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Fiscal Impulses and Their Fiscal Impact

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Abstract

Fiscal impulse measures are used in the WEO and elsewhere to indicate the changing impact of the budget on the economy. Such measures are intended to provide more accurate indications of whether the budget is becoming more or less expansionary than would just observing moments in the actual budget balance. However, they have been criticized for lacking an analytical rationale. This paper uses a simple framework to show that the fiscal impulse measure can be analytically derived. While this removes one source of criticism, the measure, nevertheless, should be used carefully when making inferences of fiscal impact.

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Contents

Summary

Fiscal impulse measures such as those employed in the *World Economic Outlook (WEO)* have long been used to assess the changing impact of the budget on the economy through removing the impact of the economy on the budget. In the *WEO* variant, any expenditure growth that exceeds the *potential* growth rate of the economy, expressed in comparable nominal terms, is deemed expansionary, while a growth in revenue that exceeds the *actual* rate of growth of the economy is treated as contractionary. Such excesses or deficiencies in expenditures and revenues are combined in a single formula, which is equivalent to comparing the actual change in the budget deficit with a normative or neutral change. One may infer that if the actual deficit is growing more rapidly, the fiscal impulse is expansionary, in the sense that the primary, or first-round, effect of the budget adds to aggregate demand.

Among the questions that have arisen about the fiscal impulse measure are why expenditure should be tested against the potential output growth rate when revenue is tested against the actual growth rate; whether or not the measure is useful for drawing inferences about the impact on the economy; and whether or not it would be a useful instrument in a compensatory fiscal policy. A powerful criticism is that the measure lacks an analytical justification, which, if true, would render it inoperable. However, this paper shows that it is possible to use a simple framework to derive the measure analytically.

The derived measure is contrasted with some alternative measures that have recently been proposed, and found to be superior. It should, however, be used judiciously. In particular, while the measure is indicative of the changing impact of the budget on aggregate demand, qualifications are needed depending on the underlying circumstances of the economy. Attempts are made to relate the performance of the economy to the fiscal impulse. However, using it to facilitate a compensatory fiscal policy should be carefully circumscribed. The need for fiscal consolidation, for example, may override the need for a compensatory fiscal policy.

I. Introduction

Fiscal impulse measures, either directly computed or as variants of cyclically adjusted balances, have long been used to measure the changing impact of the budget on the economy. 1/ These measures were developed to provide more accurate indications of budget impact than could be provided by simply observing movements in the actual budget balance. But they have also long been the subject of numerous criticisms, especially with regard to their adequacy in assessing fiscal impact. 2/ Any summary measure is invariably open to the criticism that a fuller, more comprehensive approach will provide superior indications. Nonetheless, this criticism should not preclude recourse to summary indicators, which can be of considerable utility, provided that appropriate safeguards are employed. The purpose of this paper is to assess whether, in light of the criticisms, the fiscal impulse measure is worth using, and under what conditions.

The analysis begins by presenting a basic version of the fiscal impulse measure that has found some popularity. Because this measure lacks an obvious rationale--a lack that has fueled the criticisms--an attempt is made to supply a justification by using a simple analytical framework. Next, possible effects of the major criticisms are noted in the context of the same analytical framework. This helps to identify in a more insightful manner the limitations surrounding the unqualified use of the fiscal impulse measure.

The basic conclusion is that the fiscal impulse measure is useful in indicating the approximate directions of fiscal impact. Certain of the criticisms that have been made are valuable, however, in defining the essentially empirical circumstances that influence the inferences with regard to fiscal impact.

II. A Fiscal Impulse Indicator

One version of the widely employed fiscal impulse indicator is that used in the IMF's World Economic Outlook (WEO):

$$FI = (\Delta G - g_o \Delta YP) - (\Delta T - t_o \Delta Y) \qquad (1)$$

where FI stands for fiscal impulse, G for government expenditure, g_o for the base-year ratio of government expenditure G to potential gross national product (GNP) YP, T is revenue, t_o is the base year ratio of government revenue to actual GNP, and the operator Δ denotes first difference or change. 3/

1/ See the references in Chand (1977), Heller, Haas, and Mansur (1986) and Schinasi and Lutz (1991).

2/ See especially Blanchard (1990), Blinder and Solow (1974), Buiter (1983) and Mackenzie (1989) for some views and assessments.

3/ See the Supplementary Note 1 in WEO (1984) and also Heller, Haas and Mansur (1980).

