ASSESSING INDIA'S PRIMARY DEFICIT VERSUS INTEREST BURDEN

"A problem well defined is half resolved" John Dewey

Despite justfiable euphoria about the robust macroeconomic situation at present, almost all discussion about India's economy emphasizes that the deficit and debt situation has worsened a lot. Considering the broadest and most relevant measure, the combined Centre-State fiscal data as a share of GDP, the fiscal deficit has increased slightly since fiscal consolidation started in 1991. However, interest payments and, more so, the revenue deficit has risen substantially while capital expenditure has been cut to reach the fiscal deficit targets. This decline in deficit 'quality' has also been accompanied by a rise in the debt ratio. Overall, the fiscal situation is described as being much worse than in 1991, and debt as unstable or unsustainable.

The conclusion that fiscal consolidation has failed, or is faltering, is vehemently reiterated in most official publications since the mid 1990s: in annual issues of the RBI Annual Report, the Report on Currency and Finance, the Economic Survey, World Bank country report etc. The latest RBI Annual Report (2002-03) provides a good exposition of this view in its chapter on Government Finances, "The steady *improvement* in the primary deficit coupled with the fall in capital outlay during the 1990s indicates that the burden of the unrelenting expansion in interest outgoes devolves on unproductive spending.…Moreover, the *monotonic* rise in public debt has eroded the Government sector's ability to generate savings and to service its internal debt. The quality of the fiscal deficit has worsened, with the revenue deficit having increased substantially."(p.52) italics added

Numerous distinguished economists and leading policy makers have all pointed to the rise in the revenue deficit as constituting a major drag on growth.[1] Indeed the Fiscal Responsibility Bill (FRB), both the original proposal and the watered down version that got passed this year, has been motivated by these developments: in particular, the steady rise in the revenue deficit, from near balance in the early 1970s). It would be fair to categorize the citation from the Annual Report about the overall fiscal situation and the revenue deficit as a consensus view.

The ostensibly adverse consequences of the bigger revenue deficit apart, many economists concluded in the late 1990s, based on casual extrapolation or on econometric forecasts, that India was in, or heading toward a debt trap (Jha, 1999 Rajaraman & Mukhopadhyay, 1999). A debt trap here refers to the precise Domar debt stability condition not holding i.e GDP growth is less than the relevant interest rate(s) on government debt, leading to a rise in the debt ratio without limit. Statements about the debt trap have resurfaced based upon fiscal data of 2000-01 and 2001-02.

This paper provides a critique of this consensus view about the worsened revenue deficit and debt situation. It argues that the fundamental problem has been a worsening primary deficit, not revenue deficit or debt burden. It makes a distinction between worsening deficit and worsening debt conditions and explains this distinction using discrete time period simulations with relevant variables from the Domar debt model. In particular, it stresses that a rising debt ratio that might appear to be due to unfavourable interest rate dynamics can be due to a previous rise in the primary deficit. It then interprets broad trends in the data in light of these results to conclude that in the last few years there has been a primary deficit, not debt problem. It goes on to discuss the economic implications of the rising revenue deficit, which

[1] The list of economists holding this view is long. To cite two Mohan (2000), Rakshit (2003)

is the cornerstone of the FRB and the basis for Finance Commission mandated Centre-State transfers. Indeed, since Centre-State transfers are predicated upon economic performance indicators based upon the revenue deficit, the validity of this consensus view is critical in evaluating the efficacy of these transfer criteria.

The paper is organized as follows: Part II outlines an arithmetic simulation of the debt model to analytically distinguish deficit versus debt problems, as classified here, and goes on to discuss the choice of the appropriate interest rate in **forward looking** fiscal projections. Part III evaluates fiscal trends in light of the above analysis. The concluding Part IV discusses economic implications of the rise in the revenue deficit and provides a critique of Finance Commission mandated Centre-State transfers based on the above analysis.

PART II

DECOMPOSING DEBT CHANGES

THE BASIC DOMAR MODEL

The Domar (1944) debt stability condition is so well known that it is superfluous to derive it. However, to introduce the notation used in this paper to define various fiscal variables, the basic stability condition and related equations that determine the growth of debt and the debt ratio are outlined below. [2] With the following notation and 't' denoting time period:
DEBT is the outstanding stock of debt
FISCDEF is the fiscal deficit, and it is the change in debt stock.
PRDEF is the primary deficit
INTP is interest payments on the debt
INTP = R*D where R is the average (nominal) interest rate on debt
REVDEF = FISCDEF - CAPEXP (i.e. capital expenditure)
From the above variables and definitions we get:
FISCDEF = PRDEF + INTP = PRDEF + R(t)*D(t-1) (i)
FISCDEF = DEBT(t) - DEBT(t-1) (ii)
From the above two equations, scaling by GNP and converting all variables to ratios of GNP, denoted in small case, we get the **long run equilibrium** (LRE*) debt stability condition:
debt* = prdef/[g(Y) - R] **(1)**
where g(Y) denotes the growth rate of nominal GDP [g( ) denotes relevant growth rate]
DOMGAP refers to the denominator, i.e. g(Y) - R, and
* denotes long run equilibrium (LRE) values.
In long run equilibrium, GDP and DEBT grow at the same rate and debt converges to debt* as long as g(Y)>R. If R exceeds g(Y), it is a debt trap and debt grows without limit.[3]
During the transition to the equilibrium, the two equations determining debt dynamics are:
Growth(DEBT) = R + prdef/debt(t-1) **(2)**
debt(t) = debt(t-1)[1 + g(D) - g(Y)] **(3)**
Equations (1), (2) and (3) are sufficient to trace out the time path of all fiscal variables in response to exogenous changes in R, g(Y) and prdef. While in a fully specified macro framework, R and g(Y) will be endogenous, for Domar accounting purposes they are given.

