

An Essay on Fiscal Deficit

Raja J. Chelliah

R. R. KALE MEMORIAL LECTURE, 1993

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Professor Chelliah is a wellknown intellectual among the academic community of social sciences, especially in the area of Public Economics. He obtained his Ph.D. degree in Economics from the University of Pittsburg. After returning to India in 1958, he worked with the National Council of Applied Economic Research, New Delhi, as Senior Economist. He has also taught at the University of Rajasthan, Jaipur and at Osmania University, Hyderabad.

From 1969 to 1975, he was Chief of the Fiscal Analysis Division of the International Monetary Fund. He was the Director of the National Institute of Public Finance and Policy from 1976 to 1985 with a gap of one year when he was a member of the Economic Administration Reforms Commission in 1982-83. In a very short span of time, he has built up that Institute to a level that now it counts among the premier institutions in Economics in the country. Professor Chelliah continues to be associated with this Institute as Professor Emeritus and as the Chairman of the Institute.

He was Honorary Consultant to the Ministry of Finance from 1975 to 1979. He has been associated with various committees and commissions on fiscal matters constituted by the Government of India, State Government, other countries and international organizations such as United Nations and International Monetary Fund. He was member of the Indirect Taxation Enquiry Committee, Government of India, 1976-1978. He was Chairman of the Study Group on Taxation of Expenditure, Government of India, 1985-1987. He was Member of the Planning Commission from 1985 to 1989 and has been the Chairman of the Tax Reforms Committee since 1991. He was Chairman of the Gujarat Taxation Enquiry Commission, of the Uttar Pradesh Taxation Enquiry Committee, and member of the Resources Committee of the Government of Rajasthan and member of the Public Finance Advisory Committee, Andhra Pradesh in 1968-69. He was also Chairman of the Commission of Enquiry into Taxation, Zimbabwe and a member of an IMF Tax Mission to the Government of Peru.

Apart from the very important reports of the various committees with which Professor Chelliah has been associated as a Chairman or as a member, he has written and lectured extensively on various issues relating to fiscal policy of India and other developing countries. His very first book on 'Fiscal Policy in Underdeveloped Countries', published in 1960 is highly stimulating and is still considered to be a necessary reading for all the serious students of fiscal problems of underdeveloped countries. Some of his other publications are : 1. Taxation and Private Investment, 1961; 2. Incidence of Indirect Taxes in India, 1978; 3. Issues and Trends in Federal Finances, 1980; 4. Measurement of Tax Efforts of State Governments, 1982; 5. Aspects of the Black Economy in India, 1985. He has also written a number of important research papers which have been published in national and international journals.

In 1991, the Government of India constituted a Committee of Experts under the Chairmanship of Professor Chelliah to examine the structure of direct and indirect taxes in India. The recommendations of which form the basis for the ongoing fiscal reforms, as part of overall economic reforms initiated in the country. With a view to availing of his vast knowledge and experience in the area of public economics, the Government of India has appointed him as fiscal adviser to the Ministry of Finance to advise the Ministry on fiscal and related matters on a continuing basis.

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**C Gokhale Institute of Politics and Economics,
Pune 411 004**

Price : Rs. 25/-

PRINTED IN INDIA

**Printed by S.J. Patwardhan at Mudra, 383 Narayan Peth, Pune 411 030,
and published by D.C. Wadhwa at the Gokhale Institute of
Politics and Economics, Pune 411 004**

**Typescript by SARK TYPOGRAPHICS,
87/5, Jai Raj Kiran Co-op. Society, Pune Satara Road,
Pune 411 009**

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Raja J. Chelliah

I deem it a privilege and honour to be invited to deliver the Kale Memorial Lecture for this year at the Gokhale Institute of Politics and Economics. The Institute is a prestigious one which has rendered over the years yeomen service to the growth and development of social sciences. Rao Bahadur Kale, in whose memory, the Lecture Series have been endowed was a true servant of India and has to his credit many contributions to education, besides the founding of this Institute. I am grateful to Dr. Wadhwa, the Director of the Institute, for having invited me.

Introduction

In the context of macro-economic stabilization in India and many other countries, "fiscal deficit" has become an important variable and policy target. Reduction of the relative size of the fiscal deficit has been postulated as a basic objective of policy. Until the mid-eighties, in Indian discussions of fiscal policy, attention was focused mostly on the so-called overall budgetary deficit, or "deficit financing", which was equal to the withdrawal of cash balances and sale of short-term treasury bills, mostly to the Reserve Bank of India (RBI). The deficit measured thus was taken to represent the creation of fresh credit or reserve money. Officials of the Finance Ministry and government economists succeeded in convincing the public that that was the only type of deficit to worry about because the inflationary impact

* Text of Rao Bahadur R.R. Kale Memorial Lecture delivered at the Gokhale Institute of Politics and Economics, Pune, on 13th August, 1993.

of the budget would depend mainly on it (although it did not, strictly speaking, even equal RBI credit to the Government). On the other hand, in the United States and several other industrialised nations (as also in developing countries following U.S. budgetary practices), the concept of the budget deficit that was (and is) generally employed for analytical purposes has been the overall deficit taken to equal the difference between total government expenditure and current revenues. This is also referred to as fiscal deficit. This measure of deficit has been adopted by the IMF as the main policy target in their programmes.

Since the excess of expenditure over revenues would have to be covered by borrowing, the fiscal deficit can be said to be the same as net borrowing by the government. If this is positive, there will be an equivalent addition to public debt. Thus, we have the identity :

$$\begin{aligned} \text{Fiscal deficit} &= \text{net borrowing by the government} \\ &= \text{net addition to public debt.} \end{aligned}$$

Two important questions to be raised, before we discuss the analytical usefulness of this concept, are :

- a) How should revenues and expenditures be defined for measuring fiscal deficit? and,
- b) Whose deficit should one be trying to measure?

Definition of Revenues and Expenditures

The general practice is to include in revenues all "current" receipts into the budget which do not in any way increase the financial liabilities of the government. Thus, all foreign grants are included in the revenues along with tax and non-tax revenues as traditionally defined. It is a moot point whether the proceeds of the sale of assets owned by the government should be included in revenues (above the line). The answer will depend upon the purpose for which the measure is to be used. If the short-term impact of the budget on aggregate demand through net borrowing is to be judged, the sale proceeds of assets could be included in revenues. Alternatively, the proceeds could be netted against capital formation expenditure. In either case, the sale proceeds will not form part of financing the deficit. However, if one wishes to measure the extent of fiscal correction or adjustment, in a situation where the size of the fiscal deficit has been judged to be too high, it would seem appropriate to consider the reduction in deficit without taking into account the yield from the sale of assets. For this purpose, the sale proceeds should be taken to be an item financing capital expenditure.

