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ARE THEY EFFECTIVE?**

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ABSTRACT

Fiscal Rules in India: Are They Effective?*

This paper, a chapter in the forthcoming Oxford University Press Handbook of the Indian Economy, edited by Chetan Ghate, considers India's experience with fiscal (responsibility) rules during the past decade.

After reviewing the basic facts concerning public debt and deficits in India, the background and basic arithmetic of the Fiscal Responsibility and Budget Management Act, 2003 (FRBMA) are presented and commented upon. With the very small number of data points at our disposal, no formal statistical estimation and hypothesis testing about the efficacy of the rules can even be attempted. Instead we critically explore the outcomes of the FRBMA over the 5-year period of its operation, 2004/05-2008/09, using an eclectic but comprehensive metric comprising quantitative targets, qualitative strictures, transparency, integrity, and overall financial performance over the business cycle. We also briefly review fiscal responsibility legislation (and outcomes) at the state level. The evidence suggests that in recent years the fiscal space "vacated" by the states has been usurped by the central government. Finally, the recommendations of the 13th Finance Commission regarding a roadmap for fiscal consolidation are examined. We also outline a basic incentive compatible framework for state and central governments to hold each other accountable over agreed pre-determined targets.

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1. Introduction

A chapter on fiscal rules for this Handbook is apposite on three grounds. First, the terminal date for India's maiden attempt at legislating fiscal virtue passed relatively recently (end-March 2009).[1] Second, the challenge of reining in large fiscal deficits has reemerged in India and elsewhere. At present India's fiscal position, as measured by such common indicators as the general government budget deficit and the general government gross debt (as shares of GDP) puts it in the same camp as recognised fiscally stretched states like Greece, Portugal, Spain, Ireland and the UK.[2] Third, against the background of a worrisome fiscal stance, the 13th Finance Commission has suggested contours of successor fiscal responsibility legislation to the first one, whose targets were effective 2004/05-2008/09.[3]

There are four standard reasons and one somewhat unconventional driver for unease when a country's public sector debt and deficit are high and/or rising. First, there is the possibility of *sovereign insolvency* or *bankruptcy of the Exchequer*. Sustainability issues can come to the fore during economic downturns if the public debt and the primary (non-interest) public sector deficit are not already at prudent levels.

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[1] The Fiscal Responsibility and Budget Management Act, 2003 received the Presidential assent on August 26, 2003. It was the first attempt to legislate fiscal responsibility at the Union level. It included the specific requirement that the Central Government revenue (or current) deficit be eliminated by the 31st March, 2008 and that thereafter an adequate revenue surplus be built up. Neither objective was achieved.

[2] The central government's deficit in 2008/09, including off-budget issue of bonds (in lieu of cash payment), was 7.8 percent of GDP, the highest since 1991. (The Indian fiscal year runs from April 1 to March 31.)

[3] The main (but not only) term of reference of the Finance Commission, which is appointed quinquennially, is to determine the distribution (for a 5-year period) between the central government and the state governments of taxes collected by the centre. The 13th Finance Commission, in addition, was requested by the Union government to help with the following: "Having regard to the need to bring the liabilities of the central government on account of oil, food and fertiliser bonds into the fiscal accounting, and the impact of various other obligations of the central government on the deficit targets, the Commission may review the roadmap for fiscal adjustments and suggest a suitably revised roadmap with a view to maintaining the gains of fiscal consolidation through 2010 to 2015" (Government of India [2010c]).

To achieve debt sustainability, either revenues will have to be raised or public spending cut. Higher revenues often require higher marginal tax rates, which is distortionary and curbs potential output. Public spending cuts often fall on productivity-raising infrastructure investment or on socially desirable support for the vulnerable and weak. In addition, if consumption behaviour has Keynesian features (a change in current disposable household income has an effect on consumption through channels other than its contribution to permanent household income) and output is demand-constrained, the Keynesian demand multipliers will cause actual output to contract when fiscal policy is tightened. Finally, cross-country studies of the relationship between debt and GDP growth indicate public debt and external debt thresholds that induce tipping points for growth performance (Reinhart and Rogoff [2010]).[4] The observed negative correlation between debt burdens and growth could reflect either the negative impact on growth of the fiscal tightening measures implemented to reduce the public and external debt burdens or the response of the bond markets to a failure to implement such measures.

The second reason a rising public debt burden is a concern is *financial crowding out*. In the absence of debt neutrality or Ricardian equivalence, the substitution of government borrowing for current taxes on labour income will tend to raise private consumption.[5] For an economy with full utilisation of resources this will lead either to displacement of private investment and other interest-sensitive forms of private spending or to an increase in the current account deficit of the balance of payments.

India has restricted international mobility of financial capital. Public sector debt, in particular, is mostly sold and held at home. In an economy where the overall general

[4] Growth is 1.1-1.6 percent lower in emerging market economies when debt is above 90 percent of GDP. The simplest relationship between growth and public debt has been put forward in Barro [1979].
[5] A public-expenditure induced increase in household consumption.

government budget deficit is estimated by the International Monetary Fund [2010] to be 10.9 percent of GDP for 2009/10, of which 10.6 percent of GDP is domestically financed, and where household gross financial saving as a share of GDP is 10.4 percent, pressures for higher interest rates can only be defied for so long. If in response to high and rising domestic interest rates, India's private sector were to resort to (less costly) large scale borrowing abroad in foreign currency, this can lead to vulnerabilities and problems beyond official debt servicing. Although this is not an issue for India presently, it is noteworthy that external borrowing by India's private sector has increased as a share of GDP in recent years, and the share of long-term private non-guaranteed debt plus short-term external debt (mainly trade credits) in India's total external debt has increased from a fifth to two-thirds between 2002/03 and 2008/09. Historical experience from developing countries and emerging markets and post-August 2007 evidence from the advanced industrial countries demonstrates that private debts can become public debts if the private entities involved are deemed too systemically significant (too big, too complex, too interconnected) or too politically connected to fail. It is a complex exercise in political economy to determine how much private external debt and private foreign-currency –denominated debt represents contingent public exposure.

The third reason a rising public debt burden is of concern pertains to the contribution of unsustainable fiscal policy to volatility and uncertainty, which in turn may have adverse consequences for investment and growth. Both the standard Keynesian approach and tax-smoothing neoclassical models advocate a tax policy that should smooth either taxes as a share of GDP (in the Keynesian approach) or the average marginal tax rate (in the neoclassical tax-smoothing approach). A robust tax policy

therefore should be neither procyclical nor require sharp anticipated corrections, thus stabilizing economic activity (from the Keynesian perspective) or minimizing the excess burden of distortionary taxation (in the tax smoothing neoclassical perspective). Excess volatility can encourage private savers and investors to grant excessive weight to short run considerations, which may lead to a suboptimal allocation of resources for investment (Serven [1998]).

The fourth reason for disquiet about rising public debt burdens relates to the risk of an eventual monetisation of persistent deficits – fiscal dominance over monetary policy – and thus to their potential inflationary consequences, a pattern that India is not unfamiliar with (Buiter and Patel [1992]). For a given primary government deficit (as a share of GDP), a higher ratio of public debt to GDP will, if the long-run interest rate exceeds the long-run growth rate of GDP, increase the amount of real resources that will have to be extracted through seigniorage (base money issuance). This seigniorage or *anticipated* inflation tax may, however, not be as important (or as tempting) to the government as the *unanticipated* inflation tax on domestic-currency-denominated interest-bearing debt. The lure of reducing the real value of current and future debt service through an unanticipated burst of inflation will be stronger the longer the average maturity of the fixed-rate domestic currency debt. Almost all India's public debt is rupee-denominated. The IMF estimates the current stock of general government gross debt to be more than 80 percent of annual. About 40 percent of Government of India Rupee loans outstanding at March 31 2008 had a maturity of over 10 years (Reserve Bank of India [2009b] – also see footnotes).[6] [7]

[6] On average, for the years 1970/71-2007/08, the share of central government loans with a maturity of over 10 years has been 55.6 percent. It is noteworthy that, over this four-decade period, the four years when the

Fear that the government may, at some future instance, be tempted to inflate away part or all of the burden of the domestic-currency denominated debt, usually manifests itself before the event through the rising nominal rates associated with higher expected inflation and possibly also with a higher inflation risk premium. Inflation in March 2010 was running at an annual rate of close to 10 percent – enough to get the bond markets to sit up and take notice.[8]

The fifth (relatively unexplored/under emphasised) cause for apprehension about a rising government debt burden is that of exhausting the sovereign's fiscal elbow room from a (macro) risk management perspective; in other words, there is merit in keeping some powder dry (as a form of self protection) for instances of stress (transmission of external shocks, domestic banking crisis requiring recapitalisation, a natural calamity or external conflict). This can be beneficial as regards maintaining investor confidence and, therefore, helps to keep a lid on yields expected and required by debt markets. A perception of loss of fiscal control combined with unfavourable developments in other "variables" in the political economy mix like, say, internal/external security threats, can put the country over an "inflection point" related to overall (mis)governance in a country-risk metric; alternatively, high debt levels signal an "impairment of capacity to remain a self determining nation" (Shelton [2009]).

The outline for the rest of the paper is as follows. In Section 2 we set out the basic arithmetic of government debt, deficits and solvency. In section 3, we briefly

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share of long-dated loans was in excess of 80 percent was during the years 1987/88-1990/91 – that is, the years leading up to and including the last crisis!

[7] For state governments, 46 percent of the securities outstanding on March 31 2009 were due for repayment in 2017/18 and beyond (Reserve Bank of India [2010]).

[8] Headline (wholesale) inflation has accelerated sharply – in part due to food price increases on account of a poor monsoon – from a low of minus one percent in June 2009.

review some facts concerning public debt and deficits in India. In section 4 the background and basic arithmetic of the Fiscal Responsibility and Budget Management Act, 2003 (FRBMA) and the associated rules are presented and commented upon. With the very small number of data points at our disposal, no formal estimation-based hypotheses about the efficacy of rules can even be attempted. Therefore, in section 5, the outcomes of the FRBMA over the 5-year period of its operation, 2004/05-2008/09, are critically explored along an eclectic but comprehensive metric comprising quantitative targets, qualitative strictures, transparency, integrity, and overall financial performance over the business cycle. In section 6, we briefly review fiscal responsibility legislation (and outcomes) at the state level. Taking sections 5 and 6 together it will become clear to the reader that in recent years the fiscal space "vacated" by the states has been (more than) usurped by the central government. In section 7, the recommendations of the 13th Finance Commission regarding a roadmap for fiscal consolidation are formally examined. The section also attempts to outline a basic incentive compatible framework for state and central governments to hold each other accountable over agreed pre-determined targets. Section 8 contains some concluding remarks.