[2] There are alternative ways to derive the Domar equations and condition. A complete exposition of the derivation and terminology used here is in Moorthy, Singh & Dhal (2000)
[3] For convenience the discussion here ignores both the monetized deficit and external borrowing. If we included them, then FISCDEF + MONDEF + EXTERNAL BORROWING = PRDEF + INTP.

It should be pointed out that nominal g(Y) and R are compared here, and all variables are in nominal terms. The common practice of comparing real rates in Domar analysis can be questioned. If both g(Y) and R are converted by the same deflator, the adjustment is superfluous. Using different deflators can lead to widely differing, inconclusive results. Most crucially, the Domar condition is based on actual, nominal payments in which budgets are transacted and taxes paid. Hence analysis of debt should only be in nominal terms.[4]

Distinguishing Primary Deficit Versus Debt Problems

Keeping in mind how the deficit and debt ratios are arithmetically linked, the Domar stability condition broadly indicates how changes in the debt ratio and related fiscal ratios (**intp**, **fiscdef** and **revdef**: interest payments, fiscal deficit and revenue deficit respectively) can be analyzed. If debt and/or the three deficit ratios rise because, ceteris paribus, the primary deficit rises, that can be characterized as a deficit problem; while if they rise because, ceteris paribus, DOMGAP falls, that can be characterized as a debt problem. A further decomposition of DOMGAP into growth and interest rate components is required. If DOMGAP falls because growth falls, that is a growth problem, while if it falls because R rises, that is an interest rate problem.[5]

A numerical example using the long run equilibrium values reported in the accompanying Table can help illustrate this point. It is assumed that capital expenditure is constant at 1.5% of GNP. Hence the revenue deficit, labelled revdef = fiscdef minus 1.5. Further, GDP growth is constant at 13% of GNP in the first two cases.

Table I

Fiscal Changes under Worsening Deficit versus Debt Conditions: LRE Values

(% of GNP)	**prdef ratios**	**Interest**	**GDP Rate**	**DOMGAP Growth**	**debt**	**intp Ratio**	**fiscdef (R*d)**	**evdef**
Initial	1	11	13	2	50	5.5	6.5	5.0
I. prdef rises	**1.5**	11	13	2	75	**8.25**	**9.75**	8.25
II. R rises	1	**11.67**	13	1.33	75	**8.75**	**9.75**	8.25
III.Growth falls	1	11	**12.33**	1.33	75	**8.25**	**9.25**	7.75

In Table I, the initial conditions is of LRE, with debt* at 50%. Due to the high nominal interest rate chosed in the example (11%), intp and related fiscal ratios are large despite a small prdef. In Case I, prdef rises by 50 bps while in Case II R rises to 11.67%, both ceteris paribus changes. In Case II, since g(Y) is unchanged, implicitly some negative shock has

[4] A good example of the importance of conducting analysis in nominal terms is that of Japan at present. With rapid deflation in capital goods prices, using the GDP deflator for income and the CPI for the interest rate, real GDP has risen over 3% in two years ending 2003 Q2, well above the real interest rate, leading to a favourable DOMGAP. But nominal GDP has been flat and using the nominal rate R, DOMGAP has hovered around zero, raising Japan's huge debt burden.

[5] The word 'problem' is chosen for convenience It does not imply that changes in the exogenous variables make the debt unstable. The term deficit and debt factors could be used instead of deficit and debt problems.

pushed up the real interest rate. In both cases, starting from initial values, the debt ratio, the fiscal and revenue deficit worsen by the same amount to 75%, 9.75% and 8.25% respectively. However, in the first case, these adverse changes are due to a rise in the primary deficit and hence a deficit problem. In the second case, they are due to a rise in the interest rate and a fall in the Domar gap, and thus a debt problem.[6]

For the initial numerical values assumed here, a 50 basis point rise in the primary deficit, which might seem to be small, raises interest payments by almost three percentage points in LRE, a substantial amount. A small rise in the interest rate of 67 basis points has the same long run impact on debt and fiscdef. An identical drop of 67 basis points in GDP growth (Case III) raises debt by the same amount, but has a 50 basis point smaller impact on intp and fiscdef and revdef than in case II.

Some Dynamic Domar Arithmetic

Although a good starting point and benchmark for debt analysis, a guide to interpreting changes in the actual ratios over time, the Domar stability condition is rarely useful. While the economy will converge to debt* in the absence of fresh shocks, the actual debt ratio is hardly ever at that point. As the period based simulation results in Table II show (corresponding to Case I and case II outlined above), following the 0.5 percentage point rise in prdef in period 3, with DOMGAP constant, it takes over 170 periods to achieve "convergence". Convergence is defined here as reaching within 1% of the new long run equilibrium i.e. a debt ratio of 74.25% is within 1% of the equilibrium ratio of 75%.

To analyze changes in the actual debt ratio and in intp, fiscdef and revdef, it is necessary to use the two dynamic equations (1) and (2) that determine the fiscal variables in transition. This is done using the simulation results in Table II. This simulation compares the adverse consequences, over a medium term horizon, of the changes in prdef and R shown in Table I: the 0.5 percentage point rise in prdef (Case I) with that of a 67 basis point rise in interest rate (Case II) starting in period 3. (As noted earlier, in LRE they have an identical, adverse impact on debt, fiscdef and revdef.)