On the expenditure side, it is clear that all real expenditures (i.e., expenditures on goods and services) as well as transfers, out of the Consolidated Fund of India (including out of special funds under the control of the government) should be included. A question is sometimes raised whether lending or financial investment by the government should be included. Instead, should it not be netted against net borrowing? The case for this latter procedure rests on the argument that in so far as borrowed money is re-lent by the government, it is only acting as an intermediary and such lending does not add to aggregate demand. (Corresponding

to the net lending by the government, there will be private investment which is included in private expenditure in the National Accounts). It is true that in the preparation of National Accounts, net lending by the government cannot be treated as part of government expenditure. But it cannot be readily assumed that lending by the government would not lead to an increase in aggregate demand, because the lending may be financed by government borrowing from the banks, from RBI or from abroad. It is, therefore, preferable to include net lending in government expenditure for measuring fiscal deficit. 1/

If one is interested in finding out the short-term macro-economic impact of the budget, it seems proper to start with the magnitude of Government's net borrowing, as defined above. Not that it is a perfect measure of the expansionary impact of the budget. Its limitations and by what other measures it must be supplemented will be considered later in this paper. Meanwhile, let us turn to the question of coverage.

It is generally argued that one should measure and consider the "fiscal" deficit of the public sector as a whole and not just that of the government sector and that in the government sector, all levels of government should be considered. The second proposition is readily granted: If one is talking of the government sector's deficit, one should take the consolidated fiscal deficit of all levels of government, avoiding double counting. It should be mentioned, however, that if sub-national governments have independent powers of borrowing, it would not be possible for the Federal or Central Government to control directly the total government sector deficit. For purposes of macro-economic stabilisation, credit to the sub-national governments will have to be controlled through monetary policy instruments just as credit to the private sector will be. Multilateral lending institutions such as the IMF have to negotiate only on the basis of the fiscal deficit of the Central Government.

However, for analytical purposes, there is a strong case for taking the deficit of the public sector as a whole because in many countries public enterprises are under the effective control of the government and are allowed to borrow on favourable terms. Explicit or implicit guarantee by the government is present in respect of borrowing by the public enterprises. Hence, it is argued that there is not much difference between the government's borrowing and re-lending to the enterprises and the enterprises' borrowing directly. This is by and large true in India in respect of enterprises which are not really autonomous and which depend at least partly on government allocated borrowings. However, one needs to be cautious not to extend the coverage too widely such that the resulting measure of deficit cannot be employed for any useful analytical or policy purposes. One has to remember that one is dealing with fiscal policy.

Earlier, I had referred to the question of defining fiscal deficit in terms of exclusion or inclusion of different items of receipts and expenditure. There could be minor differences of opinion here, but a broad consensus has emerged in the context of judging the impact of the budget. Prof. Anand P. Gupta, however, has put forward a rather novel view. In a recent article 2/ he has stated: "Our thinking on the issue is that all expenditures, including even gross lending, gross acquisition of financial assets, and retirement of debt ought to be taken into account for calculating a country's public sector deficit, with capital receipts on account

of loan repayments and sale of financial assets shown as financing items. This is so because the deficit is supposed to be a measure of public sector's financing requirements and it cannot adequately perform this role if certain expenditures (or disbursements) are ignored or if lending and acquisition of financial assets are shown on a net basis". (p.346). It is not at all clear what this omnibus measure will signify. In other words, what is its analytical utility? Will it give us an idea of the macro-economic impact of the budget? There is little doubt that it will not. Prof. Gupta will probably say that what he derives will give a "a measure of public sector's financing requirements". But what is precisely at issue is the adequate or proper definition of financing requirements!

Limitations of the Concept of Fiscal Deficit

We shall accept the traditional IMF-type definition of fiscal deficit and now turn to a discussion of its limitations.

a) The use of the overall budgetary balance or the fiscal deficit to measure the expansionary impact of the public sector budget implies that a rupee of every type of expenditure will have an equivalent effect, i.e., one rupee of expansionary impact on demand and that similarly a rupee of every type of "above-the-line" revenue will have a rupee of deflationary impact or curtail private demand by a rupee. This would mean that the balanced budget multiplier will be zero. This is of course not true. In the case of transfer payments, for example, the impact will be a proportion of the transfer equal to the amount of transfer multiplied by the marginal propensity to consume of the recipient. In the case of goods expenditure, the impact will be 1:1. Income tax payment will reduce demand only to the extent of the payment multiplied by the marginal propensity to consume of the income tax payer; and so on. The extreme case is that of a foreign grant which will have no negative impact on domestic demand at all. Similarly, expenditure abroad will have no expansionary impact on domestic demand but will add to the demand for foreign exchange, and to that extent can be said to have an expansionary impact.

In fact, it may be useful to derive a budget balance and then supplement it by drawing domestic and foreign balances. Thus, if the budget balance can be shown as :

<u>Receipts</u>	<u>Expenditure</u>
1. Domestic Revenues	3. Expenditures Domestically Incurred
2. Foreign Grants	4. Expenditure Abroad
Budget Balance = (3+4) - (1+2) = 5 Net Borrowing	
Therefore, 1+2+5 = 3+4	
Hence, (3-1) + (4-2) = 5	
(3-1) = Domestic Balance (DB) and (4-2) = Foreign Balance (FB)	
Also, DB = 5+2-4 and FB = 5+1-3	

Subject to the limitations mentioned earlier regarding the non-weighted character of the budget balance, the domestic balance may be said to indicate the expansionary impact on domestic demand and the foreign balance, the impact on the balance of payments. The fiscal deficit taken as a whole may be said to indicate the total macro-economic impact. It should be added that the domestic balance indirectly also affects the balance of payments through its impact on domestic demand.

The second limitation of the fiscal deficit as a target variable is that it is an endogenous variable. Given the level of public expenditure, it varies with the level of national income which determines the level of revenue under a given tax structure. In a sense, therefore, the government cannot fully control it. Also, it is not easy to determine the proper magnitude of fiscal adjustment which a country needs to undertake. If too large a cut in the actual deficit is attempted income may further fall. What is sometimes suggested is that given the revenue structure, expenditure should be adjusted so as to result in a hypothetical balance (i.e., nil deficit) under conditions of full employment, that is to say, taking credit for revenues that would arise under conditions of full employment. Dr. Vito Tanzi believes that this limitation does not have much relevance for developing countries. 3/ This is presumably because the developing countries are not subject to recession due to deficiency in domestic effective demand.