2. The basic arithmetic of public debt, deficits and solvency

We define the following notation, which can apply, after suitable consolidations, to the debt, deficit, spending and revenue totals of any level of government. In this section "government" is used generically. It could refer to the central government, to the general government (the consolidated central, state and local government plus the assorted social funds, including social security retirement, health and disability), to the public sector (which consolidates the state enterprise sector with the general government)

and the consolidated public sector and central bank; f is the government financial deficit as a fraction of GDP, i is the average effective nominal interest rate on Rupee-denominated government non-monetary debt, b is the value of the total government non-monetary debt (rupee-denominated and foreign currency-denominated) as a share of GDP, i^* is the average effective nominal interest rate on government debt denominated in foreign currency, g^c government consumption spending as a share of GDP (excluding depreciation of the government capital stock), g^I gross government physical capital formation as a share of GDP, δ the proportional depreciation rate of the government capital stock, k the government capital stock as a share of GDP, θ the gross financial rate of return (which can of course be negative) on government capital, α the share of foreign currency debt in total government debt, ε the proportional rate of nominal depreciation of the rupee, $\pi = \frac{\dot{P}}{P}$ is the domestic inflation rate, P the general price level, τ government taxes net of transfers as a share of GDP, η is non-tax revenue (such as royalties on natural resources like offshore oil and natural gas; telecom license fees; and proceeds from the auction of the spectrum) as a share of GDP and $priv$ is privatisation receipts as a share of GDP. When the central bank is consolidated with the general government or the public sector, non-tax revenues include seigniorage revenues as a share of GDP, σ, defined by $\sigma \equiv \frac{\dot{M} - i^M M}{PY}$, where M is the nominal stock of base money (coin and currency in circulation plus bank reserves held with the central bank), P is the GDP deflator, Y is real GDP and i^M is the effective nominal interest rate on base

money (zero on coin and currency; whatever the central bank sets or charges on its deposits for reserves).

Note that:

$$f \equiv g^C + g^I + ib + (i^* - i)\alpha b - \theta k - \tau - \eta - priv \qquad (2.1)$$

It follows that over time the government net non-monetary debt to GDP ratio, b evolves as follows:

$$\dot{b} \equiv f + \varepsilon\alpha b - (n + \pi)b \qquad (2.2)$$

or, equivalently,

$$\dot{b} \equiv (r - n)b + g^C + g^I - \theta k - \tau - \eta - priv + (i^* + \varepsilon - i)\alpha b \qquad (2.3)$$

where $r \equiv i - \pi$ is the domestic real interest rate and $n \equiv \frac{\dot{Y}}{Y}$ is the growth rate of real output.

The government primary (non-interest) surplus as a share of GDP, *s*, is defined as:

$$s \equiv -f + ib + (i^* - i)\alpha b \qquad (2.4)$$

It follows that the dynamic equation for the government's non-monetary debt to GDP ratio can also be written as:

$$\dot{b} \equiv -s + (r - n)b + (i^* + \varepsilon - i)\alpha b \qquad (2.5)$$

For expositional simplicity, we ignore in what follows India's foreign currency-denominated public debt, which is in any case small.[9] This reduces the two representations of the government's non-monetary debt dynamics to the following form:

$$\dot{b} \equiv f - (n + \pi)b \qquad (2.6)$$

[9] Instead of setting $\alpha = 0$, we could assume that uncovered interest parity holds, that is, $i^* + \varepsilon - i = 0$.

$$\dot{b} \equiv -s + (r - n)b \tag{2.7}$$

The standard solvency constraint is that the present discounted value of the terminal government non-monetary debt be non-positive, that is,

$$\lim_{F \to \infty} b(F) e^{-\int_t^F [r(u) - n(u)] du} \leq 0 \tag{2.8}$$

This no-Ponzi finance or no-pyramid scheme constraint on the government's fiscal-financial plans implies that the growth rate of the public debt cannot forever be greater than the effective interest rate on the public debt: at some point a solvent government will have to run primary surpluses. More specifically, (2.8) implies, from (2.7), that the government's intertemporal budget constraint takes the following form:

$$b(t) \leq \lim_{F \to \infty} \int_t^F e^{-\int_t^v [r(u) - n(u)] du} s(v) dv. \tag{2.9}$$

That is, the outstanding value of the government's non-monetary debt cannot exceed the present discounted value of its future primary surpluses. Let $\overline{s}(t)$ be the value at time t of the government's permanent primary surplus as a share of GDP, that is, that constant value of the primary surplus (as a share of GDP) whose present discounted value is the same (if it were to maintained over an infinite horizon) as the present discounted value of the primary surplus (as a share of GDP) that is actually planned or expected.[10] Loosely, the permanent primary surplus (as a share of GDP) is the average expected or planned future primary surplus as a share of GDP. We can also

[10] That is, $\overline{s}(t) = \lim_{F \to \infty} \left[\int_t^F e^{-\int_t^v [r(u) - n(u)] du} \right]^{-1} \int_t^F e^{-\int_t^v [r(u) - n(u)] du} s(v) dv$

define the permanent excess of the interest rate over the growth rate of GDP at time *t*, $\overline{r(t)-n(t)}$ as follows:

$$\overline{r(t)-n(t)} \equiv \lim_{F\to\infty}\left[\int_t^F e^{-\int_t^v [r(u)-n(u)]du}\right]^{-1} \tag{2.10}$$

The lowest permanent primary surplus (as a share of GDP) consistent with government solvency, $\overline{s}^{\min}(t)$ is the one that satisfies (2.9) with equality. It follows that the solvency constraint can be written intuitively and simply as follows:

$$\overline{s}(t) \geq \overline{s}^{\min}(t) \equiv \left(\overline{r(t)-n(t)}\right)b(t) \tag{2.11}$$

The likelihood of government insolvency is greater the smaller its capacity to generate future primary surpluses (by raising taxes and cutting public spending or through seigniorage), the larger the outstanding stock of non-monetary government debt, the higher the interest rate on the public debt and the lower the growth rate of GDP.

It may seem that the solvency constraint (2.8) permits the ratio of non-monetary government debt to GDP to rise without bound, as long as the growth rate of the debt does not exceed the effective interest rate on the debt. This condition would be satisfied even if the growth rate of government debt were to exceed the growth rate of GDP forever, as long as the effective interest rate on the government's non-monetary debt is lower than the growth rate of the government debt in the long run.

Although this is technically correct, note from (2.11) that if the government debt to GDP ratio were to rise without bound, the minimum required permanent primary surplus to maintain solvency, would also rise without bound, as a share of GDP, as long as $\left(\overline{r(t)-n(t)}\right) > 0$. Since government spending cannot be cut below zero, this would

imply an unbounded tax to GDP ratio – not an economically interesting prospect with distortionary taxes and significant tax administration, collection and compliance costs.

Some authors indeed have proposed a bounded government non-monetary debt-to-GDP ratio as a primitive solvency constraint, instead of (2.8). We prefer to think of it instead as a further constraint on feasible government fiscal-financial programmes, implied by the absence of non-distortionary (lump-sum) taxation and the costly nature of transferring resources from the private to the public sector through taxation.

Except for the initial government debt to GDP ratio, all the key terms in the government's intertemporal budget constraint (2.9) or (2.11) – the permanent primary surplus, the long-run real interest rate and the expected long-run real growth rate are unobservable. This is obviously the case for the permanent primary surplus (as a share of GDP) and the permanent growth rate of real GDP. The permanent real interest rate could in principle be observable today, but as India (in common with all other countries), does not have a complete set of index-linked government debt instruments with maturities ranging from instantaneous to Kingdom Come, the permanent real interest too is expectational and unobservable.

As regards the likely behaviour of the real interest rate and the real growth rate in the long run, the experiences of other countries at different stages of economic development can provide a guide. It is clear that even if India were to grow for one or two generations at average real GDP growth rates of 8 percent per annum or higher, growth at this rate cannot last forever. The experience of past successful emerging markets, from Japan to Korea and Singapore provide evidence of that. The relevant interest rate is partly determined by the equilibration of global and domestic saving-

investment balances (with capital controls providing a greater role for domestic factors) and partly by country-specific drivers of sovereign default risk perceptions. Reinhart and Rogoff [2009] identify three sovereign defaults or debt reschedulings for India on its external debt since independence, in 1958, 1969 and 1972, but none on domestically held sovereign debt. The lion's share of India's sovereign and sovereign-guaranteed debt today is both rupee-denominated and held domestically.

Even if we knew the entire time structure of sovereign real interest rates and real GDP growth rates, the solvency constraint (2.11) only gives us the minimum value of the permanent primary surplus, that is, the value that will have to be generated on average in the future if the government is to remain solvent. It does not tell us that future primary surplus will have to be a constant share of GDP. Indeed, the mathematics are consistent with high and rising primary deficits for 1000 years followed by an eternity of large primary surpluses.

It is here that government credibility becomes a crucial driver of the market's response to government plans for future fiscal virtue. If the government has been persistently procyclical in the most recent boom period or periods, spending the windfalls created by unsustainable growth and other friendly acts of God and of the external environment (good harvests, favourable terms of trade shocks) or even cutting tax rates or forgiving debts owed by private agents to the sovereign, then its credibility when it announces future fiscal tightening measures but without any up-front public spending cuts or tax increases, is likely to be minimal. The markets become doubting Thomases, for whom seeing is believing.

Once the government has lost its reputation for fiscal probity, it is hard to regain. It may even require pro-cyclical actions during the next downturn (raising taxes or cutting public spending) to convince the private sector that the government is capable of inflicting fiscal pain. As will become clear from the discussion that follows, we believe that most of the state governments have by now gained a reputation for fiscal rectitude. The central government, on the other hand, has no reputation for responsible countercyclical behaviour during recent booms to fall back on. It has depleted its reputational capital that would have allowed it to engage in countercyclical fiscal policy actions during the next cyclical downturn, or indeed to take other temporary adverse shock-mitigating measures without spooking the markets and adding a sovereign risk premium to the risk-free rate.

The history of Fiscal Responsibility Laws in India is so short that no formal statistical or model-based tests of their influence on the sustainability of the government's fiscal-financial programme is feasible. The discussion of the evidence that follows is therefore inevitably informal. The solvency arithmetic framework spelled out in this section does, however, guide, direct and discipline the discussion that follows and is therefore indispensible.

