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## The Decentralization Dilemma in India

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**The Decentralization Dilemma in India**

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**Abstract**

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Already in precarious shape, the financial health of India's states took a turn for the worse in the late 1990s when state deficits and debt rose sharply. While India is among the world's most decentralized economies, greater decentralization is not the root cause of this situation. Panel estimation techniques find evidence that the trend rise in deficits reflects problems of transfer dependence and moral hazard that undermine states' incentives to control deficits. Those states that rely more on central government transfers and have easier borrowing access run higher deficits.

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## I. INTRODUCTION

The fiscal situation of the states in India deteriorated dramatically in 1998 following a period of modest adjustment in the mid-1990s. The combined deficit of state governments in India has traditionally been high, averaging about 3 percent per annum in the late 1980s. Although some progress was made in the mid-1990s in reducing deficits—resulting in a reduction in the combined states deficit to 2½ percent of GDP in 1993/94—this trend was dramatically reversed in the late 1990s when the combined state deficit rose to an average level of 4.4 percent of GDP. The renewed deterioration in state finances coincided with the expansion of states' spending especially on recurrent outlays. As a result, the revenue (or current) deficit of the states deteriorated even faster and investment spending was crowded out.

The deterioration of state finances has had macroeconomic effects, especially on general government finances. After a period of consolidation following the balance of payments crisis of the early 1990s, the general government deficit has widened to about 10 percent of GDP and official debt has grown rapidly. As the states undertake more than half of general government spending but account for less than 40 percent of receipts, about half of the increase in the general government deficit reflects the deterioration in state finances.

This paper traces the evolution of state-level fiscal indicators since the mid-1980s. On the surface, the rapid deterioration in state finances appears to reflect various pressures on state governments that caused expenditure to expand without a corresponding increase in revenue. However, while India ranks among the most decentralized economies in the world, many other countries with similar federal systems have not experienced problems of subnational imprudence and those who have generally made more progress in correcting these problems

The recent fiscal federalism literature emphasizes the role institutional factors play in creating adverse incentives for responsible subnational behavior. When central governments are involved in financing subnational governments, it creates a dilemma. Any such assistance undermines hard budget constraints, which, in turn, undermines the incentive for subnational governments to control their deficits. *Moral hazard* arises because on the basis of their past experience subnational governments might believe that the higher levels of government will continue to bail out their excesses. Central assistance also creates a *common-pool problem* whereby subnational governments may perceive that the cost of additional spending can be off-loaded onto others. Using panel estimation techniques on a data set consisting of annual observations on 15 of India's largest states, this paper finds evidence that the deterioration in state finances reflects institutional shortcomings rather than state-specific structural factors.

The rest of this paper is structured as follows: Section II traces the main developments in state finances from the mid-1980s. Section III compares how the problems experienced by India's states compare internationally. Section IV presents some of the recent evidence on the institutional causes of subnational financial problems; Section V conducts the empirical investigation into the determinants of the deterioration of state fiscal indicators in India, while Section VI concludes.

## II. OVERVIEW OF FISCAL PERFORMANCE OF INDIA'S STATES

Institutional weaknesses in the system of inter-governmental fiscal relations appear to have contributed to the deterioration in state finances depicted in Figure 1. The framework of federal fiscal relations (see Annex I) is characterized by transfer dependence, common-revenue pools, moral hazard, and soft budget constraints. These have created adverse incentives for prudent fiscal behavior by the state sector. However, the divergence in fiscal performance across states suggests structural factors, state specific pressures, and the criteria for allocating state assistance may also play a role.

**Transfer dependence:** Although the average level of central government transfers (grants and shared taxes) has fallen by almost 1 percent of GSP since the mid-1980s, they still comprise almost 40 percent of state revenues and cover half of states' current outlays. States have less incentive to increase revenue effort, especially on shared taxes, because they do not derive the full benefit of the extra resources raised under a revenue pooling system. In addition, each state may also believe it can reduce the tax burden on its citizens by increasing their reliance on transfers. States' own-revenue has fallen by 1 percent of gross state domestic product (GSDP) since the mid-1980s due to the failure to adjust user fees for utilities and government services as well as to expand state's own tax bases (Table 1).<sup>2</sup> Figure 2 shows that states with a lower share of own resources in total taxes have greater deficits.<sup>3</sup>

**Common-pool problems:** The reliance on central government transfers also undermined the state sector's incentives to control deficits as they might perceive they could offload additional spending costs onto higher levels of government. State expenditures have grown by over  $\frac{3}{4}$  percentage points of GSDP per annum since 1998/99. Reflecting the awards granted under the Fifth Pay Commission, pension and administrative costs (the latter includes wages) have risen by more than 400 percent since the mid-1980s.<sup>4</sup> Energy subsidies to the state electricity boards (SEBs) have doubled since the mid-1990s, although they remain below the levels of earlier periods. The states' growing debt burden has also caused debt servicing costs to rise to 35 percent of states' own resources. As the growth in expenditure outpaced that of revenue, the average level of state deficits have doubled from the mid-1990s.

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<sup>2</sup> The only exception is sales taxes due to intensified collection effort before the planned introduction of state level VAT.

<sup>3</sup> Using a between-effects OLS regression using the period average between 1985 and 2000.

<sup>4</sup> The Fifth Pay Commission recommended a 30 percent increase in civil servant salaries and a corresponding reduction in the work force. Only the pay increase was implemented.

**Moral hazard:** The central government has also undermined the hardening of budget constraints and promoted bailout expectations through its own lending and provision of ad hoc assistance. The official debt of states now comprises 26.7 percent of GDP, compared to 18¼ percent of GDP in the mid-1990s, and over half of this debt is owned to the central government. In addition, the central government has regularly provided assistance to states who have exceeded their overdraft limits with the central bank. This assistance undermines incentives for prudent fiscal behavior by promoting bail-out expectations as states might believe that the central government will help finance any deficit they incur. Figure 2 shows a positive relationship between fiscal deficits and the dependency on central government loans.

**Soft budget constraints:** The official debt statistics understate the true extent of the states' debt burden as states engaged in off-budget activity. The level of outstanding guarantees grew by over 40 percent between 1993 and 2000, outstripping the growth in official state level debt. Fiscal activities are also conducted off-budget through various state-owned financial corporations (SFCs) and utilities with adverse consequences for their financial health.<sup>5</sup> These off-budget sources of fiscal activity are contingent liabilities that could result in future claims on states' budgets.

**Structural factors:** The states with the largest deficits and debt burden at the end of 2000—namely, West Bengal, Andhra Pradesh, Gujarat, Bihar, and Tamil Nadu—broadly correspond to those with the largest imbalances at the start of the decade (Figure 3).<sup>6</sup> This suggests that the structural characteristics of these states may be important in explaining their higher deficits. However, the results shown in Figure 2 suggests that only the agricultural dependence has a significant negative impact on fiscal deficits presumably because agricultural income is not taxed.<sup>7</sup>

**State-specific pressures:** The deterioration in state finances in the late 1990s can be traced to poor performance of a few key states that can, in turn, be attributed to high expenditure pressures (Table 2). West Bengal, Andhra Pradesh, Gujarat, Bihar, Tamil Nadu, and Karnataka account for almost 60 percent of the decline in financial indicators since 1997/98. The share of the states' combined deficit accounted for by West Bengal and Gujarat rose from 16 percent in 1997 to over 20 percent by 2002; that of the other four states rose from 25 percent to 33 percent. Expenditure pressures in these six states ranged from a low of 14 percent to high of 132 percent far exceeding the average state-wide growth rate of 11 percent.

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<sup>5</sup> SFCs' capital adequacy ratio is negative (22 percent), and nonperforming assets range from 30 percent to 90 percent. The combined power sector losses are 1 percent of GDP.

<sup>6</sup> Except Kerala, Punjab, and Uttar Pradesh.

<sup>7</sup> Population, area, the incidence of poverty, per capita income levels, and the number of local government units in a state were insignificant.

**Criteria for allocating assistance:** Changes in the arrangements for distributing transfers in the late 1990s exacerbated the divergences across states. In recognition of the growing state fiscal problem, the Tenth and Eleventh Finance Commissions (EFC) devolved higher shares of central tax revenue to the states. They also changed the revenue sharing arrangements to try to provide greater aid those states facing larger resource deficiencies and higher costs for public service provision, while trying to provide some incentives for fiscal discipline. While the new system channeled extra resources to some financially stressed states (Bihar, West Bengal, and Gujarat), others (Andhra Pradesh, Karnataka, and Tamil Nadu) that were also experiencing high spending pressures had their transfers cut, while Kerala, which had reduced its deficit-before-transfers, was also penalized by a cut in transfers (Figure 4).

### III. INDIA'S FEDERAL SYSTEM IN AN INTERNATIONAL CONTEXT

India's fiscal system, already one of the most decentralized in the world, became more decentralized over the past decade (Table 3). State governments in India are responsible for implementing a higher proportion of general government spending than in most developing economies. Only China had a higher ratio. Yet Indian State governments' revenue raising powers do not match their expenditure responsibilities, with the result that Indian states are more dependent than most on central government transfers. In line with the trend elsewhere, the share of general government spending attributable to states in India increased over the course of the 1990s, but their share of general government revenue fell more rapidly.

