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Heller Rao

A Sustainable Fiscal Policy for India

# SUSTAINABLE FISCAL POLICY FOR INDIA

## An International Perspective

Edited by  
Peter S. Heller • M. Govinda Rao

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## Foreword

In a sense, this book marks the end of the beginning. It is the culmination of a process that began with an ambitious conference in Delhi in January 2004, jointly organized by the International Monetary Fund (IMF) and the National Institute of Public Finance and Policy (NIPFP). The present volume brings together the papers presented at the conference, along with the principal comments made by the discussants in each session.

The conference was academic in the rigour with which it sought to address the issues. But it had a strong policy focus and we in the IMF hope that this will be the beginning of a process to address one of the most important long-term problems of the Indian economy—the fiscal deficit. The conference aimed to help focus minds both on the problems that need to be addressed and on some appropriate means to address them. Publishing the proceeds should, we hope, reinforce the message.

Economists and political leaders have for years paid lip service to the need for fiscal discipline. But governments—and not just in India—have frequently discovered other, more pressing priorities. And, to our collective embarrassment, economists have not always been fully apprised of the importance of fiscal prudence. Over time, debt levels have risen in India and elsewhere, and countries have faced the cumulative consequences of the failure to curb and then reduce public indebtedness.

India is not alone in confronting a growing fiscal deficit. Nor is it alone in facing the prospect that fiscal imbalances could undermine recent economic progress although that progress has been substantial—India was among the most rapidly growing of the emerging-market economies for most of the 1990s, for instance. It is one of the leaders of the developing world and is, in so many ways, beginning to reap the benefits of its reforms and of global integration. It would be a great pity if such accelerating economic growth were to be retarded because of the lack of fiscal control and the consequent build-up of debt.

## Subsidies and Salaries

### Issues in the Restructuring of Government Expenditure in India<sup>1</sup>

*Stephen Howes and Rinku Murgai\**

#### INTRODUCTION

Many observers, including the GOI itself, the Bretton Woods institutions, and credit rating agencies as well as many academics, put reduction in the fiscal deficit at the top of the reform priority list. But others make the case for an expansionary fiscal policy to stimulate weak demand (Rakshit 2000, 2001; Nagaraj 2003). A third group agrees that fiscal deficit reduction would be useful, but feels that is relatively unimportant or unlikely to happen (Lal et al. 2003; Bhalla 2003; McKinsey and Co. 2001). Where all sides of the debate find agreement is on the need for expenditure restructuring. Thus the World Bank argues for more spending on 'operations and maintenance, social services, and basic infrastructure' (World Bank 2003b, p. vii). Rakshit's (2000, p. 19) call is remarkably similar: 'substantial increases in government expenditure on investment, especially in agriculture and infrastructural facilities; ... and enhanced allocation for social sector in general and primary education and health services in particular'. This increase in spending, it is widely argued, should be financed in part by an increase in tax revenues

\* Respectively, Economist, AusAid and Economist, World Bank, New Delhi. We would like to thank Anirudh Shingal and Upasana Varma for research assistance. Our two discussants, N.J. Kurian and Anjini Kochar, provided very useful comments. Amlan Biswas, Vikram K. Chand, Paramita Dasgupta, Navroz Dubash, N.C. Saxena, Pronab Sen, and other conference participants also gave very helpful inputs and comments.

and in part by expenditure restructuring. As far as fiscal savings on the expenditure side are concerned, most attention has been given to subsidies, where there is unanimous agreement that the subsidy bill can and should be significantly reduced. The salary bill has also been mooted as a source of expenditure savings, but has not been given the same attention.

This paper examines the scope and feasibility of savings on the salary and subsidy bills of Indian governments, both central and state. The two main sections of this paper look at salary and subsidy spending, respectively, and can be read independently by those with specific interests in these areas. The concluding section attempts to integrate and summarize the discussion.

The motivation of the paper is two-fold. First, we think inadequate attention has been given to the salary bill as a source of fiscal savings, even though it is widely recognized that implementation of the Fifth Central Pay Commission (FCPC) pay rises led to a large increase in the wage burden, and catalysed the state-level fiscal crisis of the late 1990s (Howes, Lahiri, and Stern 2003). More emphasis is typically given to subsidy reduction. Thus Mohan (2000) includes 'bold programmes for imposing user charges on all public services amenable to such charges' as one of three key solutions to India's fiscal predicament (the other two being higher buoyancy in tax revenues and privatization to bring down the debt stock). By contrast, the salary bill does not rate a mention. Similarly, Pinto and Zahir (2004) focus on subsidy reduction as the key expenditure reform, as does the GOI (2003b). Second, one cannot help noting India's failure to reduce its subsidy bill, the consensus that it should fall notwithstanding. Rakshit (2000, p. 51) notes that 'most observers feel that, in the context of low user charges for most publicly provided private goods, it should not be difficult for the government to raise non-tax revenue by 1 percentage point over the next five years'. One is forced to ask why, if this is not difficult, it has not been done after many years of prompting, and whether it is realistic to call for a 'phased elimination' of subsidies, as Rakshit (2000), among many other commentators, does. A closer look is required at the political economy of increasing charges in hard-to-collect areas such as the supply of electricity and water to farmers.