The third limitation of the concept of fiscal deficit is that although it is a broad indicator of the budget impact on the current account deficit of the balance of payments, it cannot be taken to accurately reflect the impact on domestic demand even if only the domestic balance part of it is considered. This is because the different sources of financing the deficit - RBI credit, borrowing from the commercial banks, borrowing from households, foreign financing and so on - have different effects on demand, with RBI credit having the most expansionary effect. Hence, the impact of a given volume of deficit will depend upon the composition of its financing and cannot, therefore, be easily quantified. It is for these reasons that in India and in some other countries, greater attention has been devoted to RBI credit to government or what is called monetised deficit.

Fiscal Adjustment and Types of Deficits to be Considered

In bringing about fiscal adjustment or, in other words, restoring fiscal balance, three types of deficit need to be considered. The first is the fiscal deficit. In spite of many limitations discussed above, the fiscal deficit is still looked upon as the best available summary indicator of the macro-economic impact of the Budget. It is necessary to monitor and regulate the fiscal deficit for two other important reasons also. One reason is the government's borrowing tends to crowd out private investment, thereby introducing distortions in the allocation of resources. Furthermore, if government borrowing is used for relatively non-productive purposes such as for covering a short-fall in the current account of the Budget, increased government borrowing will mean displacement of capital formation in the economy leading to a lower rate of growth.

The other reason for attaching importance to fiscal deficit is that net borrowing by the government adds to public debt. While an increase in the volume of public debt in itself need not cause great concern, a fast growth of public debt would result in an increasing debt/GDP ratio which, after a point, would have very harmful consequences.

The second type of deficit that needs to be considered is the revenue deficit, which is defined as the difference between revenue expenditures (i.e., broadly government expenditures not leading to capital formation) and current revenues. Thus, a revenue deficit arises if the revenue expenditures exceed current revenues. The division of expenditure into revenue and capital, as shown in the Budget, does not strictly correspond to the division between current expenditure and capital expenditure as defined in the National Accounts. If the budgetary expenditures are re-classified into current and capital, we would be able to derive a measure of government's saving or dis-saving.

Many economists, particularly those in the United States, do not favour the division of the Budget into current and capital. They believe that such a division gives a wrong impression that capital expenditure will lead to growth and can, therefore, be financed by borrowing and that current expenditure must necessarily be financed by current revenues. For example, Vito Tanzi has argued that the concept of revenue deficit is seriously flawed ^{4/}. The arguments he gives to support his view, however, are untenable. His first argument is that "whether a government spends on current expenditure or on investment, the short-term effect of the expenditure on the country's balance of payments will be the same" and that, therefore, the distinction made between current and capital and derivation of a balance on government's current account is of no use. Tanzi misses the point that the revenue deficit measure is not to be used to judge the impact on balance of payment or on domestic demand. It is meant to find out if the recurrent expenditure of the government on account of public consumption and current transfers are fully met out of current revenues. It is well accepted in public finance theory that the cost of public goods should be defrayed out of taxes levied on the population consuming those goods. Of course, some lumpy types of expenditure and part of the current expenditure that might lead to future benefits such as those on education and health could be met out of borrowing. However, it is essential to insist, particularly in developing countries, that current expenditures should be mostly met out of current revenues to ensure fiscal discipline. Secondly, measuring saving on government account does not necessarily imply that saving is contributing to economic growth as Tanzi seems to argue. National Accountants who measure savings are not insisting or implying that the savings necessarily lead to growth. In any case, without measuring saving or dis-saving on government account, how could one measure National Savings? ^{5/}

Thirdly, ignoring or rejecting the concept of, the revenue deficit could lead to serious consequences in conditions of government finances prevailing in India. At the level of the Central Government, a large portion of Government's net borrowing, about 48 per cent, is now used to finance the revenue deficit. At the same time, the programme of fiscal adjustment requires that the fiscal deficit be cut. If the revenue deficit is not reduced, the reduction in the fiscal deficit can only come about through

a cut in Government's capital formation which will be injurious to growth. Tanzi is, of course, right in saying that current expenditures on health and education are as important as capital expenditure and that on the other hand capital formation on government account could be devoted to unproductive projects, but government capital formation on infrastructure, on schools and hospitals, etc., is vital for growth and welfare. In the course of fiscal adjustment such expenditure should be protected. In fact, IMF officials have frowned upon the Government of India trying to reduce the fiscal deficit through mostly cutting down capital formation. Thus, implicitly at least, they are asking for a reduction in the revenue deficit.

In developing countries, at any rate, it is desirable to postulate a rule that only a small portion of government's revenue expenditure, mainly that relating to the provision of additional services in such sectors as education and health could be covered by government borrowing.

The third type of deficit which is important from the policy point of view is the monetised deficit, namely, RBI credit to Government. The overall budgetary deficit derived in the Budget does not accurately reflect the size of the monetised deficit. In recent years, the Ministry of Finance has been mentioning the size of the RBI credit to Government as a memorandum item. The monetised deficit indicates the amount of creation of additional money owing to the credit extended to government. There is justification for attaching special importance to the regulation and, if necessary, reduction of the monetised deficit for controlling inflationary pressures. The volume of such deficit, which is sometimes called seignorage, should not exceed the amount needed to meet the extra demand for cash arising due to growth under reasonably stable conditions. One question that has been raised in this connection is : How should RBI credit to Government during a given year be measured? The Government's budget would only show the additional credit outstanding on the 31st of March of the year. This figure could be misleading if some (artificial means are employed to bring down the credit outstanding for a short period at the end of the year. Therefore, instead of the end-year level, an average level of credit such as the average credit outstanding at the end of every week could be used.

In the book, *How to Measure the Fiscal Deficit?* cited earlier, Mario I. Blejer and Adrienne Cheasty have indicated the methodology of measuring another kind of deficit, which could be of relevance in the longer-term context, if changes in government's net worth are considered of importance. In an article entitled "The Deficit as an Indicator of Government's Solvency - Changes in Public Sector Net Worth", the authors point out that a government's ability to pay will be affected by changes in the value of its assets and liabilities as well as by inflation, currency devaluation and change in its terms of trade. Therefore, the authors argue, it is necessary to take another fiscal deficit measure which will be "an indicator of the long-run sustainability of government". This measure of fiscal deficit would be equivalent to the dis-saving of the government or public sector as an entity, i.e., reduction in its net worth, (this would be different from government saving or dis-saving as measured in National Accounts). In order to compute the change in government's net worth, it would be necessary to take into account changes in all its assets and liabilities including

contingent liabilities and the present value of future tax programmes. It would be an enormous undertaking to compute the change in net worth of the public sector as a whole. Furthermore, the net worth of the government as an entity by itself is not of any great significance. Solvency of the government is of course a matter of great importance. However, solvency conditions can be radically altered by tax increases. It would seem that for the present that we, in India, should concentrate on the three measures of deficit indicated earlier, namely, over-all fiscal deficit, the revenue deficit and monetised deficit.