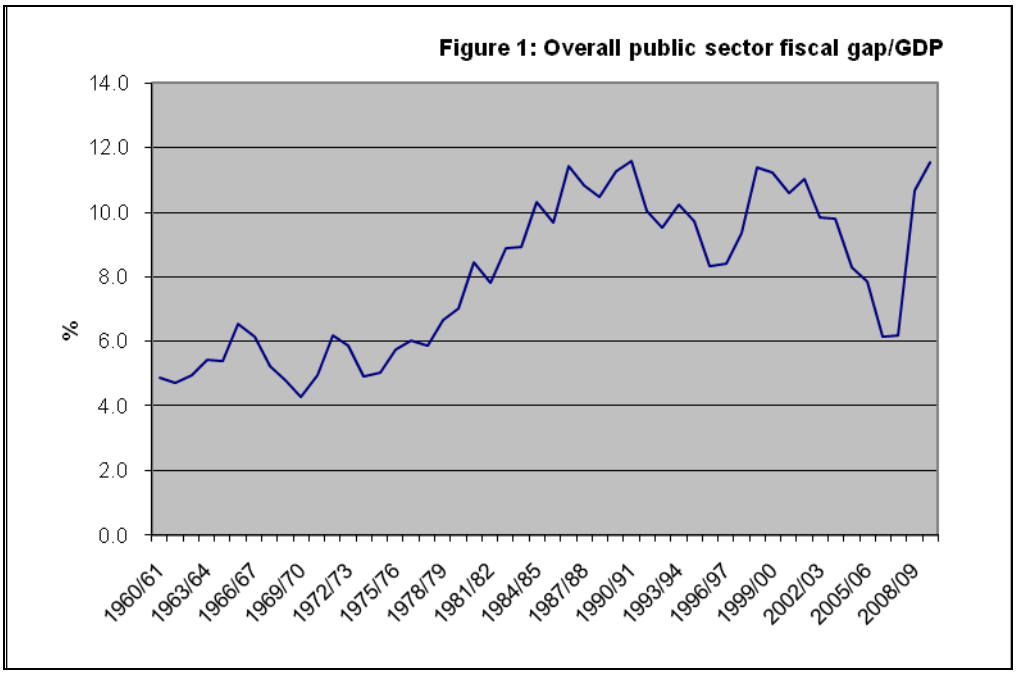
3. Some facts on deficits and debt

While much of the discussion in the chapter will be on the Union government's fiscal stance and institutional arrangements, we will intersperse our comment and analysis on four 'flow' measures of fiscal balance and their associated 'stock' or public debt measures:

- The central government fiscal and revenue deficits, including off-budget expenditure/borrowing.
- Fiscal and revenue deficits of state governments.
- The consolidated general government fiscal deficit covering the central and state governments.
- The overall public sector fiscal deficit comprising the consolidated fiscal balances of the general government and the non-bank public enterprises.

India exhibits a sustained proclivity for running large fiscal deficits compared to not only its peer group of emerging economies, but also globally (Ahya and Gupta [2009]). Over the last three decades, India has found it impossible to sustain, for an appreciable time, an overall public sector financial deficit of less than 8 percent of GDP (see Figure 1 below);[11] analogously, it has been extremely rare for the general government fiscal deficit to be lower than 6 percent of GDP (see Appendix Figure A1).

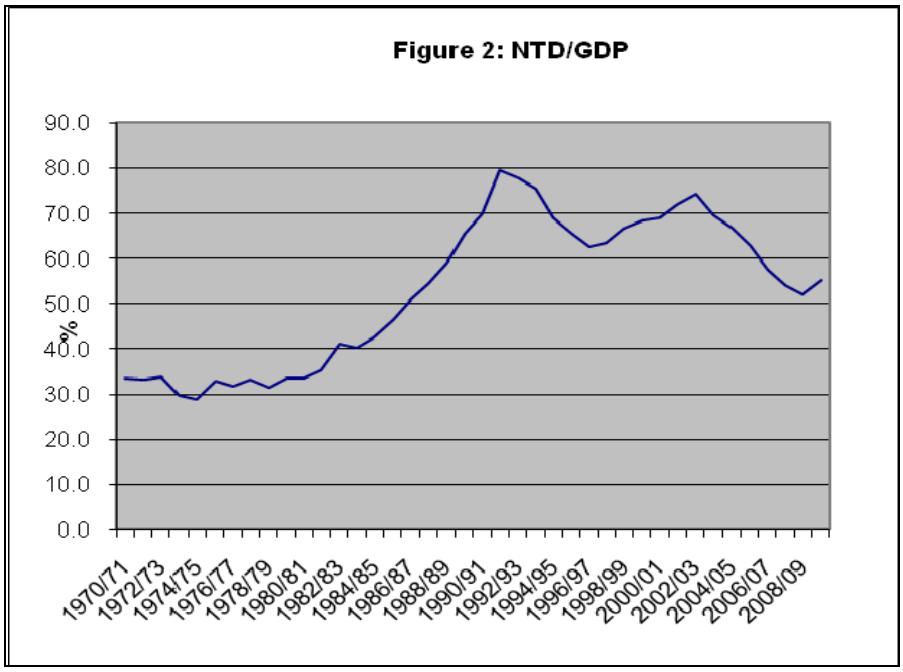
[11] The fiscal gap data used for Figure 1 are from Table 2.2 in the Appendix of the Economic Survey (Government of India [2010a] and previous years). The data from 2007/08 onwards have been revised/re-estimated as more up-to-date budgetary data are available from other official sources; also note that off-budget bonds issued to public enterprises are not included in this measure (as it is intra-public sector "borrowing"). The measure in Figure 1 is the closest estimate of the public sector borrowing requirement (PSBR).



Since the crisis of the early 1990's, which had fiscal origins, fiscal deficits in India have approached levels, including in recent years, that may be considered imprudent, even alarming, if not corrected. But India has, thus far, avoided explosive debt-GDP ratios of the kind that lead to the 1990/91 crisis. Between 2002/03 and 2007/08, debt ratios in India declined substantially – the *net* public debt level is relatively low, and is largely domestically held, primarily in the banking system, much of which is state controlled. Statutorily, 25 percent of bank deposits have to be deployed for holding government (and other approved) securities. Over the last two years this ratio, the statutory liquidity ratio, has usually been in the range of 27-28 percent, that is, higher than the mandatory floor.

The current net total debt (NTD)-GDP ratio is estimated at about 56 percent, which compares with 74 percent of GDP in 2002/03 (see Figure 2 below and Appendix

Table A1);[12] the share of official foreign currency-denominated debt is about a sixth, and official foreign exchange reserves at 20 percent of GDP are adequate to cover *all* foreign debt (official & private, long-term & short term).[13]



Foreign debt servicing is not a danger; India's vulnerability to financial shocks has eased to the point that an external financial crisis is not a material risk. As an aside, the debate within the country (between important policy-making nodes) of the utility of large official foreign reserves as "self-insurance cover" has been settled conclusively; India emerged unscathed from the global financial crisis in no small part due to its large holdings of external reserves, which appreciably helped to cushion the backwash from illiquid international financial markets.

[12] The NTD consolidates central and state governments, as also the central bank and non-bank central public enterprises.
[13] The extant *gross* total public debt to GDP ratio is estimated at about 76 percent of GDP (column for GTD in Appendix Table A1).

In addition, India continues to maintain selective (discretionary) capital controls, particularly those that keep arbitrage-type flows – for instance, external borrowing by domestic financial intermediaries, investment by foreign institutional investors in fixed income securities (official and corporate), or, cross-border borrowing of a short-term nature by practically anyone – in check. It is therefore fair to say that while India faced a combined internal (fiscal) and external transfer problem during the years leading up to the crisis of 1991, the weakening of the fiscal position in recent years represents almost exclusively an internal resource transfer problem.

4. Fiscal rules

a. Background

The Indian government's experience of fiscal rules has been brief. The first one wholly related to ending the fiscal abuse of the central bank. In September 1994 an agreement (without legislated sanction) to phase out by 1997/98 the instrument of *ad hoc* Treasury Bills which hitherto facilitated automatic monetisation of the budget deficit – the borrowing gap after all other financing instruments have been exhausted – was reached between the Reserve Bank of India (RBI) and the Central Exchequer. This, in itself, did not preclude the RBI from participating in primary issues of central government securities or operating in the secondary markets for central government debt, but it left these decisions to the RBI's discretion.

After moderate improvement during the five years immediately following the balance of payments crisis, 1992/93-1996/97, fiscal fundamentals in India had deteriorated again, as exemplified by rising ratios of public sector debt and public sector financial deficit to GDP. The public sector financial deficit as a share of GDP was

around the same level in 1998/99 as in the crisis year of 1990/91. The deficit persisted at about 10 percent of GDP until 2003/04, after which a modest consolidation took place for a brief period; 'normal service' has been resumed since then.[14] The 5-year period of correction and subsequent slippage broadly overlaps with the Fiscal Responsibility and Budget Management Act, FRBMA (which ran its course up to March 31 2009).

The fiscal rule in the FRBMA was narrow in the sense that it kept outside its ambit public sector enterprises (PSEs) and state governments (and their enterprises). The latter was a (legitimate) recognition of the federal nature of the country, provided that, de jure and de facto, the central government is not in the final analysis responsible for the debts of the state and other lower-tier governments. It is a practice found is some other federal states, but not all). The former is difficult to rationalise, unless there truly is an arm's length relationship between the government and the corporations that it has sponsored and/or owns, that is, if there is no explicit or implicit guarantee of PSE debt by the sovereign. Regardless, it extends the scope for shifting fiscal policy implementation "off budget" and "off balance sheet".

b. Brief description

The Indian Parliament, in August 2003[15], voted for the FRBMA. The Act was amended in July 2004, with the terminal date for achieving the numerical targets pertaining to fiscal indicators extended by one year to 2008/09 (a case of moving the goal posts with the game having barely started!); the annual targets for fiscal correction were

[14] The *general* government fiscal deficit declined from 8.5 percent of GDP in 2003/04 to 6.8 percent of GDP in 2005/06.
[15] The bill was first introduced in Parliament in December 2000.

specified by Rules framed under the Act (Government of India (GoI) [2005a]). There were also clauses with regard to guarantees and debt.[16]

The FRBMA, *prima facie*, broadly satisfies three unexceptionable attributes of a numerical fiscal rule. Specifically, it is well defined in terms of explicating time-bound targets for relevant indicators, it is simple and transparent in terms of the targeted outcomes, which is helpful for effective communication of government policy (or, for opposition parties to take the government of the day to task), and it is monitorable.[17]

The government's desire to rein in its finances seemed sincere enough. For scripting an operational strategy towards the fiscal goals embedded in the legislation, the then Finance Minister, in February 2004, constituted a Task Force. In July, under a new political dispensation, the Ministry of Finance published the comprehensive analysis and recommendations of the Task Force in the form of a report (GoI [2004]). The critical recommendations were on the revenue side of the deficit equation, specifically measures to enhance direct taxes by 2 percentage points of GDP and to shift the revenue base of indirect taxes to include a greater share of services. After all this, in his presentation of the 2005/06 Union budget in February 2005, the Finance Minister remarked that he was "left with no option but to press the `pause' button vis-à-vis the FRBM Act" (GoI [2005b]).

c. Basic arithmetic of the "hard law" component of the FRBMA

There were two key "hard" features of the FRBMA. *First*, the restriction that by 2008/09 the overall central government financial deficit be not more than three percent of GDP:

[16] The increase was restricted to 0.5 percent of GDP per annum for guarantees and for debt additional liabilities were capped at 9 percent of GDP for 2004/05, for subsequent years there was an annual reduction in the limit of one percentage point of GDP.
[17] This metric of attributes is from Corbacho and Schwartz [2007].

$$d \leq 0.03 \qquad (4.1)$$

To help satisfy (4.1), the FRBMA Rules specified an operational *trajectory* on d of an annual reduction of at least 0.3 percentage point of GDP[18]; therefore, a minimum 1.5 percentage point of GDP cumulative reduction in the centre's financial deficit. *Second*, the 'golden rule' restraint that the revenue or current budget should be in balance or surplus by 2008/09. It was unclear whether this meant that central government borrowing should not exceed gross central government investment (including depreciation) or net central government investment (net of depreciation). In the first case the (gross) golden rule can be written as:

$$d \leq g^I \qquad (4.2)$$

In the second case, the (net) golden rule can be written as:

$$d \leq g^I - \delta k \qquad (4.3)$$

The Rules stipulated a ½ percentage point of GDP (or more) annual reduction for the revenue deficit. A rigorous enforcement of (4.1) would ensure that the central government's long term debt-GDP ratio will not be explosive even with modest growth prospects.

d. "Soft" aspects of the law

The FRBMA introduced initiatives for the first time that pertained to fiscal planning. The Act obligated the government to, *inter alia*, prepare a medium term fiscal policy statement (encompassing three-year rolling targets) that lays out the time path for attaining the (quantitative) fiscal goals. Although the government was obliged to take steps to enhance revenues and/or reduce expenditure ("appropriate measures"), leeway

[18] The terminal target for the fiscal deficit was stipulated in the rules (framed in July 2004) to the 2003 Act. The target of balance on the revenue account was enshrined in the Act itself.

was allowed for targets going awry on "exceptional grounds" such as natural calamities and/or national security.