The level of the states' fiscal imbalance in India is high. The states' fiscal imbalances account for a greater share of the general government deficit than in most other countries with the exceptions of Argentina, Germany, and Mexico. In over half of the countries examined, the subnational levels of government ran surpluses or broadly balanced budgets and many others, especially in Latin America, have made substantial progress in correcting subnational fiscal imbalances. In contrast, states' fiscal imbalances in India have deteriorated.<sup>8</sup>

Tax autonomy in India is also low, especially when compared to China (Table 4).<sup>9</sup> However, shared taxes—which are closer in nature to grants because they are not distributed according to where they are earned—comprise a smaller share of state taxes.<sup>10</sup> With less than one-third of taxes comprising shared taxes, most of the tax base is under state control. But in common with China, local income and property tax bases and rates are determined by the central government and states work around the set statutory rates by providing tax incentives. The

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<sup>8</sup> Subnational fiscal imbalances widened in the transition economies as revenue collapsed in the move to a market-based system.

<sup>9</sup> Revenue autonomy is approximated by the ratio of tax revenue to total subnational revenue.

<sup>10</sup> In Denmark and Hungary shared taxes are distributed on a derivation basis.

pooling of shared taxes also diminishes states' incentives to raise collections of these taxes because they do not benefit directly from their efforts.

The level of transfer dependence in India is comparatively high due to the large vertical gap between expenditure responsibilities and revenue collected. As a result, central government grants account for a larger share of the states' revenue, and a slightly higher share of expenditure, than is typical in most decentralized systems. States have little control over the use of these grants. The split in responsibility for grant allocations across two agencies—the Finance and the Planning Commissions—is also unusual (Annex I). It leads to coordination problems, creates incentives for states to overstate revenue needs, and it allows larger and politically stronger states to bargain for larger transfers.<sup>11</sup>

With the transfer system leaving substantial vertical imbalances in India, states choose to borrow rather than increase revenue raising efforts to close their financing gaps. Even after receiving shared taxes and grants from the central government, the state-level deficit in India amounts to 22 percent of total resources. Elsewhere, state-level finances are closer to balance after the operation of tax sharing and grant arrangements.

State borrowing is facilitated by India's comparatively liberal borrowing regime. On an index of borrowing autonomy, India's borrowing regime ranks among the most liberal (Table 5).<sup>12</sup> Many developing countries prohibit or ban local borrowing (China and Indonesia). Most that permit borrowing impose numerical ceilings on subnational indebtedness. These limits usually take the form of ceilings on the stock of debt or debt service burden. Where ceilings are absent (South Africa and the Czech Republic), hard budget constraints are enforced by legally prohibiting central government guarantees of subnational debt and state guarantees of public enterprise debt. India's borrowing regime is closer to that of advanced economies with the important difference that external borrowing is prohibited.

The combination of (de facto or de jure) soft-budget constraints and high transfer dependence generated serious fiscal problems in other countries. Brazil and Argentina are well-known examples where the central governments' inability to credibly commit to a policy of no subnational bailouts led to moral hazard problems. The ability to tap state-owned banks and enterprises softened budget constraints in Germany and the Czech Republic. A weak regulatory borrowing framework contributed to subnational debt problems in the Czech Republic, Colombia, and South Africa. In India, however, the states' financial problems have not become a source of external instability because of the constraint on external borrowing.

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<sup>11</sup> See Rao and Singh (2000).

<sup>12</sup> The index developed by Rodden (2002) assesses the extent to which higher levels of government place constraints on subnational borrowing and whether subnational governments can tap financing via their ownership of public enterprises and banks.



Many governments have begun to redesign their federal systems to improve incentives for prudent fiscal behavior. Brazil's federal government bailout of states in 1997 required states to sign formal debt restructuring contracts with the federal government and to bear part of the bailout costs. All new state borrowing was banned until states lowered their debt to revenue ratio. Interest penalties were imposed for noncompliance and states used constitutionally mandated transfers as collateral for the new state bonds. They also provided downpayments worth 20 percent of a jurisdiction's outstanding debt stock, and entered into fixed payment schedules based on a jurisdiction's revenue mobilization capacity. Following a series of bailouts, the federal government of Mexico introduced a new subnational debt regulatory framework in 2000 that included a legal ban on discretionary federal transfers and guarantees for states, mandatory risk-based credit ratings for all subnational loans, and compulsory collateralization of subnational loans. In 1997, Colombia also introduced a risk-based system to regulate subnational borrowing. Once predefined thresholds are exceeded, central government approval is required to borrow or in the worst case it is banned.

#### **IV. LITERATURE ON MACROECONOMIC PROBLEMS OF DECENTRALIZATION**

Much of the recent literature has focused on the macroeconomic problems that have arisen as governments devolve greater responsibilities to subnational governments. Empirical studies by Prud'homme (1995), Hunter and Shah (1996) and Ter-Minassian (1997) show that decentralization resulted in subnational fiscal indiscipline and aggravated fiscal problems at the central level. De Mello (2000) finds in developing countries that expenditure devolution tends to worsen central government balance. Fornasari and Webb (2000) also find that increases in subnational spending leads to increases in national spending and deficits. However, Stein (1999) shows that decentralization is not associated with higher deficits in Latin America. For India, Shome (2002) finds that decentralization is associated with lower fiscal deficits both at the state and central government levels.<sup>13</sup>

In developing countries, decentralization can also cause macroeconomic problems when key institutional and financial pillars are absent from the federal framework. Coordination difficulties between the various layers of government can challenge macroeconomic sustainability even in the least decentralized of systems. Various studies find (for example, Tanzi 2000, Dabla-Norris and Wade 2002) incentives for responsible fiscal behavior and hard-budget constraints are undermined when the federal framework is characterized by a (i) lack of local autonomy over expenditure and revenue decisions, and a high degree of dependence on transfers; (ii) lack of constraints on subnational indebtedness; (iii) lack of clarity in the respective roles of each tier of government; and (iv) weak budget institutions. In an empirical study, Rodden (2002) shows that decentralization is associated with large and persistent general government deficits when subnational governments are simultaneously dependent on transfers and are free to borrow.

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<sup>13</sup> Except when transfers are excluded. The inability of states to fund their own-expenditure without central government transfers results in higher state-level deficits.

Few authors test the empirical relevance of these factors in the Indian context. Bajpai and Sachs (1999) point to the increasing number of states in deficit before receiving of grants as evidence that gap-filling system of grants erodes fiscal discipline. Rajaraman and Vashistha (2000) find that additional state grants to local governments (panchayats) had a statistically significant negative impact on the panchayat's own tax collection efforts in Kerala. Srinivasan (2002) reviews how states circumvent borrowing constraints by running up arrears with public enterprises. McCarten (2003) describes how the use of National Small Savings Funds to finance deficits undermines hard-budget constraints and burdens states with high cost debt. Rao (2002) and Shome (2002) attribute part of the expansion in state expenditure to the fragmentation of state budgets.

## V. EMPIRICAL INVESTIGATION

The empirical evidence presents a picture of growing fiscal imprudence at the state level and increasing financial disparities between states. This raises two questions regarding the comparative role of state-specific and institutional factors. First, do some states incur larger fiscal imbalances than others because geographic, demographic, or economic characteristics place a greater burden on the cost of public service provision in some states or do the imbalances reflect institutional failings that create adverse incentives? Second, what are the factors driving the deterioration in fiscal performance at the subnational level in India since the mid-1980s?

This section examines these questions using a variety of econometric techniques on a panel of data collected on India's 15 largest states over the period 1985-2000. The data comprise annual observations on various budget and economic variables for each state. To assess the relative roles of institutional features of the system of fiscal relations and state-specific characteristics, the analysis uses two measures of fiscal performance. The first is the ratio of the budget deficit in state  $i$  to total expenditure in state  $i$ . This measures the share of state expenditure that is not covered by revenue. It also helps control for the large differences in the size of state governments as proxied by their expenditure outlays. The second is the ratio of the deficit in state  $i$  to GSDP in state  $i$ . In terms of explanatory variables, Section II to Section IV suggest the following possible determinants of state-level deficits:

**Transfer dependence ( $TD$ ):** The hypothesis is that the states which rely more heavily on transfers from the central government have less incentive to be fiscally responsible. This is because the link between taxes and benefits (i.e., expenditure) is broken and common pool type problems can arise. Transfer-dependent states are also likely to have higher bailout expectations. Over time, increases in the dependence of the state level of government on central government transfers may lead to trend increases in the combined state deficit as states try to offload the cost of extra expenditures on the central government. The degree of transfer dependence in a state,  $TD_{it}$ , is the sum of grants and shared revenue received by state  $i$  in period  $t$  as a share of state  $i$ 's revenue in period  $t$ .