Fiscal Deficit and the Growth of Public Debt

As already pointed out, the fiscal deficit derives its analytical importance from its short-term impact on demand and on balance of payments as well as from the fact that it adds to public debt. A large fiscal deficit also has allocational implications in so far as it tends to crowd out private investment.

Government borrowing increasing faster than GDP, i.e., a rising ratio of government's domestic borrowing to GDP leads to a falling proportion of domestic savings available to be used by the private sector if the rate of saving does not increase. Additionally, even though government may pre-empt savings through special provisions, such as the statutory liquidity ratio in India, increasing government borrowing tends to lead to a rise in the rate of interest which in turn affects the growth rate.

Professor Gulati 6/ has recently argued that the concentration on fiscal deficit and the growth of debt does not reflect a proper policy stance. His arguments to support the above proposition are two-fold: first, if, as Domar had suggested in the '40s, national income grows fast, there will be no problem in meeting the interest charges on public debt. The implication is that we should be bothered more about increasing the rate of growth than about the growth of debt. The second argument is that it is the tardy growth in tax revenues and the low rate of recovery in the form of interest receipts and dividends accruing to the Government that are responsible for the interest payments by the Government absorbing a larger and larger proportion of its revenues.

As regards Gulati's first argument, it should be pointed out that Domar was writing in the heyday of Keynesianism when it was assumed that booms and recession could be avoided and continuous growth could be ensured through manipulating government's fiscal balance. The experience of economic policy making since the 1960s has shown that fiscal policy is by no means as effective in ensuring growth without inflation as it was once believed and maintaining steady growth is not an easy task. The lesson has also been learnt that growth can more easily be attained in conditions of relative macro-economic stability wherein the government's excess demand does not contribute both to inflationary impulses and the government appropriating a larger and larger share of the nation's resources and savings. In the Indian context, the need to reduce both fiscal deficit and the revenue deficit arises precisely because such steps are needed to contain inflation and to accelerate growth.

It is true that, as Gulati has pointed out, the ratio of net interest payments to government revenues has been steadily rising during the 80's. This is due to the rising proportion of gross interest payments to revenues and the falling proportion of receipts of interest and dividends by the government to its interest outgo. This falling recovery rate is due not only to the fact that Government's investments generally are not yielding adequate returns but also because too big a portion of the borrowing is used to cover the revenue deficit (currently around 48 per cent). 7/ It is not clear why Gulati asks us to be somewhat complacent about the growth of public debt when we all know that ensuring productive investments (without much leakage) out of government's borrowings and reaping adequate returns from public enterprises is amongst the most difficult tasks facing us. Could we rightly ask the State Governments, for example, not to worry too much about the growth of their debts when we know that they are using part of their borrowing for paying salaries of government servants and that getting even a small return from their Electricity Boards, Road Transport Corporations and Irrigation Works (commercial) is still a far cry? To take his other point, namely, that the growth in government revenues has been tardy, it must be noted that the revenue ratio of the Central and State Governments together rose from 17.5 per cent in 1980-81 to 19.7 per cent in 1991-92, i.e., by 2.2 percentage points. Such a growth cannot be called tardy. Even if the revenue ratio had risen by 1 percentage point more, the ratio of net interest payments to government revenues would have been too high now. Leaving aside the revenue ratio, if one looks at the rate of growth of revenues during the '80s, one can easily see that the growth rate of revenues was much faster in the '80s because the rate of growth of income was the highest during that decade and revenues grew faster than income (around 16 per cent per annum). It is certainly unjustified to expect the people of India to pay an increasing proportion of GDP in taxes in order to keep pace with the rise in the interest on public debt regardless of the kind of use to which the funds are put. Apart from that, such an increase in the revenue ratio would be neither desirable from the economy's point of view nor feasible. As I have already indicated, only a small proportion of revenue expenditure should normally be met out of borrowing. 8/

Prof. Gulati has further observed : "to emphasise reduction in public borrowing in order to reduce the fiscal deficit amounts to shifting the accent of fiscal policy from the mobilisation of current revenue receipts and the productive deployment of government expenditure to blanket reduction of government spending". Since public borrowing and fiscal deficit are one and the same, reducing the one means reducing the other. What Gulati has in mind is really that deficit should be cut more by increasing revenues than by decreasing government expenditure. I am sure that most of his countrymen will disagree with him on this, although they would grant his point that there is much scope for increasing government expenditure in essential areas. Policy prescriptions by his fellow economists like me have not concentrated on blanket reduction in public expenditure. Attention of the government has been drawn to the need for and the possibility of reducing a wide range of unjustified subsidies, payments to the loss-making public enterprises and the maintenance of a bloated bureaucracy. If all this is done, the atmosphere would be more conducive for persuading the citizens to pay more taxes. In fact, as far as I can understand, the policy of the Central Government is to make efforts to raise

substantial revenues through a rationalised and reformed tax system which can be enforced better.

I have argued that at the present time, policy makers should take steps to reduce and control the fiscal deficit, revenue deficit and the monetised deficit. I am not, therefore, advocating that attention should be concentrated on the fiscal deficit. However, in deciding whether the current fiscal policy is rightly focused, we must also consider the short-term impact of the fiscal deficit on demand and balance of payments and how government borrowing has tended to crowd out private investment, leaving only a small proportion of domestic savings for private use. (As of 1990-91, around 81 per cent of gross financial savings of the household sector was absorbed by domestic borrowings of the government sector, as defined in National Accounts.)

Illustrative Projections of Public Debt Profile

Table 1 indicates the trends in fiscal deficit at the Centre and for the Central and State Governments taken together. It also shows the results of the efforts made to reduce the fiscal, revenue and the budgetary deficits. The combined fiscal deficit for the Centre and the State had reached around 10 per cent of GDP in 1990-91, while that at the Centre was 8.4 per cent. According to Budget Estimates for 1992-93, the former was to have been brought down to 6.8 per cent and the latter to 4.9 per cent. According to the Revised Estimates, the Centre's fiscal deficit is about 5.6 per cent of GDP. Thus, there has been a slippage of 0.67 percentage point at the Centre. So in 1992-93, the combined fiscal deficit would have been around 7.5 per cent. Contrary to the general impression, the revenue deficit is also being reduced, though such reduction seems to have been slowed down last year.

