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by

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In a recession or depression, as at present, government budgets tend to be much less expansionary in their effects on the economy than one might infer from the sizes of their overall deficits. In other words, those who try to gauge the effect of the budget on demand in the economy by reference to the size of the deficit in the overall budget are likely, in a recession, to be wrong.

When government budget deficits[1] rise, the usual interpretation is that the budget is more expansionary than theretofore in its influence on the economy, and when budget deficits fall (or surpluses grow), the usual interpretation is that the influence is less expansionary (or more contractionary). But the fact is that increased deficits are not necessarily more expansionary, nor are reduced deficits necessarily more contractionary, even apart from such matters as the types of taxes used, the mix of expenditures, the ways in which deficits are financed, and movements in the supply of money. The sizes of budget deficits and surpluses are influenced not only by the direction and strength of fiscal policy, but by short-term movements of the economy itself.

When one examines budget figures — expenditures, tax receipts, and the difference between them — one cannot draw inferences about fiscal policy unless and until one makes certain rather drastic adjustments in the figures. The ESRI is now working on developing such adjustments for the Republic of Ireland, and hopes to be able to publish adjusted budget figures in a forthcoming issue. The purpose of the present article is to explain the concept in general terms.

The adjusted budget concept, called here the Constant Utilisation Basis (or 'CUB') budget, was developed in the United States under the name, 'Full Employment Budget'. (We will comment later on the difference in nomenclature). Its basic technique is to remove the effects of so-called 'automatic stabilisers' from reported budget figures. An understanding of the CUB budget requires a brief review of some of the elementary principles of countercyclical fiscal policy.

Fiscal Policy and Automatic Stabilisers

The basic idea in the use of fiscal or budget policy to stabilise the economy is that net increments to the the spending stream are expan-

[1]In this paper, whenever we refer to expenditures, revenues, and the balance, deficit, or surplus, in the budget, we have reference to the overall budget, and not the current budget. The distinction between current and capital is not usually important for short-term macroeconomic effects of budget policy.

sionary, and net reductions are contractionary. If (for example) there is an increase in government spending with no commensurate increase in tax revenues, there would necessarily be a net increment to the spending stream: government would be spending more, and no one else would as a result be spending any less. The full effect on aggregate demand is some multiple of this net increment, because of the induced expenditure of others, mainly households. This is the familiar 'multiplier effect'. In this case, a deficit *does* add to the spending stream. But it is not always so. To see why, we must distinguish between *automatic stabilisers* and *discretionary fiscal policy.*

Automatic stabilisers are characteristics or features of (a) taxation laws, (b) public welfare programmes, and (c) other public expenditure programmes, which operate so as to reduce the amount of taxes collected, raise public welfare payments, and/or raise other public expenditure outlays *automatically* as a direct consequence of a downturn in the economy, and which do the opposite of these when the economy expands. Income taxes are traditionally seen as among the most powerful stabilisers in this sense, because a downturn in the economy reduces taxes more than proportionately, as a result of the progressive nature of this type of tax. Unemployment payments of all kinds are also usually included among the most powerful stabilisers, since they automatically involve expanded payments at precisely the moment that unemployment rises. (These two are mentioned as examples only. In practice, as will be seen, it is not necessary to have a list of programmes and budget features which are regarded as automatic stabilisers).

It is a property of automatic stabilisers that they can soften a downturn, slow a boom, and even retard recovery from a recession (they resist all kinds of change, and are incapable of distinguishing 'good' from 'bad' change); but they are incapable of *reversing* either a downturn or an upturn[2].

Deficits which result from the operation of automatic stabilisers are always a result of reductions in income and expenditure somewhere in the economy, and thus, *when considered jointly with the changes that trigger them,* do not involve net increments to the spending stream. A decline in income tax receipts associated with a fall in taxable income reduces the contractionary effect of that income fall, by reducing the secondary impact on consumption or other induced spending. By contrast, a fall in income tax receipts resulting from a government decision to

[2]If appropriate lags are specified, however, automatic stabilisers can generate oscillations. If this year's taxes, for example, depend on last year's income, then a fall in aggregate income this year may generate a deficit next year, lifting the economy, which in turn raises tax yields and slows the economy in the following year. Fortunately, there are few such lags in the major automatic stabilisers, and bringing the civil servants into the PAYE system will help in this regard.

alter allowances, tax rates, etc., does involve a net increment to the spending stream, and brings about new consumption or other induced spending. The former is an example of automatic stabilisers; the latter is an example of discretionary fiscal policy.