**Soft budget constraints (*centralloans*):** The hypothesis is that where the central government is heavily involved in financing a state's deficit it creates moral hazard. By softening the

budget constraint facing states, the central government faces a credibility problem that makes it difficult to refrain from providing assistance to states in financial stress in the future. States' bailout expectations are likely to increase, the higher their level of indebtedness to the central government. Over time, the demonstrated tolerance of state imprudence is likely to manifest in a rising combined state deficit. *Centralloans* measures the extent to which states receive assistance from the central government to finance their deficits. It is the ratio of the stock of central government loans to GSDP in state  $i$  in period  $t$ .

**The extent of decentralization (*stateexp* and *staterev*):** It could also be difficult for a state to control deficits if it is responsible for implementing a greater share of general government expenditure. On the other hand, in states that collect a greater share of general government revenue, the link between expenditure and revenue is stronger creating better incentives for fiscal discipline. *Stateexp* (*staterev*) represents the share of state  $i$  expenditure (revenue) in general government expenditure (revenue) in period  $t$ .

**Contagion (*centraldef*):** The hypothesis is that fiscal stress in states may also reflect financial stress experienced by the central government. Given the importance of shared taxes in India's federal system, it is possible that shortfalls or weakness in central government tax collections will manifest in a widening deficit at both tiers of government. The inability of the central government to control its own deficits may also signal deficit tolerance or attempts by it to improve its own fiscal position at the cost of offloading unfunded expenditure mandates on states. *Centraldef* is the ratio of the central government deficit to central government expenditure in period  $t$ .

**State-specific structural and economic characteristics:** The hypothesis is a state could have greater difficulty controlling deficits the greater its reliance on agriculture (*agri*); the larger its population (*pop*); and the greater the share of its population living in poverty (*poverty*).<sup>14</sup> Richer states—measured by real per capita GSDP (*pci*) in period  $t$  in state  $i$ —could have a greater propensity for lower deficits, other things being equal, due to a more prosperous tax base but some international evidence suggests that the demand for government services increases with income.

### Panel Analysis

This section utilizes panel regression techniques to exploit the time-series variation in the data. However, the model must allow for possible endogeneity between a state's deficit (the dependent variable) and its borrowing from the central government.<sup>15</sup> This suggests a system of equations where the level of central government borrowing is endogenous:

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<sup>14</sup> *Agri* represents the share of agriculture in GSDP and *poverty* represents the share of the states' population living below the nationally defined poverty line.

<sup>15</sup> *TD* is unlikely to be endogenous because the states' share of central is fixed at five-year intervals by the Finance Commission while grants are allocated by a formula that assigns a total weight of 95 percent to state-specific characteristics.

$$\begin{aligned} Deficit &= \alpha_1 + \alpha_2 TD + \alpha_3 centralloans + \alpha_4 state\ exp + \alpha_5 stateev + \alpha_6 centraldef \\ &+ \alpha_7 agri + \alpha_8 poverty + \alpha_9 pop + \alpha_{10} pci + \varepsilon \\ centralloans &= \beta + \beta_1 TD + \beta_2 TD_{t-1} + \beta_3 centralloans_{t-1} + \beta_4 stat\ exp + \beta_5 staterev \\ &+ \beta_6 centraldef + \beta_7 agri + \beta_8 pop + \beta_9 pci + v \end{aligned}$$

where the parameters of these two equations are estimated simultaneously.

Models 1–3 in Table 6 present the results of the pooled OLS two-stage regressions and the instrumental variable regressions for panel data sets using fixed and random effects.<sup>16</sup> The disadvantage of the pooled OLS estimator is that it weighs all observations equally thus failing to use the information about heteroscedasticity derived from the repeated observations on the same states with the result that the estimates derived are inefficient.<sup>17</sup> A Hausman test to determine the appropriateness of using a fixed or random effect model finds in all specifications that the test cannot reject the random effects model. The upper section of Table 6 presents the results of all these tests using the ratio of state deficit to expenditure as the dependent variable while the lower section shows the results of the deficit to GSDP measure.

The random effects model confirms that the combination of high transfer dependence and soft budget constraints significantly weaken state fiscal discipline. Both *TD* and *centralloans* are jointly and individually significant. This suggests that the negative incentives of transfer dependency are more acute the higher a state's indebtedness to the central government. States with greater access to central government resources—either prior to budget implementation in the form of transfers, or in the form of expost deficit financing—have less incentive to balance their budgets. The evidence that the cross-state divergence in fiscal performance is related to state-specific characteristics is extremely weak. With the exception of *agriGSP* and *poverty*, none of the state-specific variables is significant and even for *agriGSP* and *poverty*, significance varies with how the dependent variable is specified and with the estimation methodology.

It may be necessary to control for the possibility of additional endogeneity in the model where fiscal discipline is measured using the ratio of state deficits to expenditure. This is due to the inclusion of *stateexp* as an explanatory variable. The model was rerun replacing

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<sup>16</sup> In the random effects model, the first-stage regressions found that the following variables were significant: *TD*, *TD<sub>t-1</sub>*, *centralloans<sub>t-1</sub>*, and *staterev*.

<sup>17</sup> Owing to the small cross-section size, the model was tested using a variety of techniques to check the consistency of the results.

*stateexp* with its first period lag to see if the results were significantly altered.<sup>18</sup> While the results for transfer dependence and soft budget constraints were not significantly altered in Model 4, *pop* and *pci* became significant.

Implementation of the pay and pensions increases under the Fifth Pay Commission coincided with the marked deterioration in states' fiscal performance. To test the hypothesis that this caused a structural shift in state finances, model 5 includes a time-specific dummy variable, which is set equal to 1 for each year between 1997 and 2000 due to the absence of state-specific wage data. The coefficient on this variable confirms that the average ratio of states' deficit to expenditure ratcheted upwards by close to 4½ percentage points since 1997. While soft budget constraints continued to have a significant negative impact on fiscal discipline, *TD* was no longer individually significant. Changes in the revenue sharing formula may have alleviated the cross-state inequality in the access to shared resources.<sup>19</sup> The move to link some transfers with fiscal performance may also have helped minimize adverse incentives.

Transfer dependence and growing expectations of central government bailouts may have created upward pressure on state deficits since the mid-1980s. To test this hypothesis, Table 7 presents the results of using the one-step robust GMM estimator derived by Arellano and Bond to eliminate cross-sectional variation in the panel to focus exclusively on time-series changes.<sup>20</sup> The key explanatory variable is the change in *centralloans*. Control variables for changes in revenue and expenditure assignments are also included. The model also includes two lags of the dependent variable, and the first differences of all time variant variables. A Wald test of the null that all of the coefficients except the constant are zero is rejected and the Arellano-Bond test rejects the null of no first-order autocorrelation in the differenced residuals, and it is not possible to reject the null of no second-order autocorrelation.

The results show that the growing recourse to central government loans played a significant factor in the growth in the average state's deficit since 1985. The ratio of deficit to state expenditure rose by almost 1 percent for each one-percentage point of GSDP increase in states' indebtedness to the central government.<sup>21</sup> Increases in the states' share of general

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<sup>18</sup> Model 4 was also run using pooled OLS and fixed effects estimators and the results were similar to those presented for the random effects model in Table 6.

<sup>19</sup> The model was rerun for 1997-2000 and the results are similar to those presented for model 5.

<sup>20</sup> This is achieved by using first differences to remove fixed-effects in the error terms, and instrumental variable estimation, where the instruments are the lagged explanatory variables (in differences) and the dependent variable lagged twice.

<sup>21</sup> The corresponding ratio for the deficit to GSDP is 0.4 percent.

government revenue, on the other hand, had a significantly positive impact on fiscal discipline, while the increase in central government deficit over this period was also associated with the rising trend in states' deficits. Changes in states' economic structure were not found to have consistent significant impact on the trend evolution of the deficit.<sup>22</sup>

It is feasible that transfer dependency and bailout expectations could interact to cause the states' deficit to rise over time. In a repeated game where states negotiate with the center to obtain higher transfers, states have an incentive to increase expenditure knowing that the central government will be under pressure to provide assistance. This could be especially relevant in India where the revenue sharing ratios are fixed for five-year intervals and states can use evidence of their past deficits to argue for larger transfers at the time of review. Rerunning the model with an multiplicative term to capture such interactions confirms that bailouts expectations coupled with transfer dependency were significant in contributing to the growth in states' deficits.

## VI. RECENT POLICY INITIATIVES

The need to address the growing problem in state finances have been at the center of the policy debate in India for some time. Both the Tenth and Eleventh Finance Commissions have sought to improve state finances mainly by raising the share of taxes transferred to states that increased transfer dependence. By repeatedly increasing state borrowing limits and by providing ad hoc assistance to states, the central government has also created a commitment problem whereby its actions signal tolerance of soft budget constraints.