Tables 2, 3 and 4 contain projections of the growth of the debt ratio, the interest to GDP ratio and the average interest rate, on certain assumptions regarding the rate of growth, the rate of interest on additional borrowing and the composition of borrowing, and on alternative assumptions regarding the fiscal deficit ratio. The figures in these tables relate to the Central Government only. The fiscal deficit ratio is assumed to be reduced in 1994-95 to 5 per cent, 4 per cent and 3 per cent, respectively, in Tables 2, 3 and 4 and is assumed to remain constant thereafter.

The Parameter Table indicates the other assumptions made. The major assumption are that the nominal income grows at 13 per cent per annum (say, a real rate of growth of 6 per cent and price rise of 7 per cent), the interest rate on additional government borrowing goes down to 11 per cent in 1998-99 and to 10 per cent in 2000-01 and the proportions of borrowing from abroad and from RBI to GDP remain more or less the same as now. Under such assumptions, if the fiscal deficit ratio is reduced to 5 per cent in 1994-95, the ratio of interest on government debt to GDP will still remain at 3.78 per cent of GDP in 2002-03. This may be considered rather high. However, since the rate of growth will be higher than the average rate of interest (which will start falling after 1998-99), the debt/GDP ratio will continue to fall. With the fiscal deficit to GDP ratio brought down to 3 per cent in 1994-95 and kept constant at that level, the interest to GDP ratio falls to a more comfortable level of 2.7 per cent by 2002-03. In my view, it is not feasible or even desirable to reduce the

fiscal deficit to 3 per cent of GDP by 1994-95. What I infer from the results presented in Tables 2, 3 and 4 is that government should try to bring down the fiscal deficit ratio from 5.6 per cent in 1992-93 to 3 per cent in 2002-03. Fiscal adjustment could be carried out gradually so that there will be no need to cut essential or capital formation expenditure.

One of our crucial assumptions is that the rate of growth (real) will be higher than the real of interest. A 6 per cent growth rate combined with prudent fiscal adjustment should bring the public debt problem under control. 9/

Finally, we may consider the question of eliminating the revenue deficit within a period of 10 years or so. Let us assume that the revenue ratio of the Central Government will continue to grow. For the purpose of calculating the growth in revenues, the coefficient buoyancy has been worked out on the basis of the data for the last decade, which amounts of 1.144.

Table 5 indicate the implicit rate of growth of revenue expenditure, if the revenue deficit is to be eliminated by 2002-03, with the growth in revenues assumed as indicated above. We find that the revenue expenditure could grow at a rate only slightly below the growth of income. Thus, with satisfactory growth in income, there will be no need for revenue expenditures as a whole to be cut, only its growth is to be controlled. For this purpose, selective reduction in expenditure on certain items would be needed. The lower the level of fiscal deficit, the lower will be the rate of growth of interest expenditure and hence the greater the scope for the growth of other items of expenditure. The programme of pruning the fiscal deficit need not and does not involve any "blanket reduction" in public expenditure, not even in revenue expenditure. However, the slower rate of growth of revenue expenditure leading to the elimination of revenue deficit enable a higher level of government capital formation with a given level of fiscal deficit. The growth of the economy requires a certain volume of fiscal deficit and if their levels are properly related, the debt will be under control. At the same time, for growth to take place under stable conditions fiscal deficit cannot be allowed to get out of control. It is essential to remember this inter-dependence.

The ratios of interest expenditure to revenues under alternative assumptions relating to the fiscal deficit ratio to be maintained from the year 1994-95, as given in Tables 2, 3 and 4, respectively, are also derived and presented in Table 5. With fiscal deficit at the level of 5 per cent of GDP the ratio of gross interest payments to revenues will still be 30 per cent in 2002-03, whereas it would be brought down to about 21.5 per cent if the fiscal deficit is brought down to 3 per cent of GDP. If the fiscal deficit is kept below 5 per cent of the GDP and the revenue buoyancy is raised, say, to 1.2, obviously the situation would be more comfortable.

I would like to end this essay by stating the following conclusions :

a) If the real rate of growth of the Indian economy could be maintained at 5.5 to 6 per cent per annum during the next ten years or so, then fiscal adjustment would only require that the fiscal deficit of the Centre be reduced from around 5.6 per cent

of GDP in 1993-94 to 3 per cent in 2002-03. (The fiscal deficit of the States could be maintained around 2 per cent of GDP.)

b) For avoiding inflationary pressures, the monetised deficit of the Centre should be limited to the amount required to create not more than the additional demand for cash balances.

c) The revenue deficit should be eliminated as early as possible; it should in any case be brought down continuously with zero deficit being reached latest by 2002-03. With such reduction, the growth of net interest payments will be cut down in relative terms leaving scope for the growth of other expenditures.

d) It would be desirable to raise the revenue buoyancy to 1.2 through a reform of the tax system and better enforcement; and

e) The process of fiscal adjustment as detailed above would not involve any cut in the absolute level of public expenditure in real terms.

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**Table 1 : Trends in Fiscal, Revenue and Budget Deficits
1980-81 to 1992-93 (BE)**

	(Rs. Crore)				
	1980-81	1981-82	1982-83	1983-84	1984-85
(1)	(2)	(3)	(4)	(5)	(6)
Centre					
1. Total Revenue	12,484	15,140	17,507	19,717	23,549
2. Revenue Expenditure	13,261	15,433	18,761	22,115	27,047
3. Total Expenditure	21,371	23,807	28,273	33,250	41,336
4. Fiscal Deficit	8,887	8,667	10,766	13,533	17,786
5. Revenue Deficit	777	293	1,254	2,398	3,498
6. Budget Deficit	2,576	1,392	1,655	1,417	3,745
Combined for Centre and States					
1. Total Revenue	23,835	28,881	33,086	36,959	42,933
2. Revenue Expenditure	23,711	27,864	33,451	39,139	47,329
3. Total Expenditure	34,845	39,642	46,098	53,856	65,304
4. Fiscal Deficit	11,010	10,761	13,013	16,897	22,371
5. Revenue Deficit	-124	-1,017	366	2,180	4,396
6. Budget Deficit	3,450	2,519	2,349	2,135	5,106

GDP at market prices (Rs. crore)	136013	159760	178132	207589	231387
Share of GDP (Per cent)					
Centre					
1. Total Revenue	9.18	9.48	9.83	9.50	10.18
2. Revenue Expenditure	9.75	9.66	10.53	10.65	11.69
3. Total Expenditure	15.71	14.90	15.87	16.02	17.86
4. Fiscal Deficit	6.53	5.43	6.04	6.52	7.69
5. Revenue Deficit	0.57	0.18	0.70	1.16	1.51
6. Budget Deficit	1.89	0.87	0.93	0.68	1.62
Combined for Centre and States					
1. Total Revenue	17.52	18.08	18.57	17.80	18.55
2. Revenue Expenditure	17.43	17.44	18.78	18.85	20.45
3. Total Expenditure	25.62	24.81	25.88	25.94	28.22
4. Fiscal Deficit	8.09	6.74	7.31	8.14	9.67
5. Revenue Deficit	-0.09	-0.64	0.21	1.05	1.90
6. Budget Deficit	2.54	1.58	1.32	1.03	2.21

Table 1 contd...