One might, of course, challenge the premise of this paper, and argue that the need for more expenditure in priority areas is overstated. This could be done on two grounds. First, it could be argued that much infrastructure and, perhaps, even social sector, spending could be undertaken by the private sector. And, second, it could be argued that public sector spending is so inefficient that it is irresponsible to argue for more.



Private sector funding of infrastructure has not lived up to expectations in India. The 1996 *India Infrastructure Report* projected that the achievement of GDP growth of over 7 per cent will require an increase in investment in infrastructure from the prevalent levels of about 5 to 5.5 per cent to about 8 per cent of GDP by 2005–6 (Mohan 2000, p. 2027).<sup>2</sup> Unfortunately, since the time of the report, levels of infrastructure spending have actually declined relative to GDP, as Figure 8.1 below shows. The report targeted significant increases in both public and private spending on infrastructure—including a doubling of private infrastructure spending to over 2 per cent of GDP by the late 1990s, and then further increases—but none of this has occurred, as Figure 8.1, which compares projected and actual infrastructure spending for recent years for both the public and private sectors, shows. Global trends also show a downturn in private sector funding of infrastructure (Harris 2003). In such an environment, looking to the private sector for funding can, at best, be a partial solution to meeting India's infrastructure requirements, and reversing the long-term trend of declining government capital expenditure (Figure 8.2) does seem important.<sup>3</sup> Finally, on this issue, one can note that the problem of subsidies and lack of cost recovery is cited by many (for example, Harris 2003) as the main obstacle to greater private provision of infrastructure—in which case reducing subsidies should enable an increase in both public and private infrastructure spending.

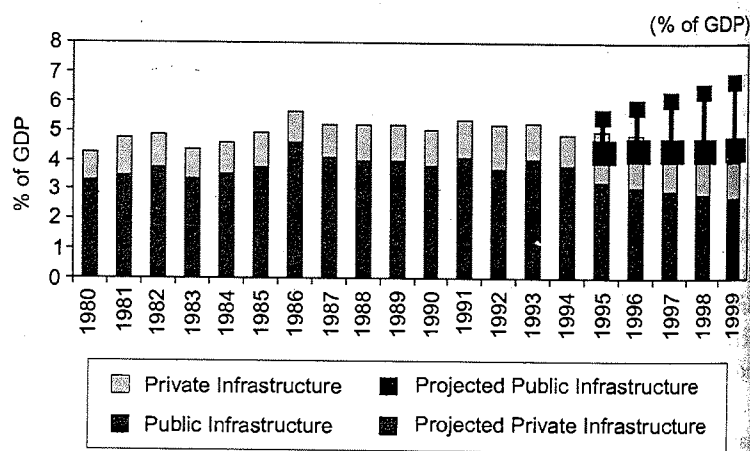


FIG. 8.1 Public and Private Infrastructure Spending in India (% of GDP)

Notes: Projected figures use nominal infrastructure figures projected in the *India Infrastructure Report* combined with actual GDP outcomes.

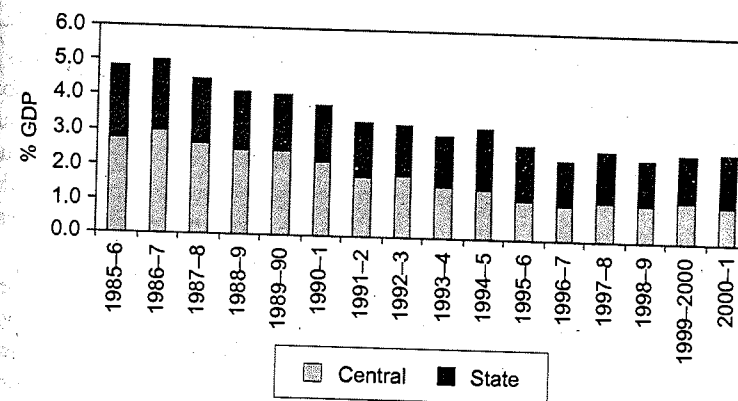


FIG. 8.2 Central and State Budgetary Capital Spending in the 1980s and 1990s

Source: World Bank data on India public finances.