Other reform initiatives implemented by the Reserve Bank of India (RBI), the central government, and the states have for the most part relied on a voluntary and cooperative approach to reform. Some of the recent initiatives have sought to tighten the states' borrowing framework, but others have contributed to reinforcing existing moral hazard problems. For example:

**Efforts to limit borrowing:** The growth in guarantees prompted the RBI in 1999 to urge states to set guarantee ceilings. To date statutory ceilings operate in five states, and administrative ceilings in three others. A few states have set up guarantee redemption funds. One state enacted fiscal responsibility legislation in 2003 that includes debt ceilings. The RBI recently introduced prudential requirements where investments in state government guaranteed bonds outside the market-borrowing program now attract a credit risk weight of 20 percent, and if a guarantee is invoked, a credit risk weight of 100 percent is assigned.

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<sup>22</sup> In contrast to preliminary OLS regressions in IMF (2003) we do not find robust empirical evidence that states who progressed further with economic reform experienced greater fiscal stress.

**Debt restructuring and write-offs:** Arrears and part of the accrued interest owed by SEBs to power generators were settled in 2003 through the issue of 15-year tax-exempt state-government bonds. The rest of the accrued interest was written off.

**Voluntary debt relief schemes:** Since 1995, states have been engaged in voluntary fiscal adjustment programs with the central government which writes off the debt owed to it in return for fiscal adjustment. In contrast to the schemes adopted in Brazil, these agreements are not legally binding, do not contain limits on new borrowing, and contain no sanctions.

**Debt service relief:** From 2003 to 2005, states will use 20 percent of their borrowing from the small savings scheme and additional funds borrowed from the market to prepay debt to the central government carrying high interest rates. Because interest rates on these new borrowings are lower, states will obtain relief on their interest expenditure.

**Other steps:** There is a growing awareness among states of the need to revise user charges. States have set up State Electricity Regulatory Commissions to determine electricity tariffs so as to reduce subsidies, and some have also increased fees for higher education.

## VII. CONCLUSION

In conclusion, this paper finds evidence that institutional factors play an important role in explaining both the differences in fiscal performance across states and the deterioration in combined state finances over time. States with greater access to central government transfers tend to have larger deficits, and this negative relationship is amplified the higher a state's reliance on central government loans. States have little incentive to rein in deficits when they expect—on the basis of their past experience—central government bail outs.

The fact is that state finances have not improved despite various reforms. Many of the recent state debt restructuring initiatives increased the risk of moral hazard and it is not clear that they will prove sufficient to bring about a lasting improvement in states' finances. These initiatives may provide only temporary relief to states and in the face of on-going revenue shortfalls at the center the credibility of the states' own reform goals could be at risk.

A comprehensive reform of the system of intergovernmental fiscal relations is needed to tackle the problem of state finances on a permanent basis. Such a reform would seek to address both the existing stock of state debt while at the same time redesigning the system of revenue assignment and expenditure responsibilities to prevent the recurrence of such problems. Many of the elements of such a reform are discussed in various studies.<sup>23</sup>

A comprehensive reform program would seek to increase the local tax autonomy and reduce regional disparities in access to central assistance. This would require (i) taxing agricultural income at the state level, (ii) introducing the state VAT, and (iii) extending the VAT to

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<sup>23</sup> See RBI (2002); Government of India (2002a), and (2002b); and Shome 2002.

services. To address horizontal imbalances, the rationale for separating plan and nonplan assistance between the planning and finance commissions should be reviewed and all state grants amalgamated into a equalization block grant the size of which is determined in a macroeconomic context to be consistent with affordability and macroeconomic stability. The criteria for distribution should be refocused to emphasize deficiencies in basic minimum needs across states.

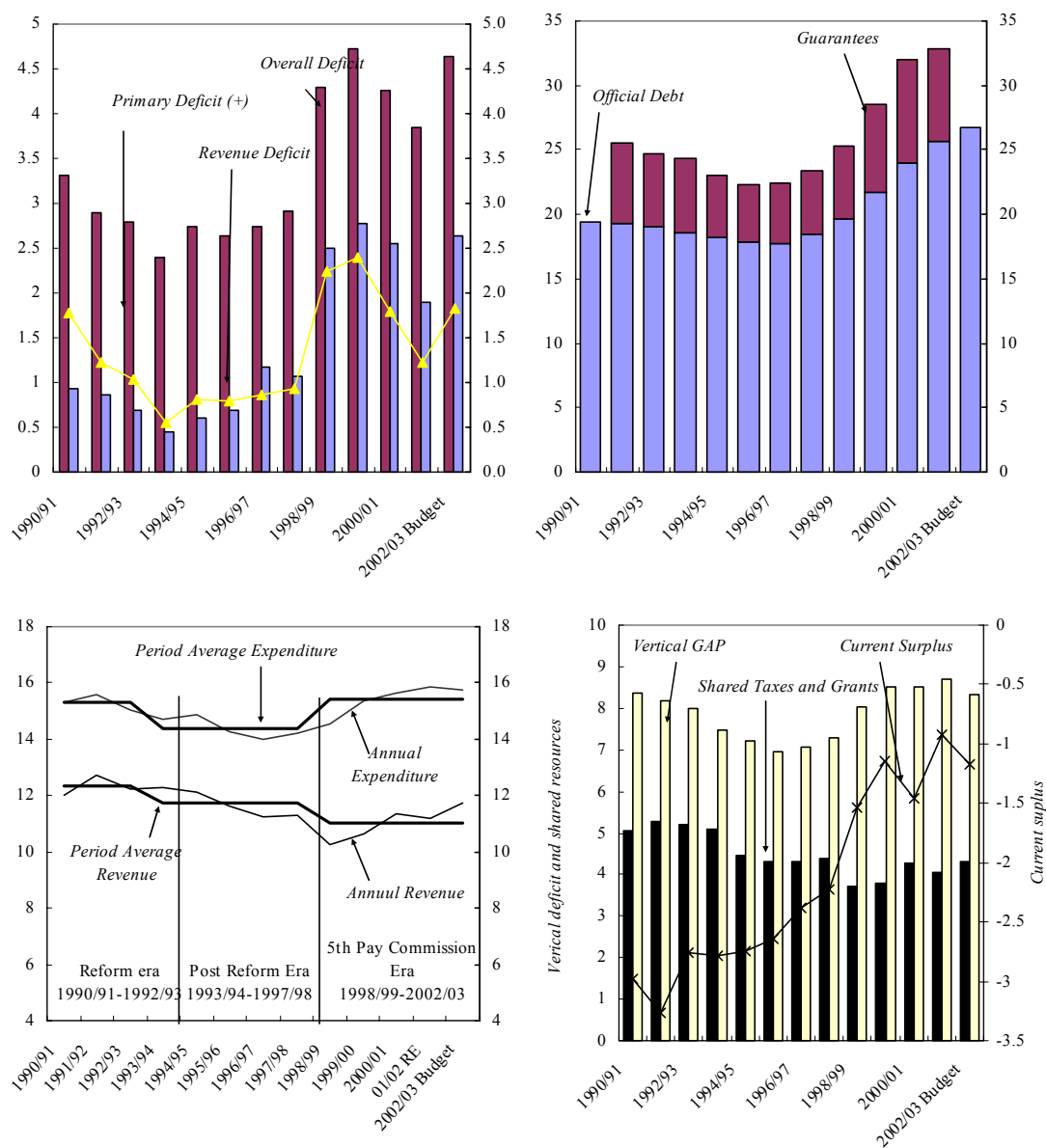
The reform should also seek to limit the risk of moral hazard. Given the unsustainable debt burden in many states, it is difficult to see how a states reform program could succeed without a debt restructuring package. To ensure that this would be the last bailout, debt restructuring should be made conditional on improved performance. States should bear part of the costs of the restructured debt and they should face penalties, for example in terms of reduced transfer, for failing to honor debt repayment schedules and fiscal reform targets, as was done in Brazil.

An explicit legal commitment by the central government ruling out further subnational bailouts and quantitative risk-based ceilings on state indebtedness would underpin the central government policy of no bailouts. Financial institutions should also be encouraged to be more prudent in their lending by requiring mandatory credit risk assessments of new state projects.

And finally, as these reforms are implemented and as regulatory, supervisory, and monitoring mechanisms are strengthened state dependence on loans from the central government should be reduced in favor of greater reliance on market borrowing. This will create a role for markets to discipline fiscally wayward states.