Ignoring the initial exogenous shock in period 3 (50 bps rise in prdef in Case I, 33 bps rise in intp in Case II), **periods 4 to 9** can be described as a medium-term horizon. Over this time span, the rise in predf raises intp by **25** basis points (5.56% to 5.81%), while the exogenous rise in R raises intp by **19** basis points (5.87% to 6.06%), a smaller amount. This simulation shows that over a medium term horizon, intp rises more in response to the prdef increase than to rise in R, although over the long run the reverse is the case.[7] This result is not trivial.[8]

---

[6] For simplicity, capital expenditure has been kept constant. But the scenarios can be modified so that the rise in prdef is due to capital expenditure: depending on the effect it has on the economy, some values will change.

[7] This result is analogous to one that this author (Moorthy, 1998) has derived using discrete time simulations with the Solow-Blinder (1973) debt model. In that paper, Solow and Blinder using differential equations showed that bond finance, if stable, raises nominal GNP more than money finance in the long run. (Their proof is irrelevant because it is based on IS/LM and the liquidity preference theory of interest that is valid in the short run. Putting in the Fisher effect of inflation upon interest rates reverses their conclusion). But even leaving aside this long run reality, under their assumptions, in the short to medium run relevant for stabilization policy, a period when the IS/LM interest rate situation does prevail, money finance raises nominal income more than bond finance under reasonable assumptions about multiplier values in the Solow-Blinder model.

[8] This result has not been proved but numerical simulations show its validity. Experimenting with (i) a smaller rise in predf (1% to 1.2%) and corresponding rise in R (11% to 11.33%) to reach the same LRE debt* and (ii) a larger rise in prdef (1% to 2%) and corresponding rise in R (11% to 12%) yields the

Viewed differently, starting from the LRE values in period 2, fiscdef rises **81** bps (6.50% to 7.31%) in case I, but only **56** bps (6.50% to 7.06% in Case II. A worsening of prdef has a much larger negative impact on the fiscdef in the short to medium term than a (long run) equivalent worsening of debt conditions due to a rise in the interest rate. What appears to be due to worsening debt conditions in macro data may be more due to a worsening of prdef in immediately preceding years. This implication of discrete time period analysis must be kept in mind when analyzing actual trends in, and consequences of, the changes in prdef and R and thus sorting out deficit versus debt burdens.

Choice of Interest Rate in Domar Projections: Accountants Needed

A critical issue is which interest rate to use in Domar projections. In any given year, the rate relevant for the Domar formula is the average interest rate (cost) on all debt.[9] Indeed while this simulation treats the interest rate as exogenous (intp = exogenous R*d), average R(D) is calculated by dividing INTP by last year's debt stock from the Budget Accounts.

When using the Domar equation for assessing fiscal variables in the future, on what basis should projections of R(D) be made? If all debt were one period or floating rate debt, then R(D) is also last period's going market rate, R(ML), which will need to be projected. But in general R(D) the rate on total debt will differ from R(ML), the weighted average rate on new market loans. R(D) is an accounting aggregate derived from tranches of debt whose rates and weights can differ considerably. Even if R(ML) continues to fall as in the current economic environment, if the oldest tranche of maturing low cost debt (say issued during financial repression, as before 1991) gets replaced by falling but higher cost market rate debt, R(D) will go up.[10] The numerical example discussed in the above footnote may be relevant to explaining the rise in India's R(D) during the late 1990s, despite steeply falling market rates.

In short, mechanically using R(D) the average rate, or R(ML) the market rate, or forecasting them econometrically, is inappropriate for fiscal projections. Accounting projections of R(D), derived from calculations based on the actual maturity structure of debt and corresponding rates at which those debt tranches were contracted, along with projections of R(ML) for fresh tranches of debt, are essential for sound fiscal projections.

---

same pattern of response: when prdef rises, intp rises more between periods 4 to 9, but the cumulative rise in intp is more when R rises.

[9] Total debt is public debt: domestic plus external. Since external borrowing is a small proportion of total borrowing, and due to the complications associated with changes in the exchange rate, this analysis focuses on domestic debt, which is treated as synonymous with total debt. Even at market exchange rates, the share of external debt in total debt was under 10% in 1999-2000. With external debt prepayment under way, the share of external debt, barring a sudden rupee collapse, could decline even more.

[10] Asimple numerical example, with constant debt stock for convenience, can help elucidate this point Suppose
all outstanding debt consists of ten year bonds in equal amounts, one tranche of which matures every year and gets replaced by new debt issued at R(ML). Suppose in year t, outstanding debt is composed as follows: one tranche at 5% was issued in year t-10, eight tranches issued at 10% in years t-9 to t-2, and one tranche issued at 7% in year t -1. Then the weighted average cost of debt or R(D) is .5 + 8 + .7 = 9.20%. New debt was issued at 6%. Then in the next year t+1, the 5% tranche gets replaced by a 6% issue which is a falling rate. But R(D) will go up to 8+.7+.6 = 9.3%. If the debt stock is growing, then in this case R(D) rises faster.