The question of whether India's public expenditure is sufficiently efficient to justify an expansion in specific priority areas is more difficult to answer. Most analysts argue, implicitly if not explicitly, for a simultaneous improvement in India's quality and quantity of spending in the high-priority areas. Some increases seem unavoidable given social objectives (for example, more education spending if the teacher-pupil ratio is to be brought down in Bihar from the current ratio of 1:90). While, of course, one would have to look in more detail at particular expenditure areas to make specific recommendations on spending increases, in general the proposition that the central and state governments are under-spending in certain areas seems eminently reasonable. Those readers who are not convinced of this proposition may, nevertheless, be interested in this paper if they are interested in ways to bring down the deficit, avoid tax increases, shift expenditure composition away from subsidies and salaries, or improve the efficiency of salary and subsidy spending.

## SALARIES AND PENSIONS

Governments are providers of labour-intensive services and salary costs are always a substantial part of total government expenses. In India, in 2000–1, 18 per cent of general government expenditures (centre and state combined) were on salaries and another 6 per cent on pensions.<sup>4</sup> In the

Indian federal set-up, the states have responsibility for the major services—health, education, and law and order. The central government employs a workforce of about 3.3 million; the states together employ 7.5 million (*Economic and Political Weekly* 2002). Salaries and pensions are thus much more important for the states than for the centre.<sup>5</sup> Salaries make up 27 per cent of total expenditure for the states; pensions 7 per cent; the corresponding, smaller figures for the central government are 9 per cent and 4 per cent.

With personnel spending having this degree of importance, the success of any expenditure reform strategy, especially one at the state level, will depend heavily on the strategies already adopted in this area. In the next sub-section, we seek first to understand the growth in salary and pension spending over the 1990s. We then consider whether India's civil service is overstuffed or understuffed and, through an examination of the issue of absenteeism, try to examine the effort levels of civil servants. We also ask whether India's civil servants are paid too much. On the basis of this analysis, we consider various reform measures open to the central and state governments in this critical expenditure area.

### Recent Trends in India's Civil Service Salary and Pension Bill

Figure 8.3 summarizes available data for civil service salaries and pensions in India during the 1990s. As is well known, the wage bill grew rapidly in the late 1990s as a result of the recommendations of the FCPC, which reported in 1996 and whose recommendations were implemented starting in 1997–8 for the GOI and from 1998–9 onwards for the states governments. The FCPC or, more accurately, its implementation, has been described as 'the single largest shock to India's strained public finances in the last decade' (Acharya 2001).<sup>6</sup> The FCPC did, indeed, dramatically push up both the salary and pension bill—the former because it gave a real wage increase of about 30 per cent, in most cases backdated to 1996; the latter because it indexed pensions to wages. However, a policy of hiring restraint, in place during the 1990s, worked in the opposite direction.

The GOI was the first to display hiring restraint as part of the fiscal adjustment effort following the balance of payments crisis of 1991. Employment by the GOI shows no growth during the 1990s—in fact, comparison of the year 2000 with 1991 a small decline of 4 per cent (Table 8.1). State governments show a marginal increase of only 5 per cent in employment during the same period. As part of their fiscal adjustment

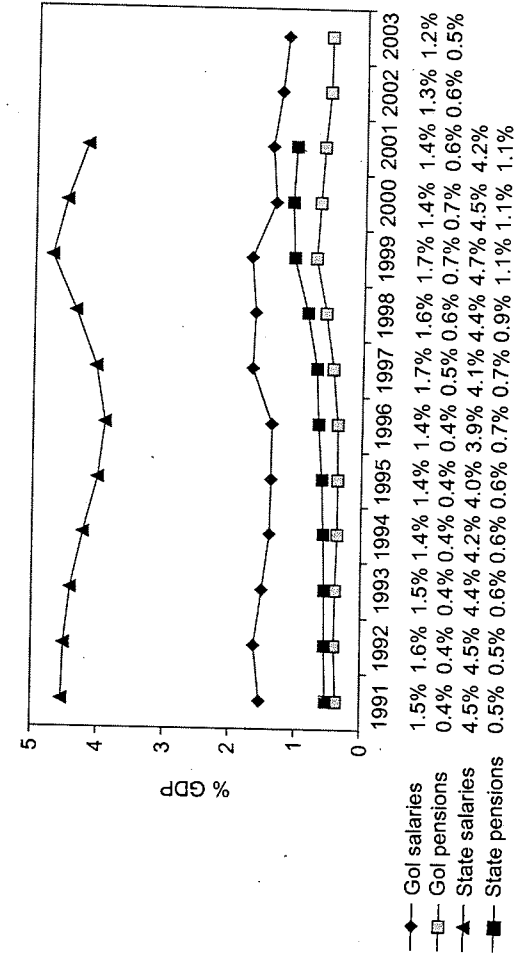


FIG. 8.3 Trends in Central and State Government Salaries and Pensions, 1990–2003

Source: GoI budget documents, Kurian and Dasgupta (2003), CMIE (2000); 2002 figures are revised estimates and 2003 budget estimates.