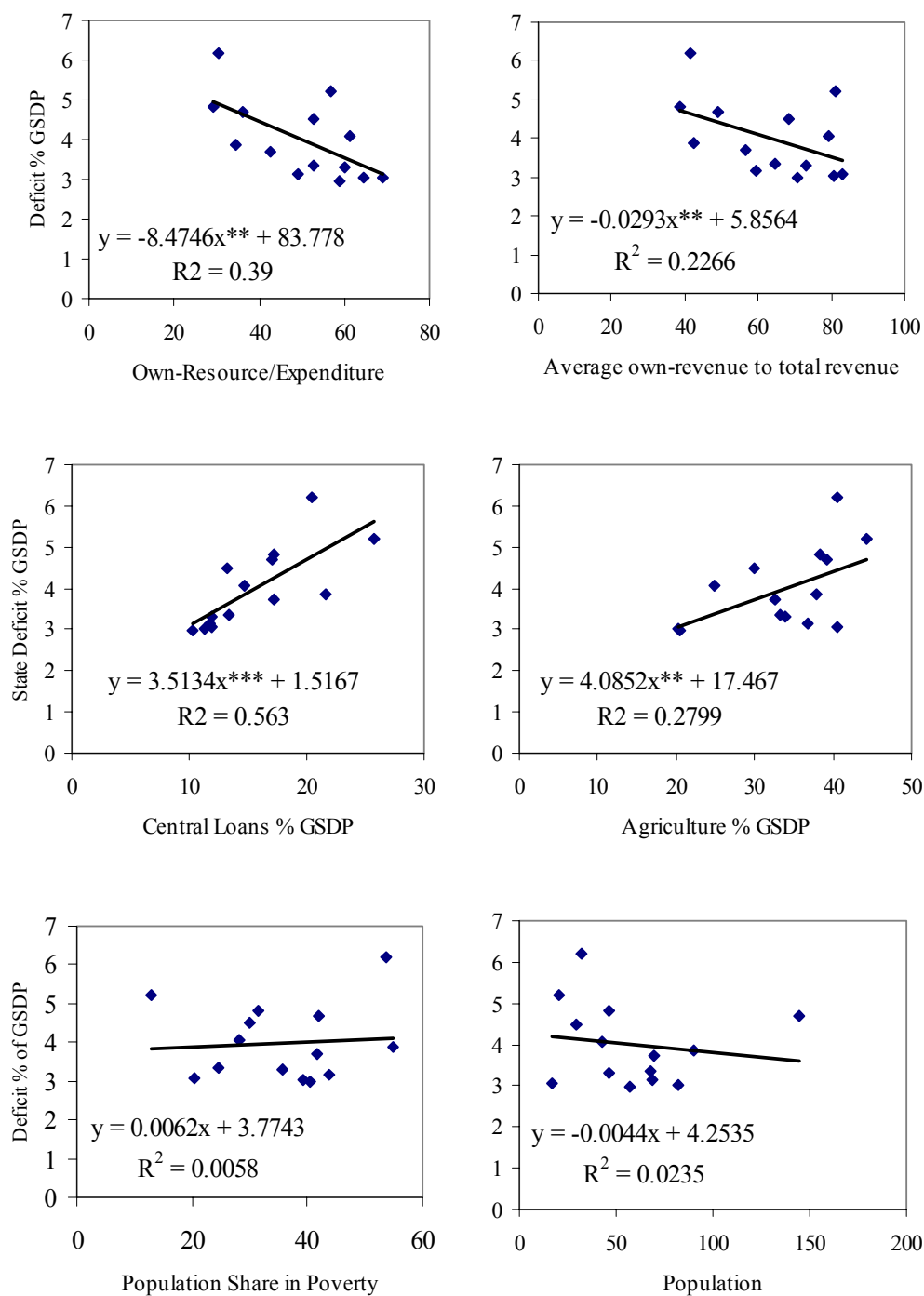


Figure 1. India: Trends in State Finances, 1990/91–2002/03 Budget  
(In percent of national GDP)



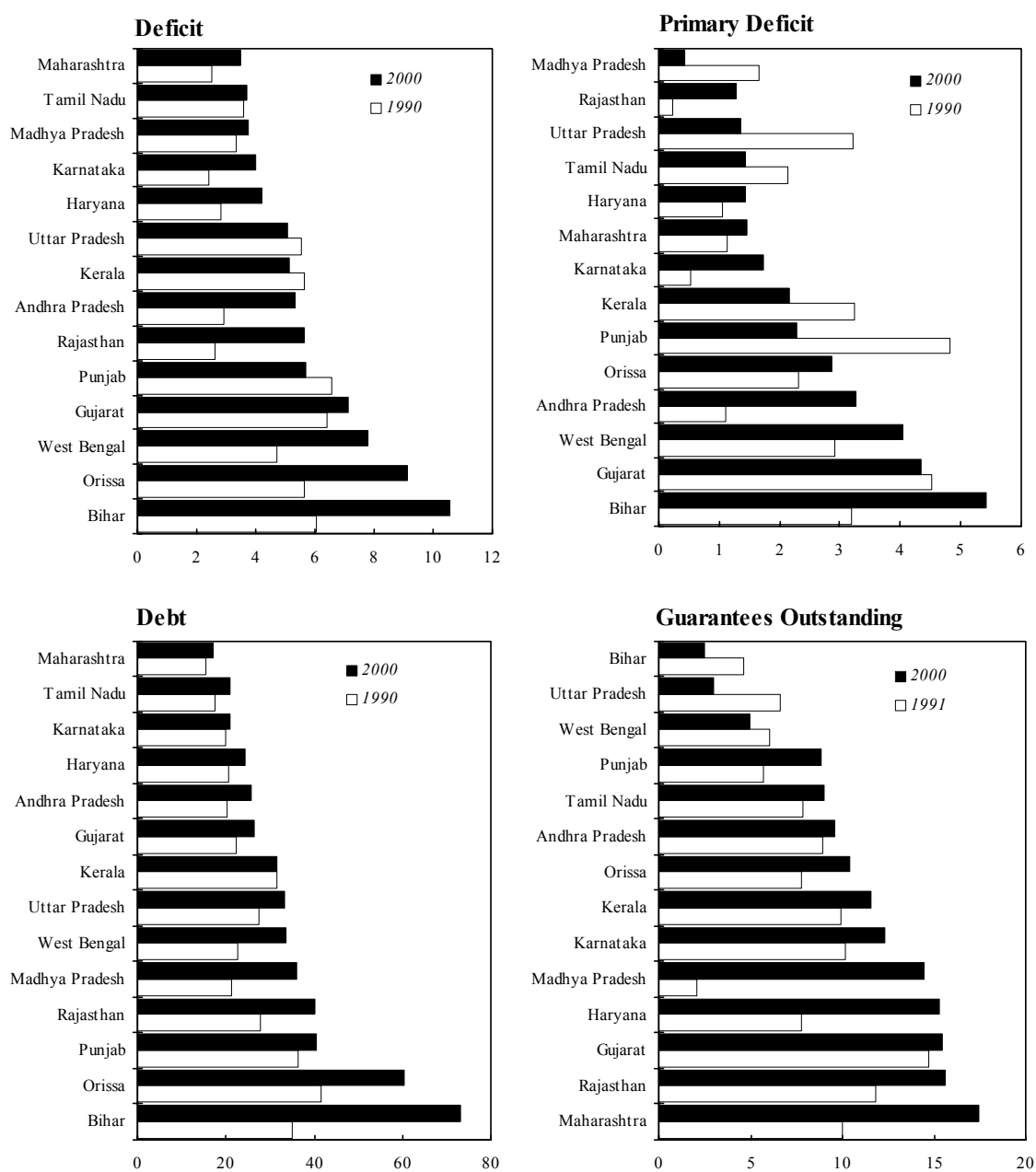
Sources: Reserve Bank of India; and IMF staff calculations.

Figure 2. India: Fiscal Deficits and State Structures, Average 1985–2000



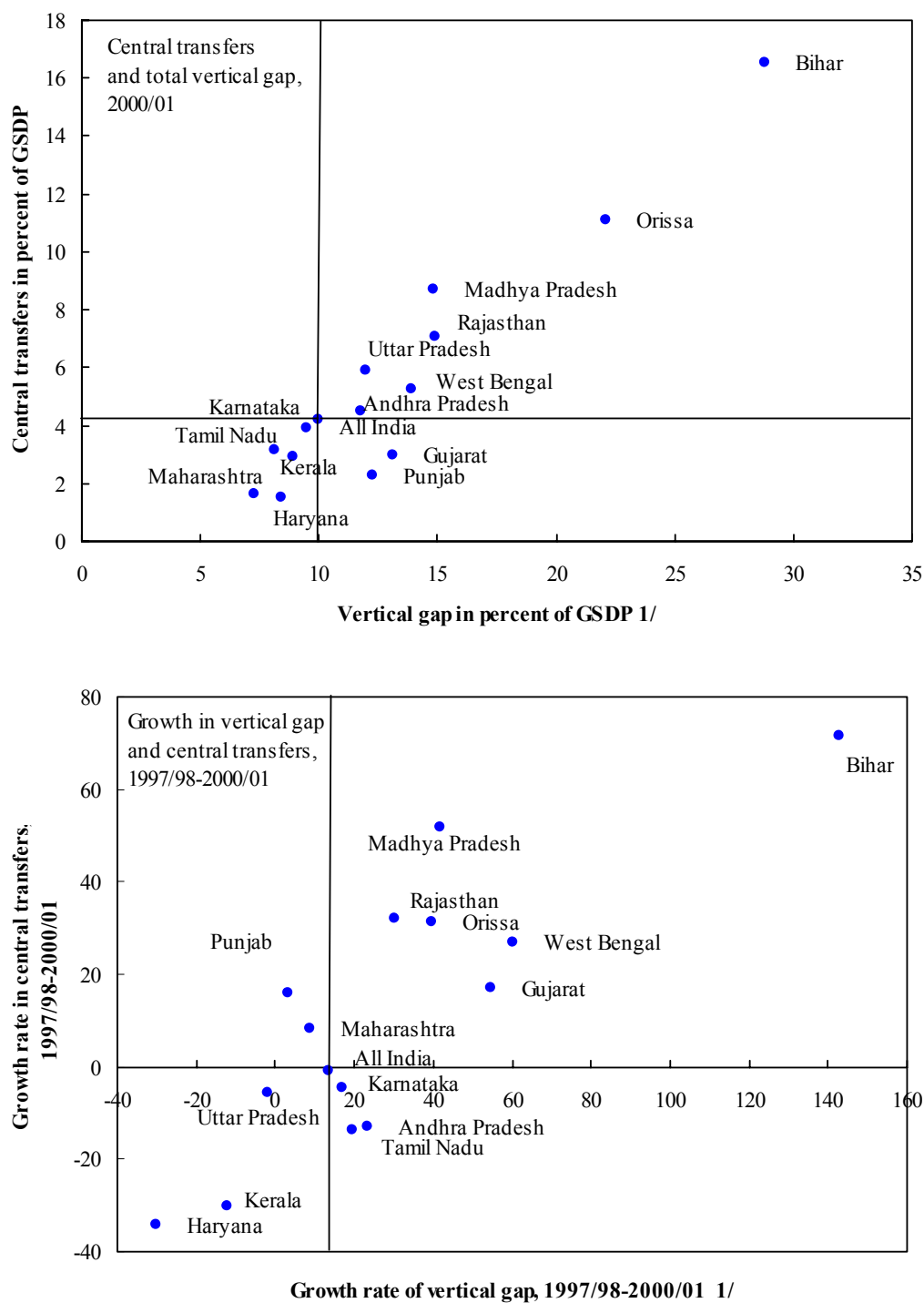
Source: World Bank States Database; IMF staff calculations.