Table 1 contd...

	1985-86	1986-87	1987-88	1988-89	1989-90	1990-91	1991-92 (RE)	1992-93 (BE)
(1)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
1.	28,044	32,950	37,030	43,592	52,097	54,995	66,870	76,203
2.	33,608	40,726	46,167	54,107	64,011	73,557	82,951	90,084
3.	50,420	60,425	65,303	75,599	89,320	1,00,884	1,09,667	1,21,378
4.	22,376	27,476	27,044	30,923	35,630	44,650	37,792	34,408
5.	5,565	7,776	9,137	10,514	11,914	18,562	17,081	13,882
6.	4,937	8,261	5,816	5,642	10,594	11,347	7,032	5,389
1.	51,011	58,434	66,838	77,512	92,283	99,282	1,21,123	1,36,863
2.	56,031	66,189	77,014	89,851	1,07,704	1,22,950	1,43,508	1,55,588
3.	75,459	90,292	1,00,249	1,14,533	1,36,901	1,53,859	1,75,060	1,95,281
4.	24,448	31,858	32,182	35,936	43,027	53,320	48,932	47,651
5.	5,020	7,755	10,176	12,339	15,421	23,668	22,385	18,725
6.	3,439	9,150	5,504	5,102	10,613	11,486	8,927	7,083
	261920	291974	333201	396593	453986	530865	609500	694800
1.	10.71	11.29	11.11	10.99	11.48	10.36	10.97	10.97
2.	12.83	13.95	13.86	13.64	14.10	13.86	13.61	12.97
3.	19.25	20.70	19.60	19.06	19.97	19.00	17.99	17.47
4.	8.54	9.41	8.12	7.80	7.85	8.41	6.20	4.93
5.	2.12	2.66	2.74	2.65	2.62	3.50	2.80	2.00
6.	1.88	2.83	1.75	1.42	2.33	2.14	1.15	0.78
1.	19.48	20.01	20.06	19.54	20.33	18.70	19.87	19.70
2.	21.39	22.67	23.11	22.66	23.72	23.16	23.55	22.39
3.	28.81	30.92	30.09	28.88	30.16	28.98	28.72	28.11
4.	9.33	10.91	9.66	9.06	9.48	10.04	8.03	6.83
5.	1.92	2.66	3.05	3.11	3.40	4.46	3.67	2.70
6.	1.31	3.13	1.65	1.29	2.34	2.16	1.46	1.02

Note : Fiscal Deficit figures for 1987-88 to 1992-93 (BE) are those given in the Budget documents and do not tally with the revised Revenue and Expenditure figures given in the Indian Public Finance Statistics : 1992.

Sources: 1. Indian Economic Statistics - Public Finance - Ministry of Finance - Various Issues.

2. Indian Public Finance Statistics, Ministry of Finance, 1992.

Table 2 : Central Government : Projection of Ratios of Public Debt and Interest to GDP on Alternative Assumptions Regarding Fiscal Deficit and Ratio of Interest in Borrowings Assumption I : Fiscal Deficit at 5% of GDP at Market Prices

Parameter Table

Interest Rates

Other Domestic Debt upto 1977-98	0.1250(1998-99 = 0.1100; 2000-01= 0.1000)
Treasury Bills	0.0460 Base
Foreign Debt	0.0500 Proportion of Borrowings in 1993-94

Ratios

Primary deficit/GDP		
Net Foreign borrowings/GDP	0.0086	0.0086
New Treasury bills/GDP	0.0130	0.0130
Other domestic debt/GDP		0.0284
Current borrowings/GDP		0.0500
Growth in GDP	0.1300	=====

Table 1 : Simulated Debt : GDP Ratio (Rupees Crore)

Year	Trea- sury Bills Debt RB(t)	Total Inter- nal Debt BI(t)	Other Dome- stic Debt MB(t)	Total Exter- nal Debt F(t)	Total Debt B(t)	Borro- wings Bc(t)	Replac- ement Inter- rest @ 13.5%
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1991-92	84872	296253	211381	109675	405928	36325	-
1992-93	95506	330009	234503	112022	442031	38909	-
1993-94	101839	363054	261215	126250	489304	36959	-
Projections :							
1994-95	113475	400101	286626	133955	534056	44752	56.28
1995-96	126623	441964	315341	142661	584626	50570	80.16
1996-97	141481	489270	347789	152500	641769	57144	44.74
1997-98	158269	542725	384455	163617	706342	64573	64.03
1998-99	177241	603129	425888	176180	779309	72967	19.17
1999-2000	198679	671386	472707	190376	861762	82453	15.31
2000-01	222903	748516	525613	206418	954934	93172	-4.86
2001-02	250277	835673	585396	224545	1060218	105284	21.58
2002-03	281209	934160	652951	245028	1179188	118971	-28.19

Table 2 contd...

Table 2 contd...

Year	Total Interest I(t)	GDP Y(t)	Total Debt to GDP B(t)/Y(t)	Average Interest Rate	Net Borrowing to GDP	Interest to GDP
(1)	(9)	(10)	(11)	(12)	(13)	(14)
1991-92	26563	609500	66.60	-	5.96	4.36
1992-93	32500	694800	63.62	8.01	5.60	4.63
1993-94	38273	792072	61.78	8.66	4.67	4.83
Projections :						
1994-95	42671	895041	59.67	8.72	5.00	4.77
1995-96	46848	1011397	57.80	8.77	5.00	4.63
1996-97	51523	1142878	56.15	8.81	5.00	4.51
1997-98	56818	1291452	54.69	8.85	5.00	4.40
1998-99	62199	1459341	53.40	8.81	5.00	4.26
1999-2000	68272	1649056	52.26	8.76	5.00	4.14
2000-01	74645	1863433	51.25	8.66	5.00	4.01
2001-02	81874	2105679	50.35	8.57	5.00	3.89
2002-03	89990	2379418	49.56	8.49	5.00	3.78

Note : Increase of GDP during 1993-94 has been assumed to be 14 per cent.