This indicator is derived from the "cyclically neutral budget model," which involves making a distinction between the changes in government revenue and expenditure that are associated with cyclical fluctuations in the output of an economy and the changes that reflect policy decisions. A convenient way of deriving the fiscal impulse indicator is to begin with the so-called cyclical effect of the budget (CEB), which involves subtracting, from the actual budget deficit for any year, a budget deficit deemed to be cyclically neutral for that year:

$$CEB = (G - T) - (g_o YP - t_o Y). \tag{2}$$

The cyclically neutral balance is stated in the last term on the right hand side of equation (2). This is determined by applying the base-year ratio of government expenditure to current-year potential output, and the base-year ratio of budget revenue to current-year actual output. On taking first differences in the CEB and rearranging, the fiscal impulse indicator set out in equation (1) is derived. This indicator, which refers to changes in the cyclical effect of the budget, is more robust than the CEB, since it does not depend on the chosen base year. It closely approximates an alternative indicator of fiscal impulse (the so-called Dutch budget impulse), where the impulse is determined by reference to the preceding year's budget balance as base. 1/

$$FI = (\Delta G - nG_{-1}) - [\Delta T - (\Delta Y/Y_{-1})T_{-1}]. \tag{3}$$

Here $n = \Delta YP/YP_{-1}$ is the rate of growth in potential output. Dividing through by the previous year's GNP and rearranging, the following expression for the fiscal impulse to be used subsequently is derived,

$$FI/Y_{-1} = (\Delta G/G_{-1} - n)g^* - (\Delta T/T_{-1} - \Delta Y/Y_{-1})t^* \tag{4}$$

where $g^* \equiv G_{-1}/T_{-1}$ and $t^* \equiv T_{-1}/Y_{-1}$ are the respective shares of government expenditure and revenue in the previous year's GNP.

The fiscal impulse indicator is used--for example, in the IMF's WEO--to assess the annual contribution, whether expansionary, neutral, or contractionary, of budgets to aggregate demand. An advantage claimed for this indicator is that it generates assessments that are based on certain tests that are incorporated in the formula. Thus, the actual change in government expenditure is compared with the unit elastic growth rate in such expenditure obtained from applying the potential growth rate of the economy to the preceding year's level of expenditure. (See the first term on the right-hand side of equation (4)). Actual expenditure in excess of this standard

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1/ The equivalences are demonstrated in Chand (1977).

is deemed expansionary, on the grounds that it would be adding proportionately more to aggregate demand. For revenue, the actual change is compared with the unit elastic growth that would have occurred from applying the actual (not potential) rate of growth of the economy to the preceding year's level of revenue. An actual growth in revenue that exceeds this standard is viewed as contractionary, because it would depress aggregate demand.

Combining the expenditure and revenue effects in a single formula such as equation (1) or (4), the resulting indicator involves testing the actual change in the budget deficit against a normative change, as given by the movement in the cyclically neutral budget (or by the preceding year's budget balance, depending on the formula). If the actual change in the budget deficit is bigger than the normative change, the fiscal impulse is viewed as expansionary. Such an outcome could be the result of excessive growth of expenditure or deficient growth in revenue, or some combination of the two, where "excessive" or "deficient" are determined in the formula by reference to unit elastic criteria.

Fiscal impulse indicators are easily calculated to provide a quantitative evaluation. On standardizing as a percentage of the previous year's GNP, the impulse could be viewed as a growth rate--the initial fiscal contribution to the growth in aggregate demand. Nevertheless, although simplicity is a highly desirable feature in a summary indicator, the above description of its construction lacks an immediate, intuitive rationale. There are many issues that can be raised of which a few are noted here. Why should actual growth in government expenditure be tested against a potential output growth rate? Why should the growth in revenue be tested against an actual output growth rate, but not its potential rate? Is it appropriate simply to subtract the revenue impulse from the expenditure impulse? Is the underlying conception of an economy fluctuating cyclically around a well-defined trend, with corresponding fluctuations in the budget balance (in the absence of policy adjustment), a valid portrayal of reality? The resolutions attempted in the literature do not appear compelling, and they have been strongly criticized by Buiter (1983), Blanchard (1990), and others, who have argued that this fiscal indicator and its variants are not model based. Obviously, if such indicators lack rigorous justification, their use is suspect.