The statute also required that the RBI will not subscribe to government paper after March 31 2006. Nevertheless, borrowing from the RBI on account of "temporary excess of cash disbursement over cash receipts during any financial year", essentially "ways and means advances" was permitted.[19] Finally, as a nod towards greater integrity of the budgetary process, the Rules "mandate the government to disclose changes in accounting standards, policies and practices that have a bearing on the fiscal indicators" (GoI [2005a]).

On the composition of outstanding liabilities of the central government in official documents setting out the targets, several observations are warranted. First, the variable is a measure of *gross* debt; official foreign exchange holdings and securities held by the central bank are ignored, which means that these two items would have to be netted out if the central bank and the government are consolidated.

Second, "reserve funds and deposits" are added to the stock of outstanding debt; these liabilities are on account of borrowing from statutory funds within the government and therefore are not strictly in the nature of IOUs to entities external to the government.

The *market* value of (listed) Indian government-sponsored enterprises, GSEs, including banks is estimated at US$ 300 billion, a liquid asset, same as official foreign

[19] Since April 2004, the Government of India in consultation with the RBI has launched the Market Stabilisation Scheme (MSS). The scheme envisages issue of treasury bills and/or dated securities to (solely) absorb excess liquidity, arising largely from significant foreign exchange inflows. During 2009/10, as per the Memorandum of Understanding (MoU) signed between the central government and the RBI, the ceiling of outstanding liabilities (face value of dated securities plus discounted value of treasury bills) at any given time has been kept at Rs. 500 billion. The estimated outstanding liabilities under MSS in respect of market loans and 91/182/364 day Treasury Bills are separately reflected in the government's Statement of Liabilities. In our computation of consolidated net debt ratios for Figure 2 (and Appendix Table A1), we have netted out both MSS-related liabilities and (conventional) net RBI credit outstanding to government.

currency reserves. The value of the government's financial interest in these GSEs (equity plus any other net financial claims on these GSEs such as made to these GSEs or GSE bonds owned by the state) should be added as part of the government's net financial assets (or offset against its debt) if these assets can realistically be sold or disposed of at the these valuations.

Assume for simplicity that equity is the only claim of the government on the GSEs. Even if they cannot realise (sell) the equity, it will have a 'continuation value' in public ownership: the present discounted value (PDV) of future dividend payments by the GSEs to the government. Any non-tax revenues would be included in equation (2.1) in term $((\theta-\delta)k)$ or in η. If there are taxes paid on the profits of the GSEs, the value to the government would be the sum of the PDV of the after-tax profits. The PDV of the profit taxes would be included separately in the government's intertemporal budget constraint. The correct value of the GSEs on the public sector balance sheet is the PDV of future dividends paid to the government until they sell the equity, plus the PDV of the future privatisation of the GSE (the sale of the equity). That flow of dividend income is therefore in the government's budget balance – even in the primary balance as profit income if 'primary' is net of interest income only.

The solvency constraint (intertemporal budget constraint) that the existing net debt not exceed the PDV of future primary surpluses can either be written with net debt defined inclusively to included (with a –ve sign) the value of the government's financial assets, in which case the stream of future primary surpluses will be smaller, because future dividends are no longer part of the primary surplus, or it can be defined narrowly to include only the value of the government's financial liabilities, with the primary

surplus now including all the earnings streams associated with the government's ownership of financial assets.

Provided all net cash flows accruing to the state from the GSEs are either capitalised as financial assets or included in the stream of future primary surpluses, it does not matter where you put them. One could even kick all the government's debt out of the intertemporal budget constraint and reduce the PDV of future primary surpluses by the same amount, because the market value of the debt is the PDV of future interest payments and repayment of principal. The only slightly tricky issue is when the continuation value of the government's equity in the GSEs (their value should they continue to be owned by the government) is different from their value under private ownership. We would then face the tricky task of valuing the equity as the sum of the PDV of the dividends it would pay in the public sector for as long as it remains publicly owned, plus the PDV of the privatisation receipts, whenever privatisation is assumed to take place. A conservative approach would value the assets as the smaller of their permanent continuation value in the public sector and their immediate privatisation value.

5. Outcomes

The impact of fiscal rules in India inevitably relates to how they are expected to change over time and to what degree they are likely to be enforced. Since these rules have no constitutional standing, they can be can be modified easily over time (and even ignored as we'll see below). Furthermore, a Westminster-style parliamentary system means there is virtually no scope for "independent" checks and balances at the political level, viz., an executive "veto point" over expenditure.

In this section we attempt to (heuristically) determine whether the FRBMA rules have affected conduct of fiscal policies of the Indian government with regard to stated goals of fiscal correction, or done anything more than clarify the government's intentions. In a previous paper, the first draft of which was written in July 2005, our comment on the expected outcome under the FRBMA was: "The requirement that the revenue budget be in balance or surplus is very likely to be the binding constraint on the central government, with the 3 percent ceiling on its overall financial deficit a non-binding constraint" (Buiter and Patel [2006]).

The central government's fiscal deficit for the terminal year, 2008/09, was 6 percent of GDP, excluding estimated off budget expenditure (settled by IOUs or simply ignored) of about 2 percent of GDP. Indeed, as shown in Table 1 below, the central government has missed *both* the fiscal and revenue deficit targets by some margin. Obviously, the FRBMA has failed to bind the government to either of the main legislated targets.

Table 1: Central government fiscal indicators (as % of GDP)

	2002/03	2003/04	2004/05	2005/06	2006/07	2007/08	2008/09	2009/10[a]
(a) Fiscal deficit (FD).	5.9	4.5	3.9	4.0	3.3	2.6	6.0	6.7
(a)′ FD with off- budget bonds issued in that year.	NA	NA	NA	4.3	4.8	3.0	7.8	6.9
(a)′′ Off-budget bonds o/s in Rs. bn (as % of GDP).	NA	NA	NA	123 (0.3)	762 (1.8)	950 (1.9)	1909 (3.4)	2012 (3.3)
(b) Revenue deficit (RD).	4.4	3.6	2.4	2.5	1.9	1.1	4.5	5.3
(b)′ RD with off-budget bonds issued in that year.	NA	NA	NA	2.8	3.4	1.5	6.3	5.5
(c) Primary balance with off -budget borrowing in last 5 years (+ indicates surplus).	-1.1	0.0	0.0	-0.7	-1.3	+0.5	-4.4	-3.4
(d) Off-budget expenditure.	NA	NA	NA	0.4	1.8	1.9	2.3	0.6
(e) Net tax-GDP ratio.	6.5	6.8	6.9	7.3	8.2	8.9	8.0	7.5
(f) Outstanding Liabilities.[b]	63.1	67.3	68.8	65.7	64.4	63.8	59.6	58.9
(g) Guarantees.	3.7	3.2	3.4	3.1	2.7	2.2	NA	NA
(h) Real GDP growth (%).	3.8	8.5	7.5	9.5	9.7	9.0	6.7	≈7.2[c]
(i) Nominal growth (%).	7.0	12.0	17.6	14.4	15.6	15.5	12.7	≈11[c]
(j) GDP deflator (change in %).	3.8	3.6	5.6	4.7	5.6	5.3	7.2	3.6[c]
(k) Weighted avg. interest on outstanding internal liabilities (%).	9.5	8.8	8.5	8.1	8.4	8.5	8.4	8.7
(l) Weighted avg. interest rate on govt. dated securities (%).	7.34	5.71	6.11	7.34	7.89	8.12	NA	NA

Notes: NA: Not applicable/available; a: all fiscal numbers for 2009/10 are revised estimates; b: Definition of FRBMA used, which excludes off-budget bonds outstanding, and foreign liabilities only includes sovereign debt. In February 2010 the government changed the definition of outstanding liabilities – for the better – by excluding the share of states' in small savings collected by the centre; for 2009/10, the number under the new definition is disclosed at 51.5 percent of GDP but still excluding off-budget bonds (Medium Term Fiscal Policy Statement in GoI [2010b]); c: projection.

Sources: (a), (a)′, (b), (b)′, (c): Budget at a glance (various years), Budget speech for 2010/11, and Economic Survey 2009/10 and previous years (GoI [2010a, 2010b]); (a)′′: For the 2009/10 figure, Report of 13th Finance Commission (GoI [2010c]), and for previous years interpolated by authors based on budget documents (GoI [2009b, 2010b]; (d): Analyst estimates; (e): Indian Public Finance Statistics 2008/09 (GoI [2009c]), Economic Survey 2009/10 (GoI [2010a]), Budget at a glance 2010 (GoI [2010b]) (figures are for centre's share in taxes that it collects); (f): Medium Term Fiscal Policy Statement as part of budget documents, Ministry of Finance, GoI (various years); (g) Annual Report, RBI [2009a]; (h), (i), (j), (k): Economic Survey 2008/09 and 2009/10 (GoI [2009a, 2010a]); and (l): Handbook of Statistics on the Indian Economy, RBI [2009b].

It should be apparent that after 2004/05, not only has there been no fiscal correction once off-budget items are included, but indicators have mostly deteriorated. From the above outturn table, taking into account off-budget expenditure, it is amply clear that the FRBMA "transition" annual targets towards a 3 percent of GDP fiscal deficit and balance on the revenue account by 2008/09 were exceeded before the onset of the global recession towards the end of 2008 (also see Patel [2008a]). The adverse evolution in fiscal balances was not on account of the operation of automatic stabilisers during a cyclical slowdown; on the contrary, the Indian government's revenues have been buoyant – the gross tax-GDP ratio increased from 9.7 percent in 2004/05 to 12.6 percent in 2007/08 – on the back of an almost 9 percent average annual real growth rate.[20]

The recent profligacy of the central government has its primary driver in populist spending policies by the ruling coalition leading up to national elections in May 2009; three stimulus packages (including a reduction in indirect taxes) starting in late 2008 to counter the global recessionary headwinds only helped matters along in the same direction. Much of the slippage on the expenditure side can be attributed to large and increasing energy, food & fertiliser subsidies, funding loss-making public sector units, expansion of a rural income support scheme (started in 2005), increase in salaries and pensions of civil servants (implemented in 2008), and a huge agricultural) loan waiver scheme (announced in early 2008, but not budgeted for!).