Discretionary fiscal policy, then, consists of the deliberate change of tax laws, public welfare programmes, and other spending programmes, with the effect (if not the purpose) of influencing aggregate demand. Strictly speaking, the action of automatic stabilisers is not part of fiscal policy, properly so called, since *policy* is 'a course of action adopted by

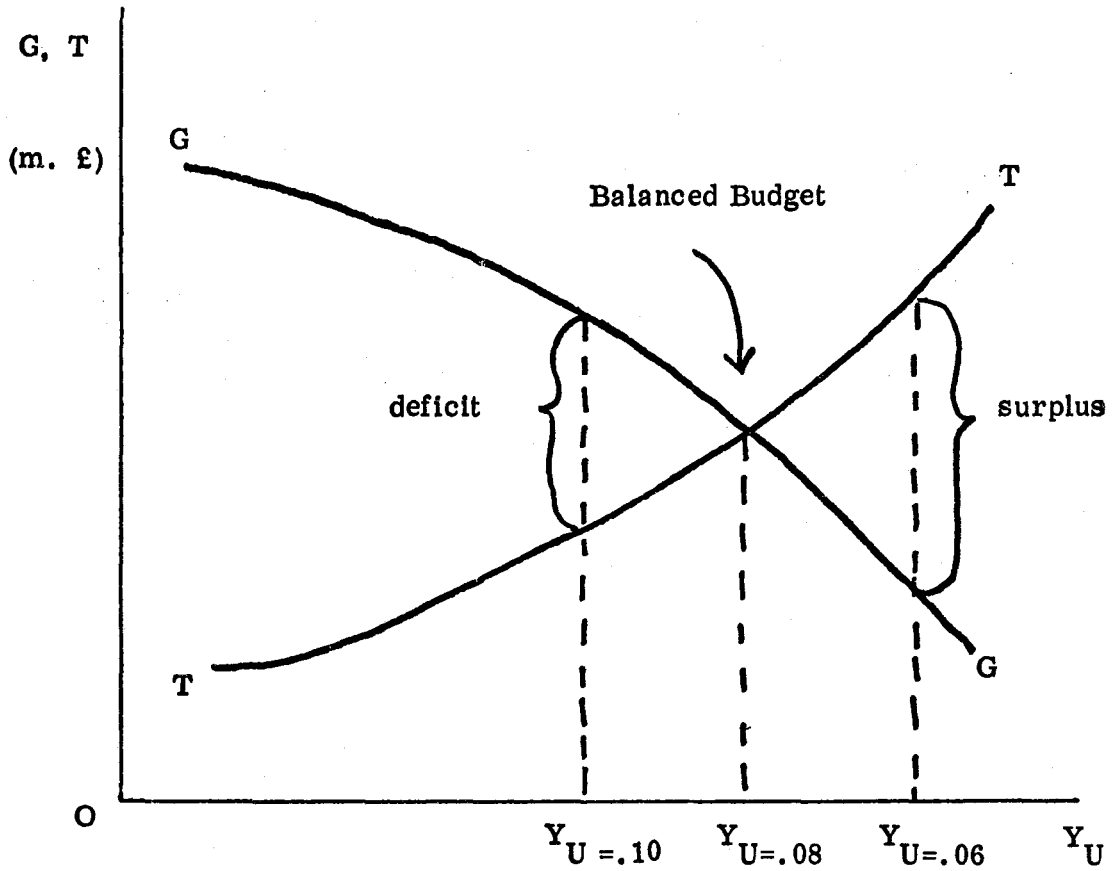

FIGURE I

government, party, etc.' (Concise Oxford Dict.), a definition which would seem to apply only to discretionary activity.

If automatic stabilisers soften the cycle and resist change, it can be seen that they reduce the multiplier effect of changes in other parts of the economy. Indeed, it precisely defines the difference between automatic stabilisers and (discretionary) fiscal policy to state that automatic stabilisers reduce the multiplier; that the budget changes which come about as a result of the action of automatic stabilisers *do not have a multiplier effect;* and the changes that come about as a result of fiscal policy *do have a multiplier effect.*[3] You multiply the amount of a discretionary tax change (for example) by the multiplier to get the total effect on the economy, but you do not multiply by the multiplier the amount of any tax revenue change which comes about as a result of a change in income and employment.

The same distinction can be made by inspecting a simple graph, Figure 1. On the vertical axis we measure public expenditure, including public welfare payments, and taxes, in pounds. On the horizontal axis we measure aggregate income or output, measured in a normalised manner over time so that we have the aggregate income associated with a given rate of unemployment (or rate of employment — the two give identical scales if the denominator, the labour force, is the same).