Some attempts have been made to derive fiscal impact measures analytically. 1/ Unfortunately, most of the measures derived are generally much more complex, either in their construction or conceptualization, and this detracts from their use as simple summary measures. 2/ While simplicity might explain the persistent use by both governments and international

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1/ See, for example, Blinder and Goldfeld (1976) or Blanchard (1990). A discussion of some of the approaches is provided in Blejer and Cheasty (1991) and Chouraqui, Hagemann and Sartor (1990).

2/ Certain simple measures have been presented by Blanchard (1990), which are evaluated subsequently.

financial institutions of the type of simple measure set out in equations (1) or (4), unless an explicit model-based derivation is forthcoming, their use surely cannot be justified. Moreover, in the absence of models, adequate criteria for discriminating among alternative fiscal impact measures cannot be derived.

It would, therefore, seem worthwhile to attempt an analytical derivation for a simple measure of the sort considered in the WEO exercise, which is undertaken next.

III. A Model-based Rationale for the Fiscal Impulse Indicator

The required derivation of a fiscal indicator such as that in equation (4) for the purpose of assessing aggregate demand effects is provided here by using a very simple IS model. The national income accounting identity for a closed economy and the budget deficit identity are set out in equations (5) and (6), respectively:

$$Y = C + I + G \tag{5}$$

$$G - T = D \tag{6}$$

Private investment I and government expenditures G are assumed to be exogenously given, whereas consumption C is a proportional function of current disposable income.

$$C = c(Y - T) \tag{7}$$

In stressing the importance of current disposable income and taxes, the above consumption function assumes that consumers are liquidity-constrained. Allowing for asset holdings and capital markets, however, other influences on consumer behavior are possible. Alternative life-cycle or permanent income models of consumer behavior may then be used. The latter possibilities, which may be more realistic, are noted here because they could bear important implications for the analysis (see the next section).

Let tax revenue be a linear function of GNP,

$$T = tY \tag{8}$$

where t is the effective tax ratio, T/Y. The reduced form for the simple model described by equations (5) - (8), follows on substituting equations (6), (7) and (8) in equation (5) and solving for Y:

$$Y = a(I + G) \tag{9}$$

where $a = 1/(1 - c(1 - t))$.

Totally differentiating the reduced form solution for Y and expressing the result in incremental form yields

$$\Delta Y = \hat{a}\ (\Delta I + \Delta G) + (I + G)(-a^2 c\Delta t + (1-t)a^2\Delta c) \qquad (10)$$

The increment in Y during the year is influenced by changes in the two assumed exogenous variables I and G and also by shifts in the multiplier a, induced by movements in the effective tax ratio t or the marginal propensity to consume c. Thus, a in equation (9) can be viewed as expressing the underlying relationship between levels that may include any changes in the multiplier, whereas equation (10) indicates how much of the change in the outcome is attributable to changes in exogenous variables such as I or G and to changes in parameters such as t or c. The pre-change multiplier in (10) is denoted by the symbol ^.

For the demonstration that follows, it is convenient to re-express equation (10) as equation (11), making use of the relationship between Y, I and G specified in equation (9):

$$\Delta Y = \hat{a}\ (\Delta I + \Delta G) + Y\ (-ac\Delta t + (1-t)a\Delta c). \qquad (11)$$

On taking first differences of equation (8), the change in tax revenues resulting from the change in the effective tax ratio is

$$\Delta tY = \Delta T - t\Delta Y. \qquad (12)$$

Similarly, on taking first differences of equation (7), the change in consumption as a consequence of a shift in the propensity to consume is

$$\Delta cy = \frac{\Delta C}{1-t} - c\Delta Y. \qquad (13)$$

Substitute the preceding two expressions into equation (11), divide through by Y_{-1} and express each macroeconomic aggregate in percentage change form to yield, after some manipulation,

$$\frac{\Delta Y}{Y_{-1}} = \hat{a}\ [(\frac{\Delta I}{I_{-1}}\ i^* + \frac{\Delta G}{G_{-1}}\ g^*) - ct^*(\frac{\Delta T}{T_{-1}} - \frac{\Delta Y}{Y_{-1}}) + c^*(\frac{\Delta C}{C_{-1}} - \frac{\Delta Y}{Y_{-1}})]. \qquad (14)$$

Here the symbols with asterisks--i^*, g^*,t^* and c^*--respectively represent the preceding year's shares in GNP of investment, government expenditure, tax revenue, and private consumption expenditure.