The FRBMA's provisos for the central government's (gross) outstanding liabilities and guarantees have been comfortably met (Table 1 above and also see the second column in Table A1 in the Appendix). Liabilities have declined even with an

[20] The tax-GDP ratio slipped in 2008/09 due to, in part, steep cuts in indirect taxes introduced in September 2008.

annual average central government fiscal deficit over the five years at 4.8 percent of GDP (including off budget bonds); the driver for this happy state of affairs is India's unprecedented growth performance in recent years – annual average nominal GDP growth of 15 percent during the 5 years of the FRBMA's operation – in comparison to the government's cost of borrowing.

It is possible to simulate the central government's long-run debt-GDP ratios if, say, the present (average) fiscal deficit continues forever into the future:

$$d \leq 0.048 \tag{5.1}$$

Ignoring foreign currency-denominated debt for simplicity, the consistent application of (5.1) implies (from (2.6)) that:[21]

$$\begin{aligned} b(t) &\equiv b(0)e^{-\int_0^t [n(u)+\pi(u)]ds} + \int_0^t f(s)e^{-\int_s^t [n(u)+\pi(u)]du} ds \\ &\leq b(0)e^{-\int_0^t [n(u)+\pi(u)]ds} + 0.048\int_0^t e^{-\int_s^t [n(u)+\pi(u)]du} ds \end{aligned} \tag{5.2}$$

As long as the long-run average growth rate of nominal GDP, $\bar{n}+\bar{\pi}$ is positive and $\lim_{t\to\infty} b(0)e^{-\int_0^t [n(u)+\pi(u)]ds} = 0$,[22] the long-run debt to GDP ratio will satisfy

$$\lim_{t\to\infty} b(t) \leq \frac{0.048}{\bar{n}+\bar{\pi}} \tag{5.3}$$

Were India to maintain a *long-term* nominal GDP growth rate, $\bar{n}+\bar{\pi}$, of, say, 0.0625 the central government's long-run debt to annual GDP ratio would be 76.8 percent – hardly a comfortable level.[23] Of course, the debt ratio becomes even more worrisome when the

[21] Notation and definitions are identical to those used in previous sections.
[22] This is the familiar "no Ponzi finance" terminal boundary condition constraining the growth of the public debt in the long run.
[23] India will not have a 7 percent real (or 11.5 percent nominal) GDP growth rate forever. By the time population stops growing and India's GDP per capita is at the West-European level, real growth will

deficits of other levels of government are also included and appropriately consolidated, as should be the case. For instance, a public sector financial deficit of 10 percent of GDP "caps" the (broad) public long-run debt to annual GDP ratio at about 160 percent of GDP – undoubtedly a fiscal high-wire act.

Time consistency and enforcement

Any limit on the magnitude of the permissible deficit, regardless of whether it applies to the overall deficit or just to the revenue (current) deficit, restricts the government's ability to engage in countercyclical deficit financing during economic downturns, *unless* during normal and prosperous times the government generates sufficiently large surpluses to avoid hitting the deficit ceiling during bad times. It may be possible (at least conceptually) to have arrangements, institutions, laws, rules, regulations or conventions that can induce the sovereign to impose discipline during good times on *itself*. Was there any feature of the FRBMA that encouraged the government not to follow a procyclical policy during periods of exceptionally strong growth performance (as during 2003/04-2007/08), or exceptionally low interest rates (as during 2002/03-2007/08).[24] The FRBMA had no inbuilt carrots (to run smaller deficits) or sticks (for missed targets); it suffered from the same drawbacks as some other high profile examples of fiscal responsibility legislation (FRL). Non-compliance by the central government has not been politically costly; there has been limited attention from the electorate, the media, or even opposition parties to the subject matter! In essence reliance on reputation costs has been ineffective. Indeed, it is widely felt that supplementary bills that boost

probably be more like 2 percent per annum and inflation tolerance will likely also be at the current advanced industrial country 2 percent level. Post-catch up, a nominal GDP growth rate of 5 percent is probably as reasonable an assumption as any. The assumption of long-run nominal growth of 0.0625 for the simulation would be broadly consistent with this.

[24] Source: Table 121 in RBI [2009b] for interest rates on central and state government dated securities.

expenditure from budgeted levels are not only unlikely to be rejected in the Indian parliament, they are welcomed with bipartisan fervour; to the best of our knowledge, no mid-year spending bill has been rejected.

The EU's Stability and Growth Pact (SGP) failed, in both its original and its revised 2005 incarnations, precisely because of the absence of incentives to run larger surpluses (or smaller deficits) during upswings and the failure to enforce the penalties (including fines) that were, in principle, part of the collective arsenal of SGP enforcement. The failure to exercise fiscal restraint during the upswing by France, Germany and Italy was not penalised by the EU's Council of Ministers in 2004, because the political cost-benefit analysis of naming, shaming and fining a leading member of the European Union Club militated against collective enforcement of these penalties.[25] The latest evidence of the SGP's failure is the situation of Greece, which "managed" to persistently run high and increasing fiscal deficits (some of it hidden), culminating in a gap of 12.7 percent of GDP in 2010. But for a last-minute (and clumsily put-together) financial backstop provided by the other Euro Area members and the IMF, Greece would undoubtedly have been frozen out of the domestic and international financial markets during the first quarter of 2010 and forced into default. Most other Euro Area members, and EU members not part of the Euro Area, like the UK, also engaged in reckless pro-cyclical behaviour during the boom that preceded the financial crisis that erupted in August 2007. It is clear well beyond a reasonable doubt that the Stability and Growth Pact was a paper tiger.

[25] In the case of the UK, Chancellor Gordon Brown mangled the classification of government borrowing to such an extent that its fiscal rule stands broadly discredited.

In 1985, the US Congress passed the Gramm-Rudman-Hollings (GRH) bill, which specified a series of annual deficits leading to a balanced budget in 1991. If the budget was projected to miss the deficit target, then an automatic "sequestration" process would take effect in order to ensure the deficit target was met. Subsequent to the modification in the sequestration procedures in 1987 (because the 1985 version was found to be unconstitutional), the zero deficit target date was pushed back to 1993 (Auerbach [2008]).

To avoid a pro-cyclical fiscal stance against the backdrop of the 1990 recession, the GRH was scrapped and replaced with the Budget Enforcement Act (BEA). The BEA did away with the annual overall deficit targets, instead instituting budget rules (spending caps) for discretionary spending (as distinct from entitlements), and a rule for legislated changes in policy related to taxes and entitlement spending, specifically, that legislated changes in these two categories should not increase the deficit (so called "pay-as-you-go" (PAYGO) restrictions).

The BEA's death was a bipartisan effort. It started to erode in 1999 under a Democratic administration by using the subterfuge of designating enhanced spending as "emergency" discretionary spending, which was not subject to caps. Budget rules were changed by Congress to adjust the caps to be consistent with actual spending, and the PAYGO rules were set aside before they expired. This helped to usher in the large Republican administration-sponsored tax cuts in 2001 *without* offsetting revenue increases or expenditure restrictions, which the undiluted BEA would have required. Any prospect created by the BEA, that public debate in the US might be focused on fiscal sustainability and intergenerational (in)equity vanished without trace.

Accountability and transparency

In his budget speech (for fiscal 2008/09) delivered in February 2008, India's Union Finance Minister stated: "It is widely acknowledged that the fiscal position of the country has improved tremendously. I am happy to report that the revenue deficit for the current year [2007/08] will be 1.4 per cent [of GDP] (against a budget estimate (BE) of 1.5 per cent) and the fiscal deficit will be 3.1 per cent (against a BE of 3.3 per cent)." In tables related to expenditure, an amount of Rs. 188 billion (0.4 percent of GDP) in the form of "Securities issued in the first and second Supplementary Demands for grants 2007/08 in lieu of subsidies" to oil marketing and fertiliser companies was recognised as a below-the-line *note* (and, thus, off-budget). The FRBMA's clauses were obviously insufficient to prevent the Finance Minister from excluding (unpaid) dues on account of subsidies in calculating the fiscal and revenue deficits. Moreover, provision for off-budget bonds was inadequate to cover the expenditure overrun (or, deliberately shown to be low); estimates by market analysts suggest that excess expenditure was about 1.9 percent of GDP in 2007/08. Not surprisingly, influential commentators have described budget numbers in recent years as "fictional".

Arrears on account of food, fertiliser and petroleum subsidies have persisted since 2005/06, with the oil sector as the largest component followed by fertiliser. The petroleum subsidy burden outside the budget *reportedly* gets split between refining (marketing) companies, upstream (production) companies and bonds (IOUs). About 60-65 percent of the arrears to companies in this sector have been "settled" through the issue of bonds aggregating 3.3 percent of GDP (see row (a)˝ in Table 1). From an accounting perspective, only the bonds component constitutes a government liability, but they are not

part of the central government's liability statement as they are off budget (there is a consistency in treatment of both flows and stocks regarding this liability – they are ignored!). The balance is borne by the companies, actually their shareholders, of which the government is the largest, but these companies do have other shareholders and are publicly listed.[26] As a result of persistent non-payment/arrears by the government for goods and services provided by the public sector units (PSUs) borrowing by them is likely to increase. PSUs may even use bonds issued by the central government as collateral.[27] Official budget documents, including the medium term fiscal policy statement, have, since 2005/06, been silent on deployment of these window dressing "strategies" for imparting a respectable sheen to the "headline" fiscal picture.

6. State-level fiscal responsibility legislation

Both the central and state governments in India have exhibited a bias for fiscal profligacy. The overall fiscal deterioration during the late 1990s and early years of the millennium – due to the impact of an industrial slowdown, Fifth Pay Commission salary hikes for government servants, the parlous financial state of government-owned electricity utilities, and lower than expected revenue buoyancy – could be blamed on both

[26] Profit margins of the three government-owned oil marketing/refining companies have declined by between one-half and three-quarters since the mid-nineties. One of the oil marketing company's revenue has increased eleven-fold since 1992/93, but the equity price has appreciated by less than 5 percent (Financial Express [2010]).