Curve TT shows the effect (highly exaggerated) of changes in income on tax yields. Curve GG (even more exaggerated) shows that with budget programmes and public welfare provisions in place, a recession increases public expenditures (G) while a boom reduces them. This effect is produced primarily by unemployment payments and other income-conditioned transfer payments. With these points in mind, it is clear from Figure 1 that the balance of the budget depends at any given time on the parameters (intercept, slope) of the curves *and* on the state of the economy. At an unemployment rate of 8 per cent (i.e., at $Y_{u=.08}$), for instance, and with the budget policies shown in Figure 1, the public budget

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[3]Another way to make the distinction between automatic stabilisers and fiscal policy is through the simple algebra of macroeconomics. In the expression

$$Y = A + bY$$

where Y is aggregate demand or spending. A consists of all of the autonomous (i.e., not current-income-induced) elements in aggregate demand, and b is the coefficient relating all induced forms of expenditure (recognising that there may in fact be a whole series of b's, e.g., b_1 = marginal propensity to consume, b_2 = 1 — marginal tax rate, etc.), then

$$\frac{dY}{dA} = \frac{1}{1-b} = \text{'the multiplier'}.$$

We can now define (discretionary) fiscal policy as including all those public budget actions which influence A (often because public expenditures are part of A), and automatic stabilisers as all of those features in public budget programmes that influence b. It of course follows from this that automatic stabilisers influence the size of the multiplier, and discretionary fiscal policy actions have a multiplier effect — that is, are multiplied by the multiplier.

is balanced. With a 6 per cent rate, however, the same budget policies yield a surplus. And with unemployment at 10 per cent, a recession/depression situation, the same budget policies yield a deficit.

Returning to our definitions, we can define fiscal policy as action which *shifts* one or another or both of the curves TT and GG, and automatic stabilisers as features which bring about changes in the values of G and/or T as a result of *movements along* the curves, i.e., as a result of changes in Y. As noted earlier, we do not need (except as examples) a *list* of features or programmes to place in either category. All we need do is *observe* the effects of cyclical income changes on tax revenues and on expenditures.

It follows that the size of the deficit/surplus is not a good indicator of the direction and strength of fiscal policy. Looking at Figure 1, one would be inclined to say that the deficit/surplus might be an adequate measure of fiscal policy only if and when Y_u is constant; but since it is a purpose of fiscal policy to *alter* Y_u, then it follows that you can never *observe* a measure of fiscal policy from actual deficits and surpluses. The only correct measure of fiscal policy is a measure of the shifts in GG and TT, or the relation between them, and this measure must be estimated since it cannot be directly observed.

A convenient way of doing so is to choose some level of Y_u, estimate the expected tax yield and public expenditure at that Y_u for any time and any budget policy. In the United States, for example, where the concept originated, tax yields and public outlays are projected to the income equivalent of an unemployment rate of 4 per cent. This was an unfortunate choice from a statistical standpoint, since it involved extrapolating beyond typical experience. 'Full' employment was chosen for historical reasons, as will be discussed later. Statistically, it is better to choose a constant utilisation basis that is somewhere in the middle of recent experience.

The mean unemployment rate for the Irish Republic over the past 12 years has been just under 7 per cent; the range (through 1974) has been 5.6 per cent through 8.1 per cent. This suggests normalising Y at Y_u = 7 per cent. That is, we should estimate, for each year's budget, the taxes that would be raised, and the expenditures that would be undertaken, were income to be at the level consistent with an unemployment rate of 7 per cent. These budget figures, and the balance between them, are our CUB budget. The balance itself is an excellent single measure of the direction and strength of fiscal policy.[4]

We will find that, whenever the actual unemployment rate falls below 7 per cent, the actual budget figures will show a larger surplus/smaller

[4]The balance of the CUB budget is itself not a perfect measure because it does not take into account the size of the total budget. Of two budgets with identical CUB balances, the one with the higher CUB expenditures and taxes will exert the more stimulus, according to the theorem of the balanced budget multiplier.

deficit than the CUB budget; and whenever the actual unemployment rate rises above 7 per cent, the actual budget figures will show a larger deficit /smaller surplus than the CUB budget. This is simply another way of saying that the actual figures overestimate expansionary impact of the budget in bad times, and overestimate its contractionary effect in prosperous periods.