According to equation (14), the percentage change in GNP can be expressed as the product of the pre-change multiplier â and a weighted sum (or difference) of the percentage changes in investment and government expenditures, and in tax revenue or consumption that are in excess of the

percentage change in GNP. Essentially, the effects on the multiplier of any changes in the tax and consumption parameters are captured in the form of excesses or shortfalls in rates of growth of revenue and consumption from actual income growth. In the event of a unit-elastic response of revenue or consumption to GNP, the excesses or shortfalls would not be present, and the multiplier would remain unchanged.

Now deviations in the actual growth rate of Y can be defined with respect to any norm n (for example, the previous year's rate of growth or a ten year moving average or some other construct). Bearing in mind these possibilities, it is convenient for the discussion that follows to view n as some trend rate of growth. The underlying conceptualization is that if parameters are unchanged the actual growth rate of Y will deviate from the norm depending only on how the rates of growth of investment and government expenditure, respectively, deviate from that norm. This can be seen through the following manipulation.

From equation (11), $\Delta Y = \hat{a}\ (\Delta I + \Delta G)$. Dividing through by Y_{-1} yields

$$n = n\hat{a}\ (i^* + g^*) \tag{15}$$

where the definitions of i* and g* have been employed.

Subtracting n from both sides of equation (14) obtains

$$\frac{\Delta Y}{Y_{-1}} - n = \hat{a}\ [(\frac{\Delta I}{I_{-1}} - n)i^* + \{(\frac{\Delta G}{G_{-1}} - n)g^* - (t^*\frac{\Delta T}{T_{-1}} - \frac{\Delta Y}{Y_{-1}})\} + c^*(\frac{\Delta C}{C_{-1}} - \frac{\Delta Y}{Y_{-1}})] \tag{16}$$

Equation (16), which has been derived explicitly from a model, shows a close correspondence between its fiscal terms (in curled parentheses on the right hand side) and the fiscal impulse measure stated in equation (4). 1/ The principal differences are that the fiscal impulse measure is not multiplied by the scalar multiplier â, indicating that the effects measured are first round impacts, and that the measure does not weight the revenue component by the propensity to consume c. The last omission is potentially serious, since if c is less than unity, which is normally to be expected, the fiscal impulse measure would understate the first-round expansionary fiscal impact. Provided that c is reasonably constant and large, the

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1/ The first two fiscal terms shown in braces correspond exactly to the formula stated in equation (4). However, an additional term, involving the coefficient $(1 - c)t^*$, is applied if the propensity to consume is less than unity. Otherwise this term disappears.

difference between FI and its more accurate counterpart should be relatively small, and FI would still be informative as regards first round effects, especially with regard to their direction. However, it is easy to correct FI to include the effect of c, without destroying the simplicity of the measure.

Equation (16) shows the appropriateness in the fiscal impulse measure of testing the growth in a policy instrument such as government expenditure against the normative growth rate n, whereas the more passive instrument of revenue is tested against the actual growth in Y. For an exogenous variable such as government expenditure, the test is the same as that applied to an assumed exogenous variable such as investment. The derivation supports the underlying concern of the fiscal impulse measure with identifying the active effects of fiscal policy on aggregate demand by eliminating induced effects on the budget, as a consequence of the actual growth in Y, from the overall rates of growth of the affected budget variables. The induced or so-called automatic effects can only influence aggregate demand insofar as the multiplier is modified, for which the FI measure has a built-in detection procedure. If revenue T grows at the same rate as income Y--a "neutral" revenue response--the terms involving these variables disappear and a reduced form with â constant results (provided, of course, the response in C, the other endogenous variable of the system here, is also neutral).

IV. Some Criticisms and Their Implications for the Use of the Fiscal Impulse Measure

The simple model described here can, of course, be criticized. At best it is a partial model that focuses on the income determination process in a limited manner. Channels of influence and feedback involving interest rates, inflation rates, exchange rates, and both general and specific expectations have been left out. Implicitly, the temporal scope of the model is short run and neglects stock movements and the effects of flows on them. Even in a simple framework, however, questions arise about the appropriate behavioral specification or theory to incorporate. There is also the issue of the intended use of the indicator. Is it for the assessment of the sustainability of a budget stance? Or is the purpose to examine the distortionary effects of adjustments in fiscal variables? The earliest and still the most widespread use of the fiscal impulse measure is to assess the aggregate demand impact of fiscal policy. The question examined here, in light of the derivations in the preceding section, is how well the fiscal impulse measure performs this latter task.

