I am talking specifically about the academic fields of study that go by these names.

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- iii Barrows and Smithin (2009) explain this argument using a simple diagrammatic analysis.
- iv In the Orwellian world in which we now live, the Canadian UI scheme has since morphed into an EI (*Employment Insurance*) scheme.
- v The original idea of the ‘multiplier’ in Keynes’s *General Theory* was to predict by how much the level of GDP would increase for a given increase in the level of spending. If  $MPC$  stands for the marginal propensity to consume, then the simplest version of the government expenditure would be  $DY/DG = [1/(1 - MPC)]$ . If, for example, we have  $MPC = 0.8$ , the multiplier would be 5. This is to say that an increase in government spending of \$1million would lead to an increase in GDP of \$5million.
- vi In the more recent textbooks this would be replaced by the concept of *gross domestic product*, GDP, or similar.
- vii The non-inflation-accelerating rate of unemployment.