efforts (in many cases launched in response to the FCPC-induced fiscal crisis), state governments tightened their hiring regimes in the second half of the 1990s, a period which, as Table 8.1 shows, saw no net hiring.<sup>7</sup> Virtually no civil servants have been retrenched, but most governments have put in place hiring bans, with exceptions in only specified priority areas allowed. Some civil services have actually started falling in size. For example, in Andhra Pradesh, employment within the core civil service is estimated to have declined by an annual average of 2.4 per cent in the past three years.

TABLE 8.1 Cumulative Growth in Central and State Government Employment, 1981–2000 (%)

	1981–90	1991–2000	1991–7	1997–2000
Central government	6.3	-4.0	-3.4	-0.7
State government	23.0	4.9	5.2	-0.3

Source: *Economic and Political Weekly* 2000 and 2002; *Economic Survey*, GOI (various issues), and Ministry of Labour (DGE&T).

Overall, it would seem the combination of hiring restraint, price indexation, and a one-off large real wage increase contained the salary bill as a percentage of GDP over the 1990s. Central government salaries fell as a share of GDP from 1.5 per cent in 1991–2 to 1.4 per cent in 2001–2. State salaries similarly declined, from 4.5 per cent to 4.2 per cent over this period (Figure 8.3). A more detailed analysis shows that, as far as the salary bill is concerned, the 1990s can be broken up into three sub-periods:

- Up to 1996–7—period of hiring restraint and no real wage growth. The GOI salary bill fell as a percentage of GDP from 1.5 per cent in 1991–2 to 1.4 per cent in 1996–7. Salaries at the state level declined from 4.5 per cent of GDP to 3.9 per cent over this period.<sup>8</sup>
- From 1996–7 to 1999–2000 (2000–1 at the state level—years of rapid growth in the salary bill as a result of the FCPC award implementation over this period. In 1997–8, the GOI's salary bill rose by 36 per cent. The implementation of the FCPC at the state level was staggered: average annual growth in the salary bill at the state level from 1996–7 to 1999–2000 was 19.5 per cent.
- From 1999–2000 (2000–1 at the state level) onwards—negative growth for two reasons. First, the salary bill in the years immediately prior saw the payment of arrears of salary increases due from 1996 but paid in

subsequent years. Once these arrears were paid, the salary bill naturally went down. Second, in the absence of a real wage increase, hiring restraint and price indexation once again put the wage bill on a slow-growing path.

The story for pensions is somewhat different, since there was rapid growth in the number of pensioners throughout the 1990s, reflecting the earlier growth in the civil service (public sector employment has roughly doubled over the past 30 years). There are no comprehensive time series on the number of public sector pensioners in India, but data is available for some states. Punjab shows annual average growth of 7.1 per cent in the number of pensioners between 1994–5 and 2001–2, and an increase in the ratio of pensioners to employees over this period from 33 per cent to 51 per cent. Thus, in the first and the third periods mentioned above, the pension bill is more flat than declining as a percentage of GDP; of course, the bill rose rapidly in the second period due to the FCPC (combined central and state government pension spending doubled between 1997–8 and 1999–2000), and the pension bill ended the 1990s higher than it had begun. Combined central and state pensions increased at an average of 21 per cent a year over the period 1991–2 to 2001–2. With pensions growing faster than salaries, the ratio of pensions to salaries increased over time: combined government pensions were 15 per cent of combined government salaries in 1991–2; 30 per cent in 2001–2.<sup>9</sup>

What will happen to the salary bill in the future depends obviously on future hiring and pay policy, but the future pension bill is, to a great extent, already determined. However, in this regard, there is uncertainty both over data and whether the practice of periodic indexation of pensions to real wages will continue into the future. An estimate by the World Bank suggests that the present value of central and state pension liabilities could amount to 25 per cent of GDP (World Bank 2001a), assuming only price indexation in the future. A recent estimate for Karnataka shows net pension debt at 33 per cent of the state's GSDP, assuming indexation of pensions to wages (World Bank 2003d). The Karnataka research also projects that the ratio of pensioner to workers will increase from 52 per cent at present to 100 per cent by 2075, and that, under current policies, the pension–GSDP bill will double in the next fifty years.