Table 3 : Central Government : Projection of Ratios of Public Debt and Interest to GDP on Alternative Assumptions Regarding Fiscal Deficit and Ratio of Interest in Borrowings Assumption II: Fiscal Deficit at 4% of GDP at Market Prices

Parameter Table

Interest Rates

Other Domestic Debt upto 1997-98	0.1250	(1998-99 = 0.1100; 2000-01= 0.1000)
Treasury Bills	0.0460	Base
Foreign Debt	0.0500	Proportion of borrowings in 1993-94

Ratios

Primary deficit/GDP		
Net Foreign borrowings/GDP	0.0086	0.0086
New Treasury bills/GDP	0.0130	0.0130
Other domestic debt/GDP		0.0184
Current borrowings/GDP		0.0400
Growth in GDP	0.1300	=====

Table 2 : Simulated Debt : GDP Ratio (Rupees Crore)

Year	Trea- sury Bills Debt RB(t)	Total Inter- nal Debt BI(t)	Other Dome- stic Debt MB(t)	Total Exter- nal Debt F(t)	Total Debt B(t)	Borro- wings Bc(t)	Replace- ment Inte- rest @ 13.5%
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1991-92	84872	296253	211381	109675	405928	36325	-
1992-93	95506	330009	234503	112022	442031	38909	-
1993-94	101839	363054	261215	126250	489304	36959	-
Projections :							
1994-95	113475	391151	277676	133955	525105	35802	56.28
1995-96	126623	422900	296277	142661	565561	40456	80.16
1996-97	141481	458776	317296	152500	611276	45715	44.74
1997-98	158269	499317	341048	163617	662934	51658	64.03
1998-99	177241	545128	367887	176180	721308	58374	19.17
1999-2000	198679	596894	398215	190376	787270	65962	15.31
2000-01	222903	655390	432487	206418	861808	74537	-4.86
2001-02	250277	721490	417213	224545	946035	84227	21.58
2002-03	281209	796183	514974	245028	1041211	95177	-28.19

Table 3 contd...

Table 3 contd...

Year	Total Interest I(t)	GDP Y(t)	Total Debt to GDP B(t)/Y(t)	Average Interest Rate	Net Borr - wing to GDP	Interest to GDP
(1)	(9)	(10)	(11)	(12)	(13)	(14)
1991-92	26563	609500	66.60	-	5.96	4.36
1992-93	32500	694800	63.62	8.01	5.60	4.68
1993-94	38273	792072	61.78	8.66	4.67	4.83
Projections :						
1994-95	42671	895041	58.67	8.72	4.00	4.77
1995-96	45730	1011397	55.92	8.71	4.00	4.52
1996-97	49140	1142878	53.49	8.69	4.00	4.30
1997-98	53006	1291452	51.33	8.67	4.00	4.10
1998-99	56966	1459341	49.43	8.59	4.00	3.90
1999-2000	61435	1649056	47.74	8.52	4.00	3.73
2000-01	66159	1863433	46.25	8.40	4.00	3.55
2001-02	71524	2105679	44.93	8.30	4.00	3.40
2002-03	77534	2379418	43.76	8.20	4.00	3.26

Note : Increase of GDP during 1993-94 has been assumed to be 14 per cent.

Table 4 : Central Government : Projection of Ratios of Public Debt and Interest to GDP on Alternative Assumptions Regarding Fiscal Deficit and Ratio of Interest in Borrowings Assumption III: Fiscal Deficit at 3% of GDP at Market Prices

Parameter Table

Interest Rates

Other Domestic Debt upto 1997-98	0.1250(1998-99 = 0.1100; 2000-01 = 0.1000)
Treasury Bills	0.0460 Base
Foreign debt	0.0500 Proportion of Borrowings in 1993-94

Ratios

Primary deficit/GDP		
Net Foreign borrowings/GDP	0.0086	0.0086
New Treasury bills/GDP	0.0130	0.0130
Other domestic debt/GDP		0.0084
Current borrowings/GDP		0.0300

Growth in GDP - 0.1300 =====

Table 3 : Simulated Debt: GDP Ratio (Rupees Crore)

Year	Trea- sury Bills Debt RB(t)	Total Inter- nal Debt BI(t)	Other Dome- stic Debt MB(t)	Total Exter- nal Debt F(t)	Total Debt B(t)	Borro- wings Bc(t)	Replac- ement Interest @ 13.5%
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1991-92	84872	296253	211381	109675	405928	36325	-
1992-93	95506	330009	234503	112022	442031	38909	-
1993-94	101839	363054	261215	126250	48904	36959	-
Projections :							
1994-95	113475	382200	268725	133955	516155	26851	56.28
1995-96	126623	403835	277212	142661	546497	30342	80.16
1996-97	141481	428283	286803	152500	580783	34286	44.74
1997-98	158269	455909	297640	163617	619527	38744	64.03
1998-99	177241	487127	309886	176180	663307	43780	19.17
1999-2000	198679	522402	323724	190376	712779	49472	15.31
2000-01	222903	562264	339361	206418	768682	55903	-4.86
2001-02	250277	607307	357030	224545	831852	63170	21.58
2002-03	281209	658206	376997	245028	903234	71383	-28.19

Table 4 contd...

Table 4 contd...

Year	Total Interest	GDP	Total Debt to GDP	Average Interest Rate	Net Borrowings to GDP	Interest to GDP
	I(t)	Y(t)	B(t)/Y(t)			
(1)	(9)	(10)	(11)	(12)	(13)	(14)
1991-92	26563	609500	66.60	-	5.96	4.36
1992-93	32500	694800	63.62	8.01	5.60	4.68
1993-94	38273	792072	61.78	8.66	4.67	4.85
Projections :						
1994-95	42671	895041	57.67	8.72	3.00	4.77
1995-96	44611	1011397	54.03	8.64	3.00	4.61
1996-97	46757	1142878	50.82	8.56	3.00	4.00
1997-98	49195	1291452	47.97	8.47	3.00	3.81
1998-99	51734	1459341	45.45	8.35	3.00	3.55
1999-2000	54597	1649056	43.22	8.23	3.00	3.31
2000-01	57672	1863433	41.25	8.09	3.00	3.89
2001-02	61174	2105679	39.51	7.96	3.00	2.81
2002-03	65078	2379418	37.96	7.82	3.00	2.74

Note : Increase of GDP during 1993-94 has been assumed to be 14 per cent.