However, if debt buybacks and similar schemes are allowed to replace old with new debt, then R(ML) should play a greater role in making Domar projections. Thus if 30% of existing debt is swapped in a year, then the projected cost of debt in year t will be approximately 0.7*R(D/based on past debt average) + .3*R(ML). Using more detailed information on which bonds are being swapped, more precise projections can be made. This important consideration needs to be kept in mind when evaluating India's fiscal situation.

How should R(ML) be forecasted? In a financially developed bond market, the random walk property of asset prices should hold and current R(ML) is the best predictor of future R(ML). However, such a simplistic rational expectations approach needs to be modified by the impact of monetary policy on interest rates. If the current stance of policy is easy, then both short and long rates can be expected to rise, and vice versa.[11] Thus R(ML) can and should be forecast from the interest rate futures market, if a proper market exists, or judgementally, taking into account the state of the economy and its impact on future monetary policy.

III

EXAMINING INDIA'S FISCAL SITUATION

The above analytical framework and associated implications of discrete time period analysis can now be applied to India's fiscal trends. The empirical examination is at a broad level and **ignores contingent liabilities** and foreign debt. Taking into account contingent liabilities might indicate a fundamentally worse fiscal situation. It should be reiterated that this paper is certainly not meant to provide a complete analysis of all aspects of India's fiscal situation. Nor does it examine in full detail various fiscal trends of Centre and States. It is mainly a **comparison** of the importance of debt (more specifically, interest rate) versus primary deficit problems in determining the current fiscal situation. . Before looking at primary deficit trends, it is better to examine the evidence on the Domar gap and thus the debt problem.

Table III lists g(Y), R(D), net R(D), net Domar gap, R(ML) and R(SSPF). All rates calculated are historic rates, except for ML, which refers to the weighted average rate on newly issued market loans. R(SSPF) refers to the average rate on Small Savings & Provident Fund, i.e. non-market debt. All the data in Table III are taken or based on the RBI Handbook of Statistics on Indian Economy, 2002-03 issue. This does not cover some of the data for 2002-03 and 2003-04, which are taken from the Economic Survey 2003 or the latest RBI Annual report. As can be seen, the cost of debt R(D) rose steadily through the 1990s and crossed 10% in 1998-99. It has fallen sharply in the last three years ending 2002-03 to 8.46%. This rise through the late 1990s occurred despite a drop in R(ML) for six years in a row, from a peak of 13.69% in 1996-97 to 9.44% in 2001-02. As explained in Section II, the end of financial repression has probably led to the replacement of maturing, subsidized low cost debt by higher cost market debt that pushes up R(D), despite falling R(ML) that finances an increasing share of the debt.

For examining the stability of Centre's debt, it can be argued that the correct interest rate is net R(D), after adjusting for the Centre's interest receipts from the States. This is generally not done in Domar analysis for India. Judged by this rate net R(D), DOMGAP has worsened in recent years, but debt is stable by a comfortable margin, and has always been so, with either R(D) or even with R(ML). There has been no debt trap at all, although a debt problem:

[11] Interest rates differ from other asset prices, especially stock prices. Since governments cannot easily and do not peg stock prices, the random walk property holds. But in the money market, since banks need to hold reserves, the central bank can and does peg short-term rates. The random walk model generally does not hold for interest rates, especially short rates: various types of forecasts do better.

since DOMGAP has fallen sharply in the last two years, there has been a sharp rise in the debt ratio.

Even with the gross interest rate, R crossed over g(Y) only due to the temporary drop in GDP due to the weak economy in 2000-01 and 2001-02. That is likely to reverse itself in 2002-3 and surely in 2003-4. As for projecting R(D) itself, there is no substitute for concrete accounting estimates based on actual debt components.

Data on the Centre's outstanding market debt as of March 2003 in different interest ranges is presented in the latest RBI Annual Report (Table 11, Pg. 192). It should be noted that over two-thirds of outstanding debt was issued at above 10%. Based on data in Table IV the approximate weighted cost of market debt can be calculated. This comes out 10.46%. To form a more accurate estimate of market R(D) for the fiscal year 2003-04, adjustment needs to be made for those G-Secs expiring during 2003-04 and being replaced by lower cost fresh G-Secs issued at R(ML). Since this data is not easily available, this adjustment is not done. Total R(D) is a weighted average of market debt (about 70% of domestic debt) and non-market debt, i.e.
R(D) = Market Debt Share*R(D/Market) + Non-market Debt Share*R(SSPF). Assuming the latter has fallen to about 9.0% for 2003-04, due to the impact of the PPF rate cuts, then
R(D) = .7*10.46% + .3*9% = 10%. This is likely to be well below GDP growth estimate of about 13% for 2003-2004 obtained from nominal GDP calculated implicitly in the fiscal deficit ratio Economic Survey estimates. With net R(D), DOMGAP will be much higher.

Turning to R(ML), while it crossed over g(Y) in 2000-01 and 2001-02, with net R(ML), DOMGAP has always been positive. With the sharp drop in R(ML) of 200 bps in 2002-03, DOMGAP is likely to increase, even allowing for the current transitory easy money policy.

It should be noted that whenever a "crossover" of any relevant R over GDP growth occurs, there is a tendency to classify that as an adverse development. The IMF, in its Country Report on India (2002) points to this crossover as a factor inducing debt unsustainability (2002, p. 41, 45). However, if GDP growth drops temporarily due to a supply shock, despite falling market interest rates, there is no cause for undue alarm, as experience of the 1997-98 crossover, when R(ML) had begun declining in response to lower inflation, indicates.[12]

The crossover in 2000-01 and 2001-02 with respect to gross R(D) and R(ML), in all likelihood, falls in this category: GDP growth fell due to the weak world economy, IT sector collapse and poor agricultural performance, despite falling rates. As these factors get reversed, the positive DOMGAP is likely to reappear.