At the outset it is clear that the fiscal impulse measure involves a large number of more or less explicit approximations. Among the more interesting for economic analysis are the implicit assumptions that consumers are liquidity constrained, that they suffer from inflation illusion, and that investment expenditures can be assumed to be exogenous. Furthermore, although not essential, it is assumed that there is an exogenously determined trend rate of growth of the economy and that, for the

typical short-run for which assessments are to be provided, the inflation-generating process can also be assumed to be exogenous (inertia). Making the latter assumption converts the nominal-income determination equations, such as equation (9) or (16), into real income equations.

All such assumptions are in principle testable. To the extent that any of these are not appropriate, the basic model would have to be modified. This would result in possibly different multiplicands and multipliers. But the necessity of distinguishing between active and passive influences so as to separate out the effect of the budget on aggregate demand, remains. The procedures used in constructing the fiscal impulse measure would still be appropriate, although the precise forms could vary.

To illustrate, suppose consumers are not liquidity constrained, so that they are able to take a longer view in determining their current consumption behavior. The simple consumption function of equation (7) is no longer valid and would have to be replaced by a more complex formulation that allows for longer-term considerations. Thus, reducing taxes may not increase current perceived disposable income by the full amount if the tax cut is expected to be reversed subsequently. The intended stimulative effect on consumption is then reduced. This effect would be captured, in the new model's version of equation (16), by the term describing consumption behavior: the rate of growth of consumption would be affected differently and, hence (by employing the embedded test of comparing it with the actual growth in GNP), also the active contribution of consumption behavior, which in this instance would be less. The selected theory would suggest ways in which consumption is influenced and would facilitate the calculation of this influence for inclusion in the new variant of equation (16). In this rendition, the form of the fiscal impulse measure would not be affected. In general, the more complex is the theory, however, the more elaborate the multiplier expression, which may involve nonlinearities. This would add more complex terms to equation (16), but the initially nested terms involving government expenditure and revenue would remain.

Knowing the determinants of aggregate demand enhances understanding of macroeconomic performance. These determinants can conveniently be classified into ones for structural and direct impact. As is well known, the budget can exert profound effects on private behavior: tax rules could affect the pace of investment or the level of private consumption; prospective fiscal deficits could exert a Ricardian effect of depressing current consumption; the perceived net worth of government and the sustainability of fiscal deficits could influence expectations of future inflation and tax burdens, resulting in a modification of current and anticipated spending patterns; more generous social security provisions could lead to lower private savings; and so forth. Such influences are structural, since they affect the terms or conditions of private decision making. In the context of equation (16), they would change the growth rates of private consumption or investment.

In contrast, the fiscal impulse indicator attempts to capture direct demand effects that the budget exerts through its spending, net of taxes. An initial fluctuation in aggregate demand is usually found to affect macroeconomic performance--at least--in the short run of a year or so, before it plays out. Insofar as capacity utilization is influenced by demand, the indicator can be potentially informative about output effects. Depending on the transmission channels, other macroeconomic variables--such as a floating exchange rate, inflation or interest rate--can also be affected. All these variables are likely to exhibit a time varying response pattern, with the precise time path depending on many other factors, including policies. It would not be correct to set up, as a criterion of the usefulness of the fiscal impulse indicator, its stand-alone ability to explain fluctuations in output and in other macroeconomic variables, as is sometimes done. Rather, the approach should be to identify and to isolate the contribution of other factors and policies so as to determine more appropriately how much of the residual is explained by fiscal impulses. For this purpose, equation (16) provides a useful starting point because it specifies some of the major variables that are likely to affect the determination of output.

V. A Critique of Some Alternative Measures

Blanchard (1990) has rejected the cyclically adjusted indicator, both as an indicator of discretionary action and, even more critically, as an indicator of fiscal impact. He agrees that it is useful to know how much of the change in the fiscal profile is due to discretionary actions and proposes a familiar indicator that involves standardizing the fiscal balance at the previous year's level of unemployment and comparing the outcome with the previous year's fiscal balance. But he rejects that such an indicator can permit any valid inferences about fiscal impact. Instead, he has proposed two different indicators of fiscal impact, one of which assumes that consumers are myopic, with their behavior determined by current taxes and income. The measure of myopia that he derives from his model consists of government expenditure less revenue, which has been weighted by the marginal propensity to consume, and, insofar as consumption is influenced by interest income, less a similarly weighted flow. Because the measure involves government expenditure, revenue and interest on the public debt, he proposes the inflation-adjusted deficit (the deficit that results from removing inflationary increases in the deficit) as a simple indicator of fiscal impact.