Figure 3. India: Fiscal Performance by State, 1990 and 2000  
(In percent of GSDP)



Sources: World Bank States Database; and IMF staff calculations.

Figure 4. India: Trends in the System of State Transfers, 1997/98–2000/01



Source: World Bank States Database; IMF staff calculations.

1/ Vertical gap is the difference between states own revenue (excluding shared taxes and grants) and total states expenditure.

Table 1. India: Trends in State Finances

	Average			Annual			Average 1998-2001
	1985-89	1990-92	1993-97	1998/99	1999/00	2000/01	
	(In percent of GDP)						
Overall deficit	3.0	3.0	2.7	4.3	4.7	4.3	4.4
Revenue deficit	0.2	0.8	0.8	2.5	2.8	2.5	2.6
Debt	19.4	19.2	18.2	19.6	21.7	24.0	21.8
Outstanding guarantees	...	5.9	4.9	5.6	6.8	8.0	6.8
	(In percent of GSDP)						
Total state spending	15.1	15.1	14.3	14.4	15.4	15.6	15.1
<i>Of which:</i>							
Interest	1.3	1.7	1.9	2.1	2.3	2.5	2.3
Pensions and administration	0.5	0.7	2.2	2.2	2.5	2.6	2.4
Energy	1.4	1.7	0.4	0.3	0.4	0.6	0.4
Capital	2.7	2.2	1.9	1.8	1.9	1.7	1.8
Total revenue	12.1	12.1	11.6	10.1	10.7	11.3	10.7
Own-tax revenue	5.3	5.4	5.4	5.1	5.3	5.6	5.3
Share of central taxes	2.7	2.6	2.5	2.3	2.3	2.4	2.3
Non-tax revenue	4.1	4.1	3.7	2.8	3.1	3.3	3.1
<i>Of which:</i>							
General & economic services	1.2	1.1	1.2	0.9	0.9	0.8	0.9
Grants from centre	2.2	2.3	1.9	1.4	1.6	1.8	1.6

Source: RBI Study on State Budgets; World Bank States database; and IMF staff estimates.

Table 2. India: Major Fiscal Indicators by State, 1993-2000

	Gross Fiscal Deficit 1/				Revenue Deficit 1/				Primary Deficit 1/				Debt				Guarantees	
	1993/94	1998/99	2001/02	Percent Share	1993/94	1998/99	00/01	Percent Share	1993/94	1998/99	00/01	Percent Share	1993/94	1998/99	00/01	Percent Share	1999/00	2000/01
	1997/98	2001/02	Period Change	of Period Change	1997/98	1997/98	1997/98	of Period Change	1997/98	1997/98	1997/98	of Period Change	1997/98	1997/98	1997/98	of Period Change	1999/00	2000/01
(Period average in percent of GSDP)																		
West Bengal	3.6	7.6	15.2	5.6	12.9	1.9	5.6	12.9	1.4	4.5	11.6	21.5	29.4	21.5	11.6	3.4	5.0	7.0
Andhra Pradesh	3.1	4.8	10.8	1.2	2.0	1.2	2.0	5.2	1.3	2.8	7.9	19.4	23.5	19.4	7.2	11.1	9.5	-1.8
Gujarat	2.4	6.6	10.6	0.3	3.9	0.3	3.9	16.5	0.4	3.8	13.5	15.9	22.1	15.9	6.8	12.6	15.4	10.3
Bihar	2.7	7.7	8.6	1.4	4.5	1.4	4.5	4.7	-0.5	3.6	6.5	34.7	49.6	34.7	6.3	1.6	2.5	0.0
Tamil Nadu	2.2	4.0	6.5	1.0	2.9	1.0	2.9	4.7	0.5	1.9	6.5	16.0	18.8	16.0	5.7	7.3	9.0	8.3
Karnataka	2.8	4.1	5.8	0.3	1.9	0.3	1.9	6.2	1.0	1.9	7.5	17.8	19.5	17.8	4.2	10.2	12.3	8.4
Uttar Pradesh	4.2	5.8	5.7	2.1	4.0	2.1	4.0	7.1	1.3	2.5	2.3	26.1	30.1	26.1	12.2	4.3	3.0	-4.5
Maharashtra	2.6	3.9	5.6	0.5	2.2	0.5	2.2	8.3	1.2	2.0	5.1	12.4	16.0	12.4	8.5	8.8	17.4	63.5
Rajasthan	4.5	6.5	3.9	1.2	4.0	1.2	4.0	6.6	1.8	2.8	4.2	25.6	33.8	25.6	6.6	14.1	15.6	1.8
Orissa	5.6	9.6	3.4	2.5	6.3	2.5	6.3	2.7	1.8	5.1	0.1	38.3	51.0	38.3	4.4	10.6	10.4	-0.1
Kerala	3.7	5.2	3.2	1.5	4.5	1.5	4.5	1.7	1.2	3.0	-2.1	26.6	29.8	26.6	5.1	12.3	11.6	2.1
Punjab	4.4	6.0	3.1	2.4	4.2	2.4	4.2	5.3	0.7	1.9	5.3	35.1	38.3	35.1	4.9	14.0	8.9	-7.2
Haryana	2.7	4.5	2.5	1.2	2.4	1.2	2.4	1.0	0.8	2.0	2.4	18.8	24.0	18.8	2.6	8.9	15.3	10.4
Madhya Pradesh 2/	2.3	4.6	2.0	0.9	2.6	0.9	2.6	7.3	0.5	1.5	8.9	18.8	21.8	18.8	4.7	9.7	14.4	1.7
All India	2.7	4.6	100.0	0.8	2.6	0.8	2.6	100.0	0.7	2.1	100.0	18.2	21.8	18.2	100.0	7.5	8.8	100.0
14 Major States	2.7	0.0	86.9	1.0	2.6	1.0	2.6	90.3			79.5				90.8			100.0

Source: RBI States Finances, World Bank States Database, and Report of the Group to Assess the Fiscal Risk of State Government Guarantees.

1/ A negative value implies a surplus.