Table 5 : Central Government : Projections of Interest Payments as Per Cent of Centre's Revenues on Alternative Assumptions Regarding Fiscal Deficit and with the Elimination of Revenue Deficit by 2002-03(Buoyancy of Revenue 1.144)

Year	Gross Revenue Receipts	States and UTs		Net Revenue Receipts	Revenue Expenditure##	Rev. expenditure int- Revenue Deficit			Revenue Deficit	
		Share in Central Taxes#	Grants (non-plan +plan)			Total	erest\$ keeping Fiscal Deficit at a fixed per cent of GDP	fd=3% gdp		fd=4% gdp
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
1990-91	69552	14598	8240	22838	46714	65276	43778	43778	43778	18562
1991-92	83338	17293	10022	27315	56023	72286	45723	45723	45723	16263
1992-93	98883	20603	11430	32033	66850	83550	51050	51050	51050	16700
1993-94	106337	22128	11539	33667	72670	90300	52027	52027	52027	17630
Projections :										
1994-95	122151	25005	13039	38044	84108	101953	59282	59283	59282	17845
1995-96	140318	28255	14734	42989	97328	115110	70499	69380	68261	17781
1996-97	161186	31928	16650	48578	112608	129964	83208	80825	78441	17356
1997-98	185197	36079	18814	54893	130264	146736	97541	93729	89918	16471
1998-99	212694	40769	21260	62029	150665	165671	113937	108705	103473	15007
1999-2000	244326	46069	24024	70093	174233	187051	132453	125616	118778	12818
2000-01	280662	52058	27147	79205	201457	211189	153517	145030	136544	9732
2001-02	322402	58826	30676	89502	232900	238442	177268	166918	156568	5542
2002-03	370350	66473	34664	101137	269213	269213	204134	191679	179223	0

Table 5 contd...

Year	GDP (Current Market Prices)	Share in GDP (%)					Interest\$ payments consequent to varying fiscal deficit as % to centre's revenue receipts*			
		Net Revenue Receipts	Revenue Expendi- ture Total	Revenue Interest \$			Revenue Deficit	fiscal deficit as %		
				fd=3% gdp	fd=4% gdp	fd=5% gdp		fd=3% gdp	fd=4% gdp	f=5% gdp
(1)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)
1990-91	530865	8.80	12.30	8.25	8.25	8.25	3.50	39.12	39.12	39.12
1991-92	609500	9.19	11.86	7.50	7.50	7.50	2.67	40.22	40.22	40.22
1992-93	694800	9.62	12.03	7.35	7.35	7.35	2.40	41.52	41.52	41.52
1993-94	792072	9.17	11.40	6.57	6.57	6.57	2.23	45.45	45.45	45.45
Projections :										
1994-95	895041	9.40	11.39	6.62	6.62	6.62	1.99	43.92	43.92	43.92
1995-96	1011397	9.62	11.38	6.97	6.86	6.75	1.76	39.81	40.81	41.81
1996-97	1142878	9.85	11.37	7.28	7.07	6.86	1.52	36.17	38.02	39.86
1997-98	1291452	10.09	11.36	7.55	7.26	6.96	1.28	33.00	35.56	38.11
1998-99	1459341	10.32	11.35	7.81	7.45	7.09	1.03	30.09	39.13	36.18
1999-2000	1649056	10.57	11.34	8.03	7.62	7.20	0.78	27.56	30.99	36.44
2000-01	1863433	10.81	11.33	8.24	7.78	7.33	0.52	23.23	28.94	32.63
2001-02	2105679	11.06	11.32	8.42	7.93	7.44	0.26	23.21	27.16	31.06
2002-03	2379418	11.31	11.31	8.58	8.06	7.53	0.00	21.42	25.51	29.61

- Notes: 1. The budget figures for 1992-93 are revised estimates and the figures for 1993-94 are the budget estimates.
2. Projections for 1994-95 onwards are based on gross revenue receipts for 1993-94(BE) and the growth of 14.872% per annum.
3. Projections for States' share in central taxes and grants assumed on the basis of their share in 1993-94GDP.
4. Projections for expenditure are on the basis of securing a zero revenue deficit by 2002-03.
5. Grants to States and Union Territories both for non-plan and plan have been eliminated from revenue receipts and revenue expenditure to ensure uniformity.
Including assignments of Union Territory taxes to local bodies.
Excluding grants to States/Union Territories for plan and non-plan purposes
* Net of states' share of central taxes without adjustment for grants to States and Union Territories.
\$ Interest at the rate of 12.5% upto 1997-98, 11% 1998-99 and 10% 2000-01 onwards.
fd fiscal deficit.

Sources: 1. For 1990-91 to 1992-93-Budget Documents, 1993-94 : Revenue Receipts and Expenditure Vol.1.
2. For 1993-94 - Budget at a Glance.

Notes

1. Government guaranteed private borrowing is a borderline case because it would also stimulate some additional demand. It is not, however, usually included in government expenditure. However, from the longer-term point of view it is necessary to take note of the build-up of government guaranteed debt.
2. Reforming Deficit Measurement : The Indian Case, *Economic and Political Weekly*, February 20-27, 1993.
3. Quoted in, Measurement of Fiscal Deficit examined in New IMF Book in *IMF Survey* July 26, 1993. The book referred to is *How to Measure the Fiscal Deficit*, IMF, Washington, DC.
4. In *How to Measure the Fiscal Deficit* cited earlier.
5. Strictly speaking, the volume of savings on government account derived by the National Accountants does not correctly reflect the contribution of government to national saving. In order to derive the latter figures, as Musgrave has suggested, the saving figure derived by the National Accountants must be multiplied by the marginal propensity to save of the private sector in order to compensate for the fact that taxation reduces the savings of the private sector.
6. Tackling the Growing Burden of Public Debt, by I. S. Gulati, *Economic and Political Weekly*, May 1, 1993.
7. Incidentally, the highest growth rate of the economy since Independence was registered during the '80s, when the debt and interest burden increased tremendously which in turn brought the growth process to a virtual stop for a few years.
8. This point is further elaborated in my paper, Growth of Indian Public Debt - Dimensions of the Problem and Corrective Measures, issued as an *IMF Working Paper (WP/91/72)*.
9. In these tables we consider only the fiscal deficit of the Central Government. However, the Central Government's deficit accounts for the major part of the public sector deficit because a large part of the borrowings by the State Governments and Central Public Enterprises are from the Central Government.

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Ed. Sulabha Brahme

**WRITINGS AND SPEECHES OF PROFESSOR D.R. GADGIL
ON CO-OPERATION**

R.B.R.R. KALE MEMORIAL LECTURES

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3. B.R. AMBEDKAR	Federation versus Freedom	1939
4. * K.T. SHAH	The Constituent Assembly	1940
5. + A.V. TRAKKAR	The Problem of the Aborigines in India	1941
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7. S.G. VAZE	The Formation of Federations	1943
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9. * S.R. DESHPANDE	A Statistical Approach to Vital Economic Problems	1945
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11. + C.D. DESHMUKH	Central Banking in India : A Retrospect	1948
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16. * LAXMANSHASTRI JOSHI	Indian Nationalism	1953
17. + W.R. NATU	Public Administration and Economic Development	1954
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35. K.N. RAJ	The Politics and Economics of "Intermediate Regimes"	1973
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