### Does India Have Too Many Civil Servants?

India's civil service employment is only around 1.2 per cent of the population which is low by international standards (Table 8.2). The Organization of

Economic Cooperation and Development (OECD) average is 7.7 per cent, so that, even with heavy reliance on private sector delivery mechanisms, one would expect India's ratio to increase as the country develops. The low level of civil service employment in India is consistent with large observed under-hiring in various areas. The pupil-teacher ratio in primary schools in some parts of Uttar Pradesh, for example, is estimated at over 70:1 (Shrivastava 2003). There are other, less publicized areas where India's civil services are grossly under-staffed. It is reported that the Government of Delhi has only 37 food inspectors to ensure the quality of food produced by over an estimated 450,000 food establishments—a ratio of 12,000 outlets per inspector (Centre for Civil Society 2003). The number of inspectors has apparently not increased since 1960.

TABLE 8.2 Civil Service Staffing per 100 Population in Selected Countries

<i>Country and Region</i>	<i>Civil Servants per 100 population</i>
South Asia Region	
India	1.2
Bangladesh	0.6
Pakistan	1.5
Sri Lanka	4.5
East Asia	
China	2.8
Indonesia	2.1
Korea	2.2
Malaysia	4.5
Asia Average*	2.6
OECD	
Australia	7.6
France	7.0
Japan	3.2
United Kingdom	7.0
United States	7.7
OECD Average*	7.7

*Note.* \* The East Asia and OECD averages are region-wide and include other countries in addition to those cited here.

*Source.* Beschel (2003).

It is one thing to say that over time India's government workforce will and should grow, and a different matter to say that the marginal rupee should today be spent on hiring. There are many cases in which salary spending appears to be too high relative to non-salary spending. As an example, the proportion of salaries in maintenance spending on irrigation in Orissa has increased from 61 per cent in 1995-6 to 70 per cent in 2001-2; the proportion of salaries in road maintenance for the same state and period has increased from 7 per cent to 14 per cent. Salary spending is also high in health. Sixty per cent of total expenditures incurred by the Department of Health and Family Welfare in Karnataka went to salary payments in 2001-2. In education too, non-salary expenses have been squeezed out over time, even though various studies have found that learning achievements, though not necessarily attendance, appear to be much more responsive to increases in non-salary inputs than salaries (Kingdon 1996; Pritchett and Filmer 1999).<sup>10</sup> In most states, salaries are by far the single largest element of expenditure on primary education. They account for about 90 per cent of the total in Karnataka, Andhra Pradesh, and West Bengal, for example.

Moreover, there are two ways in which the needed increases in employee numbers can be offset by reductions elsewhere. First, it is widely agreed that there are too many support and logistical personnel. These staff are all in Group D, which typically constitute up to one-fifth of government employees. Second, even among skilled staff, there are various areas of gross excess. This is difficult to quantify, but is certainly significant. For example, functional reviews undertaken recently by the Karnataka Administrative Reforms Commission (Government of Karnataka 2001) found that 45 per cent of filled positions in the irrigation department, 73 per cent in the public works department, and 53 per cent in the mines and geology department were in excess of requirements. The reviews also found that field workers in the industry and sericulture departments had extremely low average workloads, with estimates ranging between 3-10 days per month. A study of the irrigation department of Uttar Pradesh found that 40 per cent of the 82,900 positions in the department were surplus to requirements (FAO-World Bank 2001). Again, however, one should not overestimate the potential of savings from downsizing in non-priority areas. In Karnataka, for example, 60 per cent of the total staff are in priority areas (teachers, medical staff, and police), which are likely to expand, rather than reduce in the future.<sup>11</sup>

One might also argue that India could avoid civil service hiring by relying more on the private sector, especially in the labour-intensive social

sectors. Adherence to this point of view would only strengthen the case for hiring restraint. However, the general superiority of a policy of funding greater private provision of public services is far from established. India does have experience of significant public sector funding of private schools through the grant-in-aid system. A recent review of this system concludes that, while there are success stories, 'the quality of teachers and their performance [in aided schools] can be as low as in government institutions' (World Bank 2003g). Health services are already dominated by the private sector, but there are complaints of poor quality, irrational drug use, and overcharging in large segments of the private health market (Misra et al. 2003).

In the aggregate, India's civil service is small by international standards, and it is likely that public sector employment growth will resume in India once fiscal problems ease. However, one can certainly make a case that (a) salary spending is too high for current levels of total expenditure, and (b) required hiring in priority areas should be significantly offset by downsizing in non-priority