Table 3. India: Decentralization in an International Context 1/

	Decentralization of: 2/			Change in Decentralization of: 2/		
	Expenditure	Revenue 3/	Deficit	Expenditure	Revenue 3/	Deficit
	(Average for 1990-1997)			(Average 95-97 less average 90-94)		
(In percent of general government)						
India's states	56.7	39.1	36.7	0.5	-2.0	4.4
Europe						
Austria	34.1	26.8	n.a.	-1.3	-1.0	n.a.
Belgium	11.7	5.9	-4.1	0.2	0.4	-11.8
Denmark	53.9	31.7	-1.9	0.8	0.4	-10.9
Finland	39.7	31.7	-3.0	-2.6	0.6	0.0
France	18.7	9.2	7.7	-0.4	0.6	-14.1
Germany	38.8	33.8	43.8	-1.4	-0.4	4.9
Sweden	36.0	31.4	-8.1	-3.2	-2.0	52.6
Average	33.3	24.4	5.7	-1.1	-0.2	3.4
CEE & FSU						
Belarus	33.2	26.8	-6.0	0.8	-2.5	-2.8
Bulgaria	18.9	14.2	0.9	-5.0	-2.3	0.1
Czech Republic	23.0	15.8	13.1	1.8	1.1	13.5
Estonia	21.8	16.4	17.4	-1.9	-4.4	43.1
Hungary	26.9	12.7	-7.9	-1.1	1.7	-26.2
Lithuania	26.9	22.2	-0.2	-2.7	-3.0	0.2
Mongolia	29.7	23.5	0.7	2.5	-0.4	7.1
Romania	12.5	8.4	-7.3	3.4	3.6	13.7
Slovenia	11.2	9.0	38.6	-0.1	0.1	85.1
Average	22.7	16.6	5.5	-0.3	-0.7	14.9
Latin America						
Argentina	45.6	39.1	177.4	-1.0	-0.4	-245.7
Bolivia	23.6	20.4	12.3	11.9	3.3	-12.0
Mexico	29.0	21.9	48.7	25.3	-0.3	-212.5
Peru	25.9	7.4	-2.3	5.1	-1.2	-3.9
Average	31.0	22.2	59.0	10.3	0.4	-118.5
Other						
Australia	49.0	31.7	-75.7	-2.0	1.8	246.4
Canada	58.8	53.0	3.8	0.7	0.2	-83.1
China 4/	81.5	59.7	-0.9	-3.3	-16.4	-17.1
Israel	14.1	33.9	-38.2	1.4	-2.9	-133.4
South Africa	34.8	12.5	6.5	25.5	-1.7	8.5
United States	44.4	42.1	-48.2	2.7	-0.6	-79.7
Average	47.1	38.8	-25.4	4.2	-3.3	-9.7

Sources: GFS, IFS; and IMF staff calculations.

1/ Where data are available, subnational government includes both the state and lower levels of government.

2/ Subnational expenditure, revenue, or deficit as a proportion of general government expenditure, revenue or deficit.

3/ Excluding grants from the central government.

4/ For China, non-GFS data from Ahmad, Keping, Richardson, and Singh (2002).

Table 4. India: Subnational Autonomy in an International Context

	Measures of Sub-National Autonomy					Vertical Gap After Grants
	Tax Autonomy 1/	Tax Sharing 2/	Grants Share of Revenue	Grant Dependence 3/	Vertical Gap 4/	
(Average for 1990-1997)						
India's states	46.9	32.4	42.4	34.7	-38.5	-22.1
Europe 5/						
Austria	51.5	88.1	22.8	23.5	n.a.	n.a.
Belgium	36.1	45.9	55.1	55.9	2.8	1.3
Denmark	47.8	4.8	43.1	43.1	-0.1	-0.1
Finland	46.5	11.4	33.0	33.4	1.6	1.1
France	45.1	0	35.2	34.7	-4.3	-2.8
Germany	61.0	86.5	11.4	10.3	-9.2	-6.9
Sweden	72.7	0	18.4	17.7	-5.4	-4.4
Average	51.5	33.8	31.3	31.2	-2.4	-1.9
CEE &FSU 6/						
Belarus	71.9	93.8	22.6	22.7	-0.9	-1.0
Bulgaria	56.2	90	40.8	40.9	0.2	0.2
Czech Republic	47.4	91.7	29.4	29.0	-2.0	-1.4
Estonia	64.7	89.2	25.5	24.4	-6.6	-5.0
Hungary	19.3	67.4	58.6	59.3	2.1	1.3
Lithuania	67.0	100	27.6	27.6	-0.2	-0.2
Mongolia	49.5	n.a.	41.3	41.4	0.3	0.0
Romania	51.8	75	38.1	38.8	3.1	1.8
Slovenia	59.7	90-100	21.9	22.6	3.4	2.7
Average	54.2	87.8	34.0	34.1	-0.1	-0.2
Latin America 3/						
Argentina	79.1	64	12.4	11.5	-9.2	-8.1
Bolivia	41.9	93	24.4	19.4	-4.0	-3.3
Mexico	65.2	100	18.9	18.7	-4.3	-4.0
Peru	8.4	n.a.	70.4	71.0	2.2	0.0
Average	48.7	85.7	31.5	30.1	-3.8	-3.8
Other						
Australia	35.9	n.a.	37.4	38.1	2.4	1.6
Canada	65.6	n.a.	13.6	12.6	-9.5	-7.0
China 7/	53.0	n.a.	53.4	36.9	-0.7	-0.3
Israel	33.9	n.a.	40.6	38.1	-10.9	-6.5
South Africa	15.2	0	64.7	62.9	-10.6	-2.5
United States	55.0	n.a.	15.2	5.4	5.4	3.9
Average	43.1	n.a.	37.5	32.3	-4.0	-1.8

Sources: GFS, IFS; and staff calculations.

1/ Ratio of tax revenue (including shared taxes) to total subnational revenues, including grants.

2/ Ratio of shared taxes from central government to total subnational tax revenue.

3/ Ratio of central grants to total consolidated expenditure of subnational governments.

4/ Vertical gap is the difference between states own revenue (excluding grants from the centre) and total states expenditure. Deficit as a share of subnational nongrant revenue; a positive number implies a surplus.

5/ Tax share ratios from Ebel and Yimaz (2002).

6/ Tax share ratios from Dabla-Norris and Wade (2002).

7/ Tax autonomy measured from GFS data for 1995-1999. Other measures use data reported in Ahmad, Keeping, Richardson, and Singh (2002) for 1990-1997. Subnational governments receive 25 percent of domestic VAT, the business tax, enterprises income taxes on state enterprises, the personal income tax and a number of smaller taxes. Rates on these taxes are generally decided by the center.



Table 5. India: Subnational Borrowing Constraints in an International Context

	Controls on Subnational Borrowing				Borrowing Autonomy Index 1/
	Total	Domestic	Foreign	Numerical Limits	
	(Description of control)				
India's states	Allowed	Administered by center	Prohibited	No	2.5
Europe					
Austria	Allowed	Administered by center	Administered by centre	No	1.4
Belgium	Allowed	Determined with center	Determined with centre	As needed, ceilings on debt/revenue	n.a.
Denmark	Allowed	Determined with center	Determined with centre	Yes, some exemptions	1.5
Finland	Allowed	Market-based	Market based	No	3.0
France	Allowed	Market-based	Market based	No	3.0
Germany	Allowed	Rules-based	Rules-based	Golden rule; borrowing from state banks	2.7 (state)
Sweden	Allowed	Market-based	Market based	Balance deficit over two years	3.0
CEE & FSU					
Belarus	Prohibited	Prohibited	Prohibited	n.a.	n.a.
Bulgaria	Prohibited	Prohibited	Prohibited	n.a.	n.a.
Czech Republic	Allowed	Market-based	Market based	No	n.a.
Estonia	Allowed	Rules-based/Administered	Rules-based/Administered	Ceiling on debt stock & arrears	n.a.
Hungary	Allowed	Administered by centre	Administered by centre	No	n.a.
Lithuania	Allowed	Rules-based	Rules-based/Administered	Ceilings on debt stock , net debt, and debt service/revenue	n.a.
Mongolia 2/	Prohibited	Prohibited	Prohibited	n.a.	n.a.
Romania	n.a.	Prohibited	Prohibited	n.a.	n.a.
Slovenia	Prohibited	Prohibited	Prohibited	n.a.	n.a.
Latin America					
Argentina	Allowed	Administered by center	Administered by centre	Most provinces limit debt service/revenue	4 (state)
Bolivia	Allowed	Administered by center	Administered by centre	No	1.5
Mexico	Allowed	Administered by center	Prohibited	Some states set limit on debt stock to transfers	2.8 (state)
Peru	Allowed	Rules-based/Administered	Rules-based/Administered	Only when guarantee is sought	2.5
Other					
Australia	Allowed	Determined with center	Determined with centre	Yes, set cooperatively	2.6 (state)
Canada	Allowed	Market-based	Market based	No	3.25 (state)
China	Formally, no	Prohibited	Prohibited		
Indonesia	Allowed	Administered by center; banned for 2001 and 2002	Administered by centre; banned for 2001 and 2002	Ceilings on debt stock to revenue and debt service ratio.	n.a.
Israel	n.a.	n.a.	n.a.		2.4
South Africa	Allowed	Determined with center	Only in domestic currency	No ceilings, guarantees by center ability prohibited	n.a.
United States	Allowed	Rules-based	Rules-based	Balanced budget rule	3 (States)

Source: World Bank Decentralization Database; Rodden (2002).

1/ Compiled by Rodden (2002) . Higher values imply more liberal controls on subnational borrowing and/or subnational ownership of public enterprises or banks.

2/ Except for the capital city.