[12] Rajaraman & Mukhopadhayay (1999) highlighted that R(ML) crossed over g(Y) in 1997-98 and concluded that debt is likely to be unstable, partly based on a time series forecast of interest rates of 16.5 % until 2014. They recommended, at the prevailing level of primary deficit, a burst of seignorage to avert the debt trap. In interest rate analysis based on Milton Friedman's monetarist paradox, but without the Quantity Theory, we pointed out, "During 1997-98, despite falling sharply, R(ML) crossed over g(Y) due to the decline in GDP growth resulting from both a drop in agricultural output and the ongoing industrial recession...but that year was an aberration....Clearly when the Domar condition is violated because of a large temporary drop in GDP growth despite a fall in interest rates, it does not imply debt is unsustainable...In short, it is not market borrowing, but the absence of market borrowing due to guaranteed SSPF rates, that has been responsible for the potential instability of this component of, and thereby, of total debt." (Moorthy, Singh & Dhal , 2000, p. 40-41)"

The Move to Floating Rate Debt

A potentially favourable aspect of the debt situation is the debt buyback scheme implemented this July. However, the Centre's scheme to buy back illiquid securities from the commercial banks to enable them to write off their Non Performing Assets (NPAs) has not been much of a success. The amounts have not been large relative to the Centre's debt, and the tax breaks to the banks, not taken into account here, would offset much of the interest savings to the Centre. Based on the available data, about 2.8% share of total market debt (Rs. 19,000/673900 crs.), comprised of high cost illiquid securities, ranging between 11.50% and 13.85%, were bought back on July 19, 2003 and new securities issued at rates varying between 6.25% and 7.46%. Assuming about 5 percentage point saving, R(D/market) would fall by 14 basis points and total R(D) by about 10 basis points. But if these schemes continue and the size of the buybacks go up, the impact on R(D) may turn out to be large.

Trends in State Debt

While it may be useful to look at consolidated Centre-State deficit ratios to get an overall perspective on the economy, for analyzing debt problems a separate treatment of the Centre and States is required, even if the focus is on the whole economy. It is possible that the consolidated Centre-State weighted DOMGAP is comfortable, while the States are in a debt trap. Similarly individual States may be in a debt trap, while in the aggregate they are not. For analyzing debt stability, the stability of each sub-component of debt is critical.

What is the correct rate to be used for States? In examining the Centre's debt position, net R(D) was used to adjust for interest receipts of the States from the Centre. Since this adjustment is substantial (about 33% in recent years), it was seen that Domar stability holds by a wide margin for net R(D). However, for the States, the gross rate is relevant since interest receipts of States from their loans are negligible.

Data on R(ML/States) and R(D/States) are listed in Table III. R(D) ceteris paribus has remained high, as Table III indicates. As can be seen, R(ML) for the States exceeds g(Y) for 2000-01 and 2001-02. However, this crossover occurred due to falling GDP growth, despite falling R(ML). As argued earlier, this is likely to be temporary as GDP growth revives. Nevertheless, R(D/States) is significantly higher than for the Centre (12.3% for 2002-03, RBI Handbook) and hence, ceteris paribus, might be indicative of upcoming debt problems. For 2003-04, based on calculations in Table IV for State debt, weighted by interest rate groups as for the Centre, R(D/Market, for States) works out to 10.69% for 2003-04.

Impact of Debt Swap Scheme for States

However, the debt swap scheme for the States that has been underway since February to refinance all debt in excess of 12%, for a total of Rs. 98,000 crs. using the Small Savings collection is a very favourable change in the State debt situation. Loans in excess of 12% constitute 43% of the States outstanding debt to the Centre. Already Rs. 35,000 crs. have been swapped at about 6%. Assuming all the loans with average yield of 13% are swapped for an average yield of 7% over the next two years, a 6 percentage point reduction in interest costs, the savings to the States would be 0.43*6% or 2.58 percentage points. Thus R(D) for the States is likely to be below GDP growth, implying a favourable DOMGAP.[13]

[13] A major potential danger for the states is that they are now incurring more higher cost (compared tomarket borrowing) non-market SSPF debt since the Centre decided to pass on 100% of the Small

Movements in Deficit Trends

Examination of various relevant DOMGAPS leads to the conclusion that despite a worsened debt position over the last two years, the temporary reversal in GDP growth will abate and therefore there is no debt problem for the Centre. For the States, the debt swap schemes are reducing the effective R(D) enough to ensure debt stability. This part documents various fiscal trends to emphasize that there is a substantial primary deficit problem.

As can be seen in Table V, taken from the RBI's latest Annual Report, whether we look at Centre, State or consolidated data, prdef ratios fell substantially from 1990-91 to 95-96 and then rose slightly over the second half of the decade. Despite the rise in R(D) and worsening of net DOMGAP over the early years of structural adjustment, the sharp fall in prdef during this period lowered the overall fiscdef and the debt ratio.[14] As a result, there has not been much rise in Centre's intp (from 3.8% to 4.2%) over the first half of the 1990s. As explained in the simulation in Section II, in the short to medium term, the impact of changes in prdef dominates that of changes in DOMGAP. This helps explain why intp did not rise much during the first half of the 1990s, despite a slight worsening of DOMGAP. During the second half of the decade upto 2001-2, both DOMGAP and prdef became sharply adverse, resulting in rising intp, fiscdef, revdef and a sharp rise in the debt ratio. The combined Centre-State data indicate a much worse situation than the Centre's alone.