[27] Even the central bank has been caught in the vortex of the oil subsidy. The RBI, between June 5 and August 8 2008 in effect provided US$ 4.4 billion to government-owned oil companies in exchange for oil bonds (outright purchase or collateralised repo). These so-called Special Market Operations (SMO) from the perspective of the RBI were effectively a swap on the assets side of its balance sheet, specifically, Rupee-denominated oil bonds for foreign currency reserves. Since the liabilities side of the RBI's balance sheet is unchanged, the SMO was monetary neutral. However, from a fiscal dimension, whether this operation was neutral depends on the value imputed to these bonds in exchange for foreign exchange. It was understood at the time that the RBI had to intermediate in this manner to keep oil imports flowing into the country because banks were reluctant to accept more of this (largely illiquid) paper issued by the government to the oil companies (Patel [2008b]).

the Union and state governments and was the primary driver for establishing fiscal rules (when the memory of 1991 was still relatively fresh).[28]

State-level FRLs – enacted by individual state governments between 2002 and 2007 – were an attempt to introduce a framework for rule-bound fiscal consolidation and to usher in a regime of transparent and prudent fiscal management.[29] The process was encouraged by the recommendations of the 12th Finance Commission made in 2004, which incentivised fiscal correction paths for state governments through the Debt Consolidation and Relief Facility (DCRF) in the form of conditional debt restructuring and interest rate relief (GoI [2005a]). [30]

- Central government loans to states aggregating Rs. 1288 billion (4 percent of GDP) could be consolidated and rescheduled for a fresh term of 20 years, at an interest rate of 7.5 percent. The facility was available to only those state governments that enacted an FRL.
- A debt write-off scheme linked to a reduction of revenue deficits of states. Under this scheme, repayments due from 2005/06 to 2009/10 on central government loans contracted up to March 31, 2004 would be eligible for write-off.

It is pertinent to point out that there are two macro institutional limits on a state's borrowing. Firstly, a state cannot borrow in the markets without the central government's permission as long as it is in debt to the central government (which is always the case).[31] Secondly, there is no scope for the automatic monetisation by

[28] The financial deterioration of state-government owned electricity utilities was a major contributor to the states' fiscal malaise during this time (Bhattacharya and Patel [2008]).
[29] Twenty states enacted FRLs in 2005 and 2006.
[30] See Rajaraman and Majumdar [2005] for implications for states of FRLs in the context of recommendations of the 12th Finance Commission.
[31] This means that each state's annual market borrowing programme, with the RBI as the effective merchant banker, has to be approved in Delhi.

borrowing from the central bank, although a limited "ways and means advances" facility is available to the states.

While all states except Sikkim and West Bengal have enacted FRLs, we will briefly review the FRLs of the first seven states – Kerala, Maharashtra, Karnataka (the forerunner), Gujarat, Tamil Nadu, Uttar Pradesh and Punjab – that legislated them.[32] [33] The state FRLs impose quantitative and time-bound (4-6 year) targets on revenue and fiscal deficits, viz., elimination of the former and reduction of the latter to 3 percentage points of gross state domestic product (GSDP). However, there is one notable exception in this regard; Kerala has a ceiling of 2 percent of GSDP for the fiscal deficit (see Table 2 below for state-wise summary of the seven FRLs and the associated outcomes). In addition, a couple of states have deployed atypical measures. The Maharashtra legislation, enacted in April 2005, stipulates that "The State Government shall by rules specify the targets for reduction of fiscal deficit", with the (operational) target "interpreted" in a somewhat novel manner as a "ratio of expenditure on interest to revenue receipts", which actually does not help to limit the fiscal deficit. To appreciate this, let *D* be the fiscal deficit, *G* total spending, T^R revenue receipts, T^{NR} non-revenue receipts and *I* expenditure on interest. It follows that $D = G - T^R\left(1 - \frac{I}{T^R}\right)T^R - T^{NR}$.

[32] The share of these seven states in national output is about one-half. Notably, three states passed FRLs between September 2002 and August 2003 (the central government passed its FRBMA on August 26 2003).

[33] Analogous to the centre's FRBMA, there are notable qualitative initiatives pertaining to fiscal planning and transparency that are embedded in the state legislations (see Government of Gujarat [2009], for example). The state FRLs require a medium term fiscal policy statement (encompassing multi-year rolling targets) that, *inter alia*, lays out the time path for attaining the fiscal goals, and they also call for those changes in accounting standards, government policies and practices that are likely to affect the calculation of the fiscal indicators to be disclosed in the respective state assembly.

Table 2: State-wise fiscal responsibility legislation targets and performance

State	Karnataka		Kerala		Tamil Nadu		Punjab		Gujarat		Uttar Pradesh		Maharashtra	
Effective from:	2002/03		2003/04		2002/03		2003/04		2005/06		2004/05		2005/06	
Fiscal Deficit (FD) as % of GSDP	Not more than 3% by end-March 2006		2% by end-March 2007.		Not more than 3% by end-March 2008.		Contain rate of growth of FD to 2% per annum in nominal terms, until brought down to 3% of GSDP.		Not more than 3% by 2008/09.		Not more than 3% by end-March 2009.		Rules to be specified for reduction of fiscal deficit, with the target "interpreted in the form of a ratio of expenditure on interest to revenue receipts."	
Revenue Deficit (RD) as % of GSDP	Nil by end-March 2006.		Nil by end-March 2007.		Ratio of RD to revenue receipts (RR) not to exceed 5% by end-March 2008.		Reduce RD as per cent of RR by at least 5 percentage points each year until revenue balance is achieved.		Zero by 2007/08.		Nil by end-March 2009.		Revenue surplus from 2009/10 onwards.	
Debt as % of GSDP	Total liabilities not to exceed 25% of GSDP by end-March 2015. In 2008/09: 25.5%		-		Limit on total outstanding guarantees at 100% of revenue receipts: Not binding.		Not to exceed 40% by end-March 2007; outcome: 42.1%. In 2008/09: 40%		30% by 2007/08; outcome: 32.7%. In 2008/09: 30%		Not to exceed 25% by end-March 2018. In 2008/09: 50.8%.		-	
as % of GSDP	FD	RD	FD	RD	FD	RD	FD	RD	FD	RD	FD	RD	FD	RD
2004/05	2.3	-1.0	4.0	3.3	2.8	0.3	4.2	3.5	4.6	2.1	5.2	2.8	4.8	2.6
2005/06	2.0	-1.3	3.4	2.5	1.0	-0.8	2.4	1.1	2.8	0.2	3.6	0.5	4.0	0.9
2006/07	2.3	-2.0	2.7	1.9	1.4	-1.0	3.6	1.4	2.2	-0.7	3.1	-1.6	2.3	-0.2
2007/08	2.2	-1.6	3.8	2.3	1.2	-1.5	3.3	2.8	1.6	-0.7	4.0	-1.0	-0.5	-2.5
2008/09	3.5	-0.3	3.5	2.0	2.7	0.0	4.5	2.5	2.9	-0.1	5.3	-1.1	2.3	-0.6

Note: - indicates surplus. Sources for data: State Finances – A Study of Budgets [2006/07; 2008/09; 2009/10], Reserve Bank of India; Planning Commission website for GSDP numbers.

Setting a target (or even a ceiling) for $\frac{I}{T^R}$ does not constrain *D* in any way! At any rate, Maharashtra did halve the fiscal deficit between 2004/05 and 2008/09.

Regarding its revenue deficit, Tamil Nadu enjoins the government to reduce the ratio of revenue deficit to revenue receipts every year by 3-5 percent ("depending on the economic situation in that year") to a level below 5 percent by end-March 2008. Four of the states in this sample have legislated ceilings for official debt. Karnataka, Gujarat, Uttar Pradesh and Punjab, respectively, have capped their outstanding total liabilities at 25 percent, 30 percent, 25 percent and 40 percent of their respective GSDP. On the other hand, the Tamil Nadu Act has placed a limit on total outstanding guarantees of one hundred percent of total revenue receipts in the preceding year or at 10 percent of GSDP, whichever is lower. Except for Kerala all states have made noteworthy progress on fiscal and debt indicators (some earlier than envisaged under the respective FRL) and four of the states are running a surplus on the revenue account.

Fiscal consolidation by states at the aggregate level in recent years has been commendable. Between 2003/04 and 2007/08, the fiscal deficit declined markedly from 4.4 percent to 1.5 percent of GDP. The main explanation being that enhanced budget revenues were not offset by discretionary action on the expenditure side. During 2008/09, the fiscal performance deteriorated somewhat (with the deficit at 2.6 percent of GDP, but still below the mandated 3 percent ceiling), due to the slowdown and the accompanying moderation in the pace of revenue growth; however, the revenue deficit in most states was within the target of zero balance in 2008/09 (RBI [2010]). States' management of fiscal affairs over both a period of high growth and the subsequent slowdown exhibits successful conduct of 'discretionary countercyclical' policy within the

rules.[34] Therefore, the recent deterioration in the national fiscal situation cannot be blamed on Indian state governments, contrary to opinions proffered elsewhere that states stand in the way of achieving sustained overall consolidation (Hausmann and Purfield [2004]). Nevertheless, there are three factors that could cast a shadow over the future: First, the beneficial impact to states of the debt restructuring will become less important over time[35]; second, the steady-state effects of Pay Commission awards on government salaries and pensions usually take a couple of years to permeate through in full in the government accounts after the increase is announced[36]; and third, if states don't adjust (average) electricity tariffs regularly to match (average) cost of generation and supply, the adverse impact on state government fiscal health will turn out to be large in due course, much like in the early 2000s (Patel and Bhattacharya [2010]).

7. What next?

It is not surprising that, given the existing fiscal situation, there has been a flurry of activity. Both the Report of the 13th Finance Commission and the central government's 2010/11 budget have laid out a road map to cut the fiscal deficit and public debt over the next five years. It is not yet clear that a new fiscal responsibility law will be drawn up. Although the "golden rule" (a balanced revenue budget) has been maintained as an objective in the latest proposals, the important change in emphasis is the dominance, over the next five years, of three *gross* public debt-GDP ceilings (in contrast to the fixed (linear) annual reduction in the revenue and fiscal deficits embedded in the FRBMA):

[34] The Government of India permitted states to borrow one-half percent of GSDP more in 2008/09 and a further one-half percent of GSDP in 2009/10 as countercyclical measures for reviving growth.
[35] Debt relief has been provided to states several times over the last four decades.
[36] States bear a larger burden compared to the central government with regard to pay revisions because they have more staff on their rolls, in part because they are responsible for delivery of social services (like schools, health etc.), and law and order (police), which are intrinsically labour intensive.

$$b^c(T) \leq 0.448 \quad (7.1)$$

$$b^s(T) \leq 0.243 \quad (7.2)$$

$$b^{c\cup s}(T) \leq 0.678 \quad (7.3)$$

Where $b^c(T)$ is the central government's terminal date, T, gross debt-GDP ratio, $b^s(T)$ is the state governments' gross debt ratio, and $b^{c\cup s}(T)$ is the consolidated general government gross debt ratio at the same date.[37] The estimated starting ratios are $b^c(t_0) = 0.548$, $b^s(t_0) = 0.271$ and $b^{c\cup s}(t_0) = 0.794$.[38] [39] The principal public debt challenge in India, as things stand, is for the central government to reduce its debt-GDP ratio by ten percentage points over five years for meeting (7.1) (and concomitantly (7.3)). The government has sought to activate the debt goal for 2014/15, by disclosing rolling targets for the revenue and fiscal deficits, which, almost by definition, would continue to remain the levers for achieving (7.1), but may cease to be legally-binding intermediate "sign posts" in future legislation.