Table 6. India: Estimates of State Deficits and Transfer Dependence

	Instrumental Variable Estimates									
	Model 1		Model 2		Model 3		Model 4		Model 5	
	Coef.	SE	Coef.	SE	Coef.	SE	Coef.	SE	Coef.	SE
Dependent variable: state deficit/expenditure										
Transfer dependence measure	0.15	0.06 ***	0.05	0.13	0.16	0.08 **	0.21	0.09 **	0.10	0.08
Borrowing dependency	0.77	0.11 ***	0.39	0.27	0.56	0.19 ***	0.48	0.21 **	0.49	0.20 **
Ratio of states expenditure to general government expenditure	1.65	0.49 ***	1.18	0.54 **	1.74	0.47 ***			1.37	0.48 ***
Ratio of states revenue to general government revenue	-2.85	0.52 ***	-2.83	0.53 ***	-3.14	0.49 ***	-1.72	0.32 ***	-2.45	0.52 ***
Central government deficit to expenditure ratio	0.99	0.23 ***	1.08	0.23 ***	1.17	0.21 ***	0.52	0.13 ***	0.91	0.22 ***
Share of agriculture in GDP	-0.17	0.08 **	-0.07	0.16	-0.11	0.12	-0.09	0.12	-0.03	0.12
Share of population living below the poverty line	-0.15	0.06 **	-0.34	0.12 ***	-0.24	0.09 ***	-0.27	0.09 ***	-0.24	0.09 ***
State population	0.01	0.01	0.25	0.10 **	0.04	0.03	0.06	0.03 *	0.04	0.03
Per capita income	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00 ***	0.00	0.00
1997-2000 Dummy variable									4.49	1.40 ***
Constant	35.25	16.70 **	51.92	19.30 ***	40.49	16.48 **	68.43	17.54 ***	36.20	16.18 **
R2	0.48		0.13		0.45		0.39		0.46	
Groups	14		14		14		14		14	
Dependent variable: state deficit/GSDP										
Transfer dependence measure	0.02	0.01 *	-0.03	0.03	0.01	0.02	0.03	0.02	0.00	0.02
Borrowing dependency	0.18	0.02 ***	0.21	0.06 ***	0.20	0.04 ***	0.18	0.05 ***	0.19	0.04 ***
Ratio of states expenditure to general government expenditure	0.48	0.11 ***	0.36	0.12 ***	0.45	0.10 ***			0.37	0.11
Ratio of states revenue to general government revenue	-0.69	0.12 ***	-0.58	0.12 ***	-0.66	0.11 ***	0.02	0.07	-0.50	0.11 ***
Central government deficit to expenditure ratio	0.25	0.05 ***	0.23	0.05 ***	0.25	0.05 ***	-0.30	0.07 ***	0.19	0.05 ***
Share of agriculture in GDP	-0.04	0.02 **	-0.08	0.03 **	-0.06	0.03 **	0.08	0.03 ***	-0.04	0.03
Share of population living below the poverty line	-0.01	0.01	0.02	0.02	-0.02	0.02	-0.05	0.03 *	-0.02	0.02
State population	-0.01	0.00 **	0.02	0.02	0.00	0.01	0.00	0.01	0.00	0.01
Per capita income	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00 **	0.00	0.00 ***
1997-2000 Dummy variable									1.04	0.31 ***
Constant	4.00	3.78	8.08	4.23 *	4.67	3.67	12.11	3.97 **	3.65	3.60
R2	0.47		0.14		0.45		0.35		0.48	
Groups	14		14		14		14		14	

Source: IMF staff calculations.

Note: \*\*\*  $p(z) < 0.01$ ; \*\*  $p(z) < 0.05$ ; \*  $p(z) < 0.1$

Table 7. India: Dynamic Panel Estimates of the Evolution of State Deficits

	Model 6		Model 7	
	Coeff.	Robust SE	Coeff.	Robust SE
Dependent variable: $\Delta$ in state deficit/expenditure				
State deficit/expenditure (t-1)	0.28	0.08 ***	0.34	0.12 ***
State deficit/expenditure (t-2)	-0.08	0.09	-0.09	0.10
$\Delta$ Transfer dependence measure	0.04	0.18		
$\Delta$ Borrowing dependency	0.94	0.33 ***		
$\Delta$ Borrowing dependency*transfer dependence measure			0.02	0.01 **
$\Delta$ Ratio of states expenditure to general government expenditure	1.21	1.08	1.18	1.08
$\Delta$ Ratio of states revenue to general government revenue	-2.48	0.90 ***	-2.63	0.84 ***
$\Delta$ Central government deficit to expenditure ratio	0.94	0.35 ***	0.98	0.33 ***
$\Delta$ Share of agriculture in GSDP	-0.07	0.23	0.07	0.20
$\Delta$ Share of population living below the poverty line	-0.37	0.21 *	-0.29	0.23
$\Delta$ State population	0.18	0.10 *	0.16	0.09
$\Delta$ Per capita income	0.00	0.00	0.00	0.00
Constant	0.21	0.57	0.24	0.58
Wald chi2(11)	702.51		344.85	
Groups	14		14	
No. observations	168		168	
<b>Dependent variable: <math>\Delta</math> state deficit/GSDP</b>				
State deficit/GSDP (t-1)	0.16	0.07 **	0.26	0.09 ***
State deficit/GSDP (t-2)	-0.20	0.07 ***	-0.20	0.09 **
$\Delta$ Transfer dependence measure	-0.02	0.03		
$\Delta$ Borrowing dependency	0.37	0.08 ***		
$\Delta$ Borrowing dependency*transfer dependence measure			0.01	0.00 ***
$\Delta$ Ratio of states expenditure to gen government expenditure	0.21	0.23	0.19	0.24
$\Delta$ Ratio of states revenue to general government revenue	-0.43	0.19 **	-0.50	0.19 ***
$\Delta$ Central government deficit to expenditure ratio	0.17	0.08 **	0.19	0.08 **
$\Delta$ Share of agriculture in GSDP	-0.06	0.05	-0.04	0.05
$\Delta$ Share of population living below the poverty line	-0.03	0.04	0.01	0.05
$\Delta$ State population	0.00	0.03	0.00	0.03
$\Delta$ Per capita income	0.00	0.00	0.00	0.00
Constant	0.20	0.14	0.19	0.16
Wald chi2(11)	228.32		544.07	
Groups	14		14	
Number of observations	168		168	

Source: IMF staff calculations.

Note: \*\*\* p(z) <.01; \*\* p(z) <.05; \* p(z)<.1

## **Federal Arrangements in India<sup>1</sup>**

**India is a federal state with strong unitary features.** There are three tiers of government: the central government, an intermediate tier of 28 states and seven union territories (five are governed by central government appointees), and local bodies. Local bodies were given constitutional status in the 1993 amendments to the Constitution which made mandatory the creation of rural and urban bodies within states, a provision that was previously optional. There are now 247,033 rural bodies known as panchayats and 3,682 urban bodies. The Constitution grants strong powers to the central government, including the supremacy of central legislative power, control of the central executive over state legislation, and the right to take over state administration in a state of emergency. All residuary power rests with the central government.

**The Constitution assigns a wide range of functions to the states.** The functions of the central government relate to macroeconomic stability, external relations, and areas of cross state interest, and include defense, foreign affairs and trade, transport, post, telecommunications, as well as strategic and heavy industries. States are responsible for health, education, power, irrigation, roads, rural development, public order and other functions.

**On revenue, the Constitution prevents overlapping tax powers and assigns taxes by source.** The central government exclusively levies personal income tax (except on income earned from agriculture and the self-employed) corporate tax, import duties, and income tax surcharges. States can raise taxes on agricultural and self-employed income, but few states avail of this option. The authority to levy taxes on property wealth and capital transactions is split. The center is responsible for raising taxes on nonagricultural sources. Agricultural sources are assigned to the states but currently no state taxes agricultural wealth and property. Taxes on the sale of goods are the most important income sources for states. Services are excluded from the base, and until the 93rd Constitutional Amendment in 2003 the central government levied taxes on a limited number of services using its residual powers.

**The Constitution recognizes that the assignment of tax powers creates vertical imbalances and provides principles for the sharing of resources between the center and states.** States receive a specific share of the total central government tax collections. The Constitution does not specify the revenue shares but instead provides for a Finance Commission (FC) to be appointed every five years to recommend how taxes are to be shared, and how these resources are to be divided among the states.

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<sup>1</sup> See Hemming et al in Ter-Minassian (1997), Rao and Singh (2001), and the EFC for further details.

**The vertical imbalances that remain after revenue sharing are filled through a combination of central government grants and borrowing.** Responsibility for grant allocations is split between two agencies. The main “plan” grant is for implementation of state-level development plans approved by the Planning Commission (PC). These grants are distributed by a formula that effectively allocates resources to states with higher development needs and lower revenue capacity. About 30 percent of PC funds are distributed as grants. Specific earmarked grants for central sponsored schemes are also provided by the PC. The FC recommends grants-in aid to help fill residual gaps on the nonplan budget. The Constitution permits domestic state borrowing, which is subject to central approval if a state has outstanding obligations to the center. Loans from the central government were the most important source of borrowed funds because until 2002/03 it lent the net proceeds from the small savings funds to states. Now the net proceeds from these funds are channeled directly to the states. The PC also allocates about 70 percent of its resources in the form of loans. Short-term borrowing (ways and means advances) from the RBI, up to specified limits, is also permitted to meet temporary mismatches of receipts and expenditure of the state governments.

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