IV

CONCLUSION

The main conclusion of this analysis is that despite adverse trends in prdef and DOMGAP in recent years, interest rate trends will be very favourable over the next few years. The reasons are mainly that:
(i) for the Centre maturing high cost debt is being replaced by lower cost market rate debt, which is also lowering the cost of benchmarked non-market SSPF debt.
(ii) for the States high cost debt is being swapped by low cost debt.

What should be emphasized is that, looking ahead, the outlook for DOMGAP is favourable, whether Centre, States or combined. The overhang of high cost debt during the 1990s has largely worked its way through the system, and from now on the benefits of declines in R(ML), R(SSPF) and debt swaps are likely to dominate and contribute to lowering intp.

Nevertheless, the fiscal situation is grim because of the rise in prdef and, as a result, rising debt ratio that feeds back into intp. The favourable interest rate environment is not likely to be enough to offset the worsening prdef. Fiscal progress from now should overwhelmingly focus on reducing prdef. Only then can we expect intp, fiscdef and revdef to come down.

Savings collection to the States. However, if the 20% of the Small Savings is fully earmarked for debt swapping, then the interest saved will exceed the extra interest saved.

[14] Actually, prdef declined until 1996-97, its lowest level for the decade, and has risen since then. For convenience, 1995-96 has been taken as a mid decade benchmark, as in the RBI Annual Report. In this context, a clarification in the citation on Page 1 of this paper, from the RBI Annual Report, is needed. There was no *steady improvement* in prdef through the 1990s, nor was there a *monotonic* rise in public debt. When prdef fell in the first half of the 1990s so did the debt ratio, and vice versa during the second half of the 1990s

Is the Fiscal Responsibility Bill adequate to tackle these problems?[15] In my opinion, no. The cornerstone of the Fiscal Responsibility Bill, and also the economic conditionalities of the 11th Finance Commission, is improvement in the revenue deficit. But the revenue deficit is mainly interest payments. It is neither feasible nor desirable to target a variable that is largely endogenous. If it is felt that borrowing to incur capital expenditure is desirable, then the FRB should aim to keep the primary revenue deficit under check (Moorthy, 2001).

Total deficit or debt targets are meaningful provided some distinction is made between instruments or operating targets, intermediate targets and final targets, as in the monetary policy literature, and it is clearly specified as to which fiscal variables are the operating intermediate or final targets respectively. While debt **may** be a good final target, it is clearly not a good intermediate, let alone operating target.

Unexpected changes in the world economy are greatly easing India's interest payments burden. Market interest rates have fallen sharply in India since 2001 due to the US economic situation and the associated reduction of the federal funds rate from a peak of 6.5% in January 2001 to 1% at present. Our financial markets are now so closely linked to the world that the favourable impact of the US situation is manifesting itself in lowered cost of debt through new issues and debt swaps. The ensuing improvements in the revenue deficits of States are getting rewarded as per 11th Finance Commission recommendations on transfers to States linked to improvement in the revenue deficit based ratios.

More specifically, the 11th Finance Commission had recommended the establishment of an Incentive Fund for the purpose of encouraging fiscal reforms in the States on the basis of a monitorable fiscal program. Accordingly, an Incentive Fund of about Rs. 10,000 crs. was created to reward States that achieve a 5 percentage point reduction in their revenue deficit to revenue receipts ratio in each year until 2004-05 (RBI Survey of State Finances, 2002-03, p. 14). However, if any such formula is devised by the 12th Finance Commission, that would under present circumstances reward States that have borrowed excessively and may now start reaping the benefits of lower intp due to fortuitous declines in R(ML) and R(SSPF). A primary deficit target will not reward States for their good luck, nor penalize them if the cost of borrowing suddenly rises and raises intp. A separate incentive formula for rewarding States that cut intp by deliberately engaging in debt swap schemes can be devised.

One can hope that the 12th Finance Commission will reward States that cut their primary deficit, rather than continue to base transfers on improvement in the revenue deficit. Money may or may not be the root of all evil, but the primary deficit is certainly the root cause of all debt.

[15] A good discussion of the efficacy of fiscal responsibility legislation worldwide, with reference to the Indian context, is provided by Howes and Jha (2002).

Table II : DECOMPOSING DEBT CHANGES									
	Exog	Exog	Exog		Debt	Debt			
Period	Interest	GDP	prdef	DEBT	Ratio	Ratio	intp	fiscdef	revdef
	rate	Growth		Growth	Level	Change			
0	11	13	1	13.0000	50	0	5.5	6.5	5
1	11	13	**1**	13.0000	50	0	5.5	6.5	5
2	11	13	1	13.0000	50	0	5.5	6.5	5
3	11	13	**1.5**	14.0000	50.5	0.5	5.5	7	5.5
4	11	13	1.5	13.9703	**50.99**	**0.49**	**5.555**	**7.06**	**5.56**
5	11	13	1.5	13.9418	51.47	0.4802	5.609	7.11	5.61
6	11	13	1.5	13.9143	51.941	0.4706	5.662	7.16	5.66
7	11	13	1.5	13.8879	52.402	0.46118	5.713	7.21	5.71
8	11	13	1.5	13.8625	52.854	0.45196	5.764	7.26	5.76
9	11	13	1.5	13.8380	**53.297**	**0.44292**	**5.814**	**7.31**	**5.81**
10	11	13	1.5	13.8144	53.731	0.43406	5.863	7.36	5.86
176	11	13	1.5	13.0204	74.257	0.01517	8.167	9.67	8.17
177	11	13	1.5	13.0200	74.271	0.01487	8.168	9.67	8.17
Infinity	11	13	1.5	13.0000	75	zero	8.25	9.75	8.25