The 2014/15 target for the central government's fiscal deficit is 3 percent of GDP – identical to that required by the erstwhile FRBMA –, and the general government target is 5.4 percent of GDP (GoI [2010c]). It is sobering that in the last three decades, the general government deficit has been less than 6 percent of GDP in *only* two years. The

[37] Since the Finance Minister's most recent budget speech mentions a status paper within six months, which would include a road map for curtailing public debt, it is not clear whether the central government has already formally accepted (7.1) proposed in GoI [2010c]. Nevertheless, the budget documents strongly endorse a debt-GDP ceiling (GoI [2010b]).

[38] t_0 is April 1 2010. The central government's ratio of 0.548 includes outstanding off-budget bonds equivalent to 3.3 percent of GDP. As observed earlier, the central government's medium term fiscal policy statements have consistently failed to recognise off-budget bonds, but they are acknowledged to be a liability of the central government by the 13th Finance Commission (see Tables 9.2 and 9.7 in GoI [2010c]).

[39] These 2009/10 debt ratios also differ from those presented in Appendix Table A1 on two grounds, viz., the set of reasons cited in section 4, and our motivation is to obtain, as far as possible, a consolidated and conceptually consistent measure of *net* total public (domestic and foreign) debt comprising central & state governments, non-bank public enterprises, and the central bank.

basic arithmetic of the latest medium term fiscal strategy can hardly be much different from that of the FRBMA since the challenges, goals and instruments are virtually identical. If $d^{c\cup s} \leq 0.054$ (general government deficit of 5.4 percent) is **consistently adhered to**, using the same set of assumptions for the long term that were deployed in section 5, viz., $\bar{n} + \bar{\pi} = 0.0625$, the general government's **long-run** debt to annual GDP ratio would be capped at 86.4 percent.

The 13th Finance Commission's Report, drawing lessons from the central government's conduct in recent years has, to its credit, made thoughtful and constructive suggestions for changes in the areas of transparency, (limited) in-built flexibility, and enhancing integrity of fiscal policy in the design of future legally-binding rules. Specifically, transparency is sought to be imparted by asking the government to make explicit assumptions underlying expenditure and revenue projections "and the band within which these parameters can vary while remaining consistent with [legislated] targets"; the argument is that this will compel the government to make an evidence-based case for relaxation of targets.

Furthermore, future legislation will have to spell out "the nature of shocks that would require a relaxation of targets".[40] Unfortunately, the Report (implicitly) seems to endorse (temporary) relaxation of targets for sharp increases in oil prices, although this would only make sense if the commodity price increases were temporary. The suggestion presumes that it is *ex ante* possible for the Indian government to discern whether a shock is temporary or permanent. As it is, the government is still paying subsidies for price changes that took place several quarters ago. Budget goals should not

[40] The (laundry) list of shocks that the Commission has specified includes: "agro-climatic events of a national dimension", global recessions and shocks caused by domestic or external events like asset price bubbles or systemic crises in important sectors like the financial markets.

be at the mercy of changes in the international price of imported petroleum. After all, oil is not the only systemically important commodity whose price is volatile.

There are two further observations. More detailed conceptual motivation for the 2014/15 deficit targets and debt ceilings would have been enlightening; for instance, it is not clear why the resting point/steady state for the aggregate fiscal deficit of states should be 2.4 percent of GDP when 3 percent of GDP was the erstwhile norm (GoI [2005a]). Formal entrenchment of discretionary flexibility in a fiscal rule for responding to exogenous shocks is hardly a "core objective" of public finance as the Commission makes it out to be – governments everywhere find a way of spending money beyond budgeted targets quite easily. Instead, the Commission spurned the opportunity to demonstrate innovation regarding the urgent and difficult task of designing and implementing a time consistent fiscal rule for the sovereign (in a democracy which shows a sustained proclivity for running high fiscal deficits without public opprobrium).

The main difficulty thrown up by our analysis of outcomes under the FRBMA and other FRLs remains the design of a fiscal rule to incentivise the government not to give in to a procyclical bias, which, behaviourally and in practice, is especially pertinent for policy during upswings.

It takes a thief to catch a thief?[41]

The most important reason why legislated fiscal rules have met a sorry end is "the failure to discover a way of tying a nation's fiscal Ulysses to the mast, with the result that the siren song of fiscal retrenchment tomorrow but fiscal expansion today will continue to lead policy makers astray" (Buiter and Patel [2006]). Is there a countervailing actor to effectively police the sovereign's fiscal behaviour? In a federal country like India, the

[41] Or alternatively, it takes a policeman to catch a policeman?

answer could be, well, another level of government, specifically the states. It may then be possible to "punish" one level of government for transgressing its commitment towards the general deficit target consistent with (7.3) above. For example, the margin by which a deficit target is exceeded by, say, the centre in a particular year would not only have to made up next year (as the debt-GDP ratio has to be met), but it would also have to cut the deficit by a further pre-specified amount ("punishment") to allow the states to run a higher deficit of the same quantum.[42] Since states are politically powerful, it would be more difficult for the central government to brush them aside than to ignore fiscal legislation signed by the President of India (as all Union legislation in India has to be).[43] [44] In the taxonomy of outcomes, the central government's failure to honour its commitment and the states' sticking to theirs is only one of four results:

		Centre	
States		Y	N
	Y	10,10	5,12
	N	12,5	7,7

Where Y and N denote, respectively, success (honouring one's fiscal commitment) and failure (not honouring it). The Centre chooses the Y or N heading the columns, the States the rows. The numerical pairs of payoffs in the shaded 2x2 submatrix represent the benefit derived by the States (first element) and the Centre (second element) from a particular pairing of choices. The example represents the classical Prisoner's Dilemma configuration where defecting (N) is a dominant strategy for both players, even though

[42] The tables, of course, would be reversed if states under achieve and the central government meets its commitment.
[43] States in India are not averse to using courts to protect their rights and sphere of influence granted under the constitution.
[44] Major implicit assumptions are that states will have annual deficits that are not too dissimilar, and that they would formally agree to a scheme with these characteristics.

the resulting outcome, (N, N), is Pareto-dominated by honouring one's commitment (Y), which leads to the outcome (Y,Y).

Governments with recourse to the law to enforce a compact governing state-centre fiscal relations might carry the requisite heft; there is therefore a distinct possibility that such a compact would be enforced by the judiciary. Thus, by adding another player to the game (the judiciary), it may be possible to arrive at the (Y,Y) outcome.

Rather than modelling this 3-player, multi-stage game, we can capture its essence by changing the payoff matrix as follows:

		Centre	
States		Y	N
	Y	10,10	8,9
	N	9,8	7,7

When one player honours his debt commitment but the other does not, the party not honouring his commitment gets punished by being forced to transfer, in the next fiscal year, part of his debt allowance to the party that did honour his commitment. Even though the defector may still be better off, on balance, than the player that stuck to his commitment (9 is better than 8), the reduction in the reward to the defector (from 12 to 9) and the increase in the reward for the player who honours his commitment (from 5 to 8), mean that (Y,Y) now is the dominant strategy. One would, of course, have to explain why a transgressor would not or could not simply refuse to accept the fiscal punishment in the next fiscal year. The strength and independence of the judiciary provide, we hope, the answer to that objection.

A conceptual scaffolding of the type sketched here may help to underpin behaviour by both levels of government towards (nationally beneficial) fiscal rectitude embedded in debt limits and targets.

8. Conclusions

It is often said that the main reason for India's historic price stability relative to its peer group of developing countries has been the polity's intolerance of high inflation (hence, a conservative monetary stance for the most part). With regard to fiscal policy, it would seem that the preference is for high expenditure and low taxation. Political opportunism (rational at the individual, partisan level) in India as elsewhere calls for the postponement of (any) expenditure cuts or tax increases and the prompt spending of revenue windfalls – there is always the chance that the political cost of painful fiscal retrenchment will be borne by the opposition, when its turn in office comes around. In addition to the reasons outlined in the introduction to this chapter to be concerned about high public indebtedness, cynics may argue that the Indian government may want to undertake fiscal retrenchment in the near term to re-engineer the next "political business cycle", in time for the next national elections that are due in 2014.

Unless India reverses the recent trend in its fiscal balances, its net public debt-GDP ratio will cross thresholds that could undermine its growth performance. The Union government's primary balance has deteriorated from close to balance a few years back to substantial deficits (after proper accounting for off-budget borrowing). The challenge lies at the central government level and pertains to controlling expenditure items that have evolved, politically speaking, into entitlements. The primary deficit therefore has the characteristics of being "structural". With smaller current fiscal deficits and higher saving and investment, the government could make a contribution to faster growth; the

period of high growth was not unrelated to the transformation of public sector *dis*saving in 2002/03 to a *positive* savings ratio of five percent of GDP in 2007/08.[45]

But it is another matter whether India needs a new set of legislative rules of the FRBMA type to bind the government to its medium-term fiscal plan, while at the same time providing enough discretion for the government to act quickly in times of trouble. Another FRL which is not incentive compatible for a myopic and opportunistic government, i.e., without mechanisms for implementation and enforcement is as likely to be ignored as the FRBMA was. Given the sorry fate of FRLs in most other parts of the world, it is hardly prejudicial to conclude that fiscal virtue cannot be legislated without thoughtful mechanism design that renders its practice incentive-compatible. On the other hand, since a general government debt–GDP perspective may be incorporated in India's prospective macroeconomic management approach, it may be possible to have an incentive compatible framework with an inbuilt carrot-and-stick strategy that brings in the judiciary and thus integrates the central and state governments in a manner that holds them credibly accountable and, more importantly, rewards and punishes (enforces) each other's fiscal performance.

[45] India's gross domestic saving ratio is estimated to have declined to 32.5 percent of GDP in 2008/09 from 36.4 percent of GDP in 2007/08. The deterioration is almost entirely on account of the sharp drop in public sector gross saving from 5 percent of GDP in 2007/08 to 1.4 percent in 2008/09 (GoI [2010a]).