For consumers who show foresight, as required in life-cycle theories, Blanchard proposed (as a simplification of the more complex measure generated by his model) an actual deficit measure involving the subtraction from government expenditure of an average of the tax revenue expected for the current and future period. The horizon of the latter can be variously determined, but Blanchard's preference is for a two-year period, on the grounds that consumers generally take account of income expected in the short to medium term.

Suppose the rate of inflation were to increase by 10 percent, which raises the nominal rate of growth of output by the same amount. According to the indicator, an increase of 10 percent in the growth rate of government expenditure would keep expenditure neutral. However, if there is significant debt service, the fact that interest rates are likely to rise by a full 10 percentage points could result in a proportionately much bigger increase in interest outlays and cause a bigger increase in expenditure. This the indicator would assess as expansionary, which would not be correct because the higher interest payments simply serve to compensate debt holders for the erosion in the real value of their principal. Debt holders could have been compensated instead by writing up the face value of debt, which would not have affected expenditure. The simplest way of dealing with this problem is to undertake the fiscal impulse calculations for the primary budget balance, arrived at by excluding government interest payments altogether.

Unlike structural changes that influence demand, such as adjustments in tax rules, the direct impact effects of the budget can be more flexibly used in the short run to counteract other sources of fluctuations in demand in an attempt at smoothing output. The fiscal impulse indicator could then be used to provide a quantitative assessment of budgetary offset, which goes beyond indicating whether the budget is contractionary or expansionary in terms of its initial impact on demand. However, there are many pitfalls attendant to the mechanical pursuit of a compensatory fiscal policy. A major one is that structural changes, whether in the fiscal area or elsewhere, can affect the underlying relationship between potential supply and demand. Continued stability may then require periodic realignments in the fiscal balance.

For example, it is now widely believed that in the United States during the 1970s the underlying level of demand was too high, resulting in accelerating inflation. Government policies had inappropriately led to a negative (net-of-tax) real rate of interest, which stimulated private spending. With hindsight, such policies should have been accompanied by a smaller trend fiscal deficit than was observed. Superimposed on the larger observed underlying deficit, the fiscal balance exhibited fluctuations. Ideally, it is only after the needed fiscal consolidation is achieved that fluctuations in the budget balance, induced by automatic stabilizers or even an active compensatory policy, will promote the policy goal of a more stable macroeconomic performance. Applied prematurely in an inherently inflationary situation, a compensatory policy can paradoxically become destabilizing because it attenuates the natural brake of recessions, with adverse

consequences for inflation. 1/ Of course, if the underlying situation is one of persistent recession and inflation is not a problem, avoiding fiscal pump priming, or if this is viewed as excessive, preventing automatic stabilizers from operating, on the grounds that a fiscal consolidation target has not yet been met could prove unnecessarily costly.

Had a more appropriate secular policy of fiscal consolidation been pursued, consistently negative fiscal impulses would have been generated that would have cumulated to the amount of underlying or structural change in the fiscal balance required for stabilization. Applying the fiscal impulse measure conveys information of use in formulating and monitoring the needed fiscal policies. Disenchantment with an incorrectly applied compensatory fiscal policy should not be an excuse for throwing the baby out with the bath water.

1/ Over the nine-year period 1973-81 for which the fiscal impulse calculations are readily available for the United States (see IMF, World Economic Outlook, 1981), the average inflation rate as measured by the GDP deflator was 8.1 percent, or the same as the average treasury bill rate. The period average real rate of interest for private lenders was thus zero and presumably negative on a net-of-tax basis. The period-average prime lending rate amounted to 10.7 percent, which is positive in real terms but negative if account is taken of the tax deductibility of interest expense and the high tax rates then prevalent. A bias was thus created in favor of borrowing, excessive consumption, and real asset acquisitions (inflation hedges). However, the cumulative fiscal impulse over this period amounted to -0.5 percent of GNP, indicating virtually no change in the underlying fiscal balance. Thus, there was no sustained fiscal offset to excessive private spending, which would have been needed to restrain rising inflation.

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