Some History of the Concept

In 1963, the executive branch of the United States government proposed a substantial tax reduction to stimulate the slack American economy. They faced two unexpected problems in convincing the public and the Congress of the advisability of such a step. Some critics pointed out that the Federal government budget already had a substantial deficit, and objected that a tax reduction would increase the deficit. Their objections were only partly economic; they were also very substantially moral, having to do with 'living over one's head'. The government's economic advisers came up with the reply that the existing budget, though it indeed had a deficit, was such as to yield a substantial surplus were the economy at 'full' employment, for the moment assumed to be 4 per cent. Thus the deficit was a result not of overspending or undertaxing but of slack in the economy. Thus was born the concept of the 'full employment surplus'. Indeed, the advisers added, the large full employment surplus was itself one reason why the economy lagged behind, and it was therefore one reason why there was a deficit! Some commentators occasionally even left the impression that a tax cut, by stimulating the economy and raising incomes, would bring such a rise in money tax yields as actually to reduce the deficit! (It is possible to specify a model in which this might be true, with the appropriate combination of high tax-cut multiplier, high marginal tax yield, and possibly a multiplier-accelerator link. But no one really believed that such a model actually applied in the US, or anywhere else for that matter).

This last point suggests that second problem faced by advocates of the tax reduction. To illustrate the problem, let us assume a tax-cut multiplier in the U.S. of 3.0, a marginal tax rate on aggregate income of 0.25, and a tax reduction, to set off the process, of $12 billion. The $12 billion tax cut brings about a rise in Y of $36 billion; this then brings about an increase in tax yields of $9 billion. An initial tax reduction of $12 billion brings a tax increase of $9 billion, so the actual budget shows a fall in tax yields of only $3 billion. The main question: how much is the tax cut? Other questions that one might ask include: does the $9 billion tax increase also have a multiplier effect?[5]

[5]The answers to these questions, as will later be clear, are: (1) there is a tax cut *in CUB terms* of $12 billion; and (2) the induced $9 billion increase in tax revenues does not have a multiplier effect.

The problem concerns distinguishing between fiscal policy (intended as the budget influencing the economy) and automatic stabilisers (which show up in the figures as the influence of the economy on the budget). Once again, the concept of the 'full employment surplus' was useful. The only unambiguous way of stating the size of the tax cut was to state it in constant utilisation terms, such as in terms of the size of the full employment surplus. In our example, we would say either that there was a tax cut of the full employment equivalent of $12 billion, or simply that the full employment surplus was reduced by $12 billion.

The constant utilisation basis chosen by the Americans, then, was 'full' employment. This was statistically an unhappy choice because (a) as noted, it lay outside of the range of typical experience (4 per cent unemployment had not been seen for over ten years when the idea was presented), and (b) the expression, 'full employment budget' (or 'surplus') led to confusion as some incorrectly thought what was being presented was a budget (or surplus) which would *lead to* or *bring about* 'full employment'. But the reasons for the concept being born at that time and place were the reasons for using the concept and expression, 'full employment'.

Though economists in America greeted the new concept warmly as a useful analytic device, the Federal government, dropped the device after the tax cut was enacted, and ceased reporting on its values. But the concept was kept alive and regularly reported by the extremely independent and iconoclastic Federal Reserve Bank of St. Louis.

Six years later a new administration heeded the advice of economists and not only resumed reporting the full-employment estimated values of taxes and expenditure, but actually adopted the full-employment budget for budgeting — i.e., planning — purposes. The underlying theory was that budget-makers should always *assume* full employment in the economy, and make allocation and distribution decisions accordingly, and not have to mix economic forecasting with budgeting, which is what is required when actual figures are used. Then the budget, in another section, can show what techniques or devices are to be used to reach the full employment target. Today, the budget document prepared by the President and the executive branch of the US government, and submitted to the Congress for adoption, is a 'full employment' budget — a special case of a CUB budget.

The Irish CUB Budget

As noted earlier, work is under way to prepare, for a number of recent years, estimates of CUB equivalents of budget figures for the Irish Republic. If these efforts are successful, the results will appear in a forthcoming issue of this publication. Two problems make the Irish case more difficult than the American. One is the lack of adequate short-term fiscal data, as compared with its abundance in the US. The other is the

high rate of inflation combined with high unemployment in Ireland. Inflation and unemployment have opposing effects on actual budget figures, and the task of estimating tax and expenditure equations as functions of unemployment is made more difficult.

These problems make it unlikely that a CUB budget can be used as a budgeting device, as contrasted with an analytic device for measuring fiscal policy, in the foreseeable future. But it is confidently hoped that it will not rule out estimating a set of CUB budget figures altogether.

Regardless of whether these estimation efforts are successful, the lesson of the CUB budget should be understood. One cannot judge whether a budget is expansionary or contradictionary in its influence simply on the basis of the size of the deficit or surplus. In times of high unemployment, such as today, the stimulus is liable to be exaggerated by such a reading. Indeed, a budget can even be more contractionary, as compared with the previous year, while appearing to the public and to policy-makers as more expansionary. Since some government spokesmen are hinting at further tax increases and expenditure cutbacks, it is important that the expansionary influence of the present budget not be exaggerated.