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Appendix

Table A1: Indian public debt as percent of GDP

	CDD	SDD	PEDD	NTDD	TFD	GTD	R	NTFD	NTD
1970/71	17.2	4.2	0.3	21.7	13.5	35.2	1.6	11.9	33.6
1971/72	16.8	4.3	0.3	21.4	13.6	34.9	1.8	11.8	33.2
1972/73	17.2	4.1	0.3	21.7	13.9	35.6	1.7	12.2	33.9
1973/74	14.5	3.8	0.2	18.5	12.8	31.3	1.6	11.2	29.7
1974/75	13.8	3.6	0.5	17.0	12.3	30.2	1.4	11.0	28.8
1975/76	16.2	4.0	0.7	20.9	14.5	35.3	2.3	12.2	33.0
1976/77	16.6	4.1	1.0	21.7	13.9	35.5	3.6	10.2	31.9
1977/78	20.7	4.0	0.9	25.6	12.5	38.1	4.8	7.7	33.3
1978/79	19.3	4.4	1.2	24.9	12.0	36.9	5.3	6.6	31.6
1979/80	20.5	4.2	1.5	26.3	12.1	38.5	4.9	7.2	33.5
1980/81	20.3	4.0	1.5	25.8	11.7	37.5	3.8	7.8	33.6
1981/82	19.8	4.2	1.5	25.5	12.2	37.6	2.4	9.8	35.2
1982/83	23.5	4.4	1.9	29.8	13.9	43.7	2.6	11.4	41.1
1983/84	21.7	4.5	2.0	28.3	14.7	43.0	2.7	12.0	40.2
1984/85	24.8	4.5	2.2	29.3	16.2	45.5	3.0	13.2	42.6
1985/86	27.3	5.0	2.3	32.2	17.0	49.2	2.9	14.2	46.4
1986/87	27.7	5.0	2.6	35.0	18.6	53.6	2.7	15.9	50.9
1987/88	28.4	5.4	3.1	36.9	19.8	56.7	2.3	17.5	54.4
1988/89	29.4	5.5	3.9	38.8	22.1	60.9	1.8	20.4	59.1
1989/90	30.4	5.8	4.4	40.7	26.4	67.0	1.4	25.0	65.6
1990/91	30.6	6.0	6.4	43.0	29.0	71.9	2.0	27.0	69.9
1991/92	30.9	6.3	6.1	43.2	40.6	83.8	4.4	36.2	79.4
1992/93	31.8	6.4	7.0	45.2	36.7	81.9	4.1	32.6	77.8
1993/94	35.7	6.5	7.1	49.3	33.0	82.3	7.0	26.1	75.4
1994/95	35.4	6.5	6.1	48.1	28.8	76.9	7.8	21.0	69.1
1995/96	33.8	6.7	5.7	46.2	25.4	71.6	6.3	19.2	65.3
1996/97	33.6	7.1	6.6	46.9	22.7	69.5	6.9	15.8	62.6
1997/98	35.8	7.6	6.2	49.1	22.0	71.1	7.6	14.4	63.5
1998/99	37.0	7.5	8.2	52.8	21.8	74.6	7.9	13.9	66.7
1999/00	38.4	10.1	8.0	56.5	20.3	76.8	8.5	11.8	68.3
2000/01	40.0	12.6	7.2	59.9	18.7	78.5	9.4	9.3	69.1
2001/02	43.4	14.8	8.0	66.3	17.4	83.6	11.6	5.8	72.1
2002/03	47.6	17.6	7.4	72.5	16.5	89.0	14.7	1.8	74.3
2003/04	49.5	20.4	6.8	76.7	10.6	87.3	17.8	-7.2	69.5
2004/05	48.8	21.3	6.5	76.7	9.3	85.9	19.1	-9.8	68.8
2005/06	45.5	21.8	6.9	74.1	7.1	81.2	18.2	-11.1	62.9
2006/07	43.8	20.7	6.9	71.4	6.6	78.0	20.3	-13.7	57.7
2007/08	46.1	19.4	6.7	72.3	6.9	79.2	25.0	-18.1	54.2
2008/09	40.5	19.5	5.9	65.9	9.0	74.9	23.0	-14.1	51.9
2009/10*	41.8	20.2	NA	NA	NA	≈76.0**	20.3	NA	≈56.0**

Definitions

NTDD = CDD + SDD + PEDD (including Rupee-denominated short term debt, for which data is unavailable prior to 1990/91.)

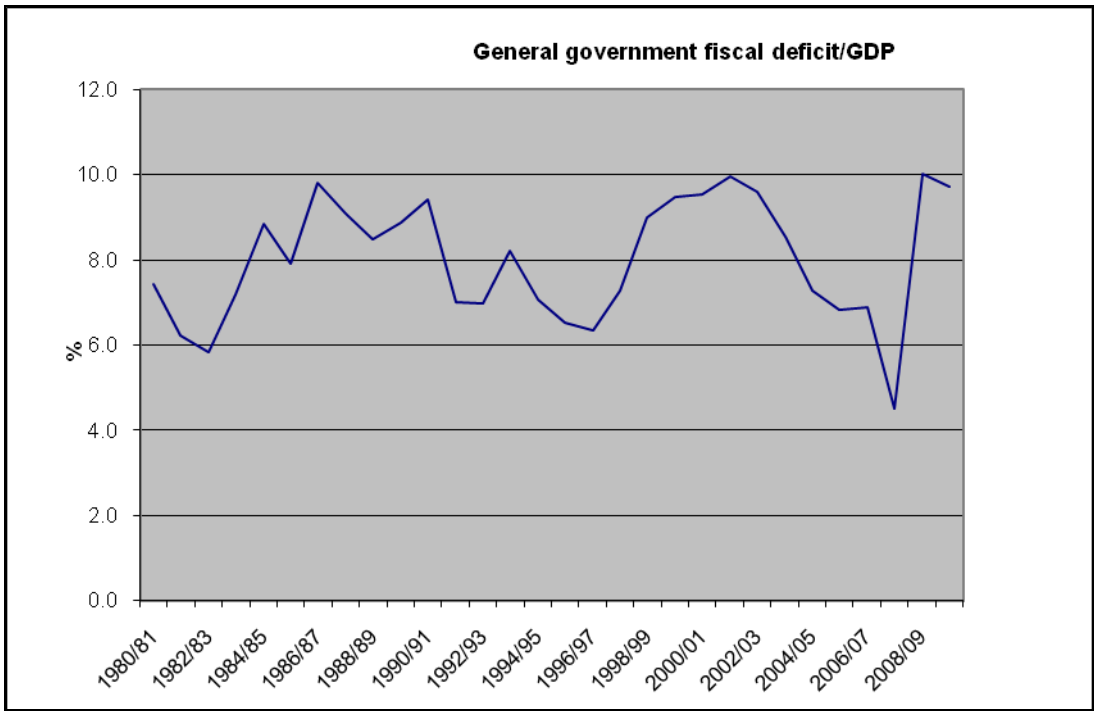
GTD = NTDD + TFD

(Table A1 cont'd…)

Table A1 cont'd…

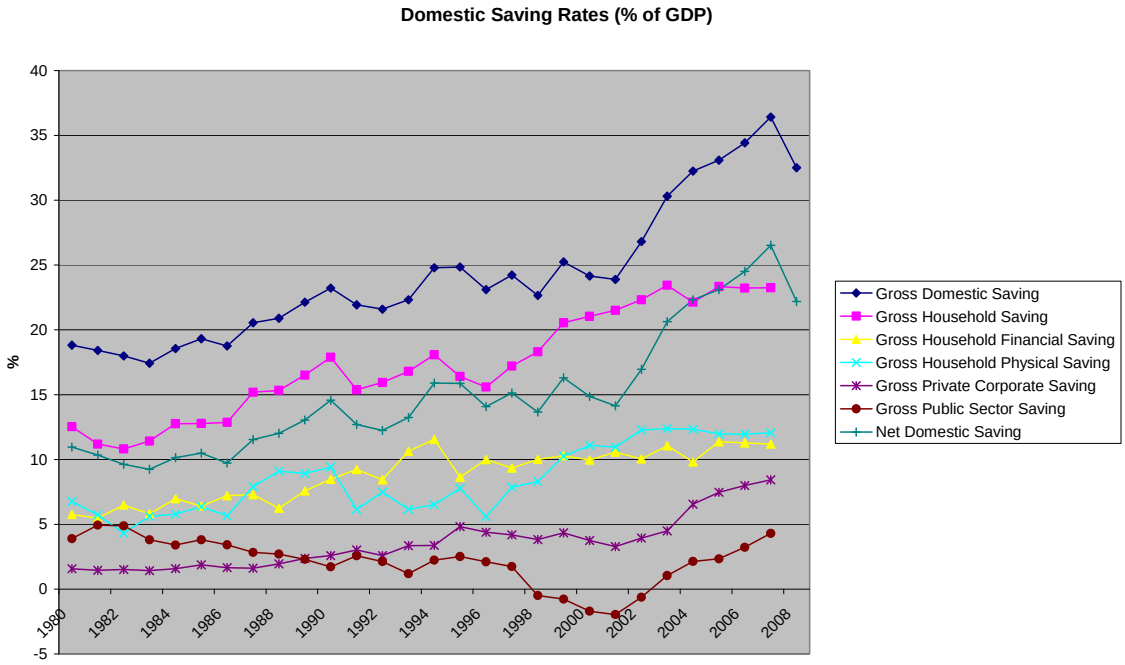
NTFD = TFD – R
NTD = NTDD + NTFD
NTDD: Net total domestic debt.
TFD: Foreign currency public and publicly guaranteed long-term debt plus use of IMF credit plus imputed short-term public debt.
GTD: Gross total debt.
NTFD: Net total foreign debt.
CDD: Internal (domestic) debt of the central government less net credit outstanding from the Reserve Bank of India; plus share of liabilities on account of small savings fund; plus other accounts, including provident funds; but excluding bonds issued to public enterprises in lieu of cash.
SDD: Rupee denominated market and other loans of (and advances to) state governments less net credit outstanding from the Reserve Bank of India, and excluding power bonds (which is a liability to central government-sponsored enterprises that are vendors to the state government-owned power utilities); plus share of liabilities on account of small savings (since 1999/00); plus provident funds etc.
PEDD: Rupee denominated short- and long-term debt of public enterprises not held by government.
R: Official foreign exchange reserves including gold and SDRs.
-: Indicates net assets.
*: Revised estimates from official documents, where available, or, budget estimates from official documents.
**: Authors' estimate.
NA: Not available
Sources: Handbook of Statistics on the Indian Economy (2009), Reserve Bank of India; Report on Currency and Finance, Volume II (various years), Reserve Bank of India; Budget Documents, Statement of Liabilities of the Central Government, Receipts Budget (2010 and previous years), Government of India; State Finances – A Study of Budgets of 2009/10, Reserve Bank of India; Public Enterprises Survey (volumes for 1970/71-2008/09), Bureau of Public Enterprises, Government of India; Weekly Statistical Bulletins of the Reserve Bank of India; Global Development Finance Report (various years from website), The World Bank.
(GDP, used in the denominator for computing the ratios, is at current market prices.)

Figure A1



Note: The deficit includes off-budget bonds issued by the central government. The general government measure, therefore, treats these bonds differently from the overall (public sector) fiscal gap displayed in Figure 1 of section 2.
Source: RBI [2009b]; data from 2007/08 onwards has been revised using RBI [2010] and GoI [2009b, 2010b].

Figure A2


Domestic Saving Rates (% of GDP)
%
40
35
30
25
20
15
10
5
0
-5
1980
1982
1984
1986
1988
1990
1992
1994
1996
1998
2000
2002
2004
2006
2008
Gross Domestic Saving
Gross Household Saving
Gross Household Financial Saving
Gross Household Physical Saving
Gross Private Corporate Saving
Gross Public Sector Saving
Net Domestic Saving