					Debt	Debt			
Period	Interest	GDP	prdef	DEBT	Ratio	Ratio	intp	fiscdef	revdef
	rate	Growth		Growth	Level	Change			
1	11	13	1	13	50	0	5.5	6.5	5
2	11	13	1	13	50	0	5.5	6.5	5
3	**11.67**	13	**1**	**13.67**	**50.335**	**0.335**	**5.835**	**6.84**	**5.34**
4	11.67	13	**1**	13.656689	50.666	0.33054	5.874	6.87	5.37
5	11.67	13	**1**	13.643728	50.992	0.32615	5.913	6.91	5.41
6	11.67	13	**1**	13.631104	51.314	0.32181	5.951	6.95	5.45
7	11.67	13	**1**	13.618805	51.631	0.31753	5.988	6.99	5.49
8	11.67	13	**1**	13.60682	51.944	0.31331	6.025	7.03	5.53
9	11.67	13	**1**	13.595138	**52.253**	**0.30914**	**6.062**	**7.06**	**5.56**
10	11.67	13	**1**	13.583748	52.559	0.30503	6.098	7.10	5.60
Infinity	11.67	13	1	13	75	zero	8.75	9.75	8.25

Table III : MAJOR DEBT RELATED VARAIBLES (mostly Centre)																
			Int						Centre's			Centre				Consol.
			Adj	Net	Net				Debt	States	States	prdef	Gross			Debt
YEAR	g(Y)	R(D)	Factor	R(D)	DOMGAP	R(ML)	R(SSPF)	PPF	Ratio	R(D)	R(ML)		Intp	fiscdef	revdef	Ratio
1970-71	6.8	3.4	0.03	0.1	6.8	5.37	4.48		41.2			1.8	1.3	3.1	-0.4	45.8
1979-80	9.7	5.3	0.41	2.1	7.6	6.64	7.64		41.6			3.4	1.9	5.3	0.6	46.5
1970s	11.1	4.3	0.19	0.9	10.2	5.91	5.95		39.5			2.3	1.5	3.8	-0.3	43.6
1980-81	19.0	5.2	0.31	1.6	17.4	7.03	7.22		41.6	5.7	6.75	4.0	1.8	5.8	1.4	46.4
1989-90	15.3	7.7	0.52	4.0	11.3	11.49	11.05		55.2	8.7	11.50	3.7	3.7	7.3	2.5	61.4
1980s	15.0	6.3	0.40	2.6	12.4	9.86	9.18		48.5	7.0	9.36	4.2	2.6	6.8	1.7	54.0
1990-91	17.0	8.0	0.59	4.8	12.2	11.41	10.81	12.00	55.3	9.2	11.50	4.1	3.8	7.8	3.3	61.7
1991-92	14.8	8.5	0.59	5.0	9.9	11.78	11.28	12.00	54.3	9.9	11.84	1.5	4.1	5.6	2.5	60.9
1992-93	14.6	8.8	0.60	5.2	9.3	12.46	11.06	12.00	53.7	10.5	13.00	1.2	4.2	5.4	2.5	60.5
1993-94	14.8	9.1	0.59	5.4	9.4	12.63	12.38	12.00	55.6	11.1	13.50	2.7	4.3	7.0	3.8	62.5
1994-95	17.9	9.2	0.64	5.9	12.0	11.90	12.67	12.00	53.2	12.1	12.50	1.4	4.4	5.7	3.1	60.1
1995-96	17.3	9.3	0.63	5.9	11.4	13.75	11.72	12.00	51.0	11.9	14.00	0.9	4.2	5.2	2.5	58.0
1996-97	15.2	9.8	0.63	6.2	9.0	13.69	12.70	12.00	49.4	12.1	13.82	0.5	4.3	4.9	2.4	56.5
1997-98	11.3	9.7	0.61	6.0	5.3	12.01	12.15	12.00	51.1	12.4	12.82	1.5	4.3	5.8	3.1	58.6
1998-99	14.3	10.0	0.61	6.1	8.2	11.86	12.20	12.00	51.2	12.8	12.35	2.0	4.5	6.5	3.8	59.5
1999-00	11.3	10.1	0.62	6.3	4.9	11.77	10.48	12.00	52.7	13.2	11.89	0.7	4.7	5.4	3.5	62.2
2000-01	8.6	9.7	0.67	6.5	2.1	10.95		11.00	55.5	12.3	10.99	0.9	4.7	5.6	4.1	66.0
2001-02	9.1	9.2	0.67	6.2	3.0	9.44		9.50	59.5	12.9	9.20	1.5	4.7	6.1	4.4	71.1
2002-03(RE)	*11.0?*	*8.5*	*0.65*	*5.5*	*8.3*	*7.34*		*9.00*	*63.2*	*12.3*	*7.49*	*1.1*	*4.4*	*5.6*	*4.0*	*75.5*
2003-04(BE)	*13.0?*	*7.9*	*0.68*	*5.4*	*7.6*	*5.94*		*8.00*	*59.9*			*1.0*	*4.1*	*5.2*	*3.8*	
Source:RBI Handbook 2002-03; for latest data: Econ.Survey & RBI Ann.Rpt 2002-03																

Table IV: CENTRE STATES WEIGHTED COST OF DEBT								
		CENTRE	DEBT				STATE	DEBT
2003 March								
Rate Range	Midpt	Share	Wt Cost		Rate Range	Midpt	Share	Cost
5.73-5.99	5.85	1.84	0.108		<7%	6.5	14.72	0.957
6.00-6.99	6.5	6.63	0.431		7.00-7.99	7.5	8.29	0.622
7.00-7.99	7.5	11.82	0.887		8.00-8.99	8.5	6.02	0.512
8.00-8.99	8.5	4.4	0.374		9.00-9.99	9.5	4.07	0.387
9.00-9.99	9.5	7.72	0.733		10.00-10.99	10.5	10.94	1.149
10.0-10.99	10.5	12.55	1.318		11.00-11.99	11.5	12.82	1.474
11.0-11.99	11.5	31.49	3.621		12.00-12.99	12.5	23.5	2.938
12.0-12.99	12.5	18.56	2.320		>13.00	13.5	19.65	2.653
13.0-14.0	13.5	5	0.675					
ShareSum		100.01			ShareSum		100.01	
TotalCost			10.467		Total Cost			10.690
Source: RBI Ann.Report 2002-03 Chap.X1								

Table V : MAJOR DEFICIT RATIOS						
						NET
CENTRE	prdef	intp	fiscdef	revdef	debt	DOMGAP
1990-91	4.1	3.7	7.8	3.3	55.3	12.2
1995-96	0.9	4.2	5.1	2.5	51	11.4
2001-02	1.5	4.6	6.1	4.4	59.5	3
2002-03 RE	*1.2*	*4.7*	*5.9*	*4.2*	*63.2*	*5.5*
STATES	prdef	intp	fiscdef	revdef	debt	DOMGAP
1990-91	1.8	1.5	3.3	0.9	19.4	7.8
1995-96	0.8	1.8	2.6	0.7	17.9	5.4
2001-02	1.5	2.7	4.2	2.6	25.7	-2.8
2001-02RE	*1.7*	*3*	*4.7*	*2.5*	*28.1*	*-1.3*
						GROSS
CONSOLIDATED	prdef	intp	fiscdef	revdef	debt	DOMGAP
1990-91	5	4.4	9.4	4.2	61.7	9
1995-96	1.6	5	6.5	3.2	58	8
2001-02	3.7	6.2	9.9	6.9	71.1	-0.1
2002-03 RE	*3.6*	*6.5*	*10.1*	*6.7*	*75.5*	*2.5*
Source:RBI Annual Report 2002-03 Ch. IV/Table 4.11 & Table 3 for DOMGAP						

BIBLIOGRAPHY

Domar, Evsey (1944) "The Burden of the Debt and National Income", American Economic Review, 34, pp.798-827

Howes, Stephen and Jha, Shikha (2002) "State Finances in India: Towards Fiscal Responsibility", in India: Fiscal Reform for Accelerated Growth, Oxford University Press,

Government of India (2003) Economic Survey

Jha, Raghbendra (1999) "Some Rudimentary Macroeconomics of the Budgetary Deficit and Debt" in Fifty Years of Development Economics: Essays in Honour of Prof. Brahmananda, ed. by A. Vasudevan, D.M. Nachane and A. Karnik, Himalaya Publishing House, New Delhi.

International Monetary Fund (2002) "Selected Issues and Statistical Appendix for India", Country Report 02/193

Mohan Rakesh (2000) "Fiscal Correction for Economic Growth: Data Analysis and Suggestions" Economic and Political Weekly, June 10-17, pp. 2027-2036

Moorthy, Vivek (1998) "The Stability of Bond Finance Deficits: A Critique of the Literature", Indian Institue of Management Bangalore Working Paper # 115

Moorthy, Singh Bhupal & Dhal Sarat (2000) "Bond Financing and Debt Stability: Theoretical Issues and Empirical Analysis for India", Development Research Group Study # 19, RBI, Mumbai June.

Moorthy, Vivek, (2001) Achieving Fiscal Responsibility" Economic Times, March 22.

Rakshit, Mihir (2003) On Tackling Economic Slowdown, Business Standard, May 16

Rajaraman, Indira & Mukhopadhayay, H. (1999) "Sustainability of Public Domestic Debt in India" Seminar on Issues before the 11th Finance Commission, January 5-6.

Solow, Robert and Blinder, Alan (1973) "Does Fiscal Policy Matter?" Journal of Public Economics, Vol.2 pp. 319-337

Reserve Bank of India: Handbook of Statistics on the Indian Economy, Annual report, & Survey of State Finances, 2002-03 and past issues.

ASSESSING INDIA'S PRIMARY DEFICIT VERSUS INTEREST BURDEN

Conference on Issues before the 12th Finance Commission

September 30th, 2003

New Delhi

Professor Vivek Moorthy*

Indian Institute of Management, Bangalore

Comments welcome

Address for correspondence: vivekmoorthy@iimb.ernet.in

*The author wishes to thank Dr. Pinaki Chakraborty of NIPFP for valuable discussions and information, and NIPFP for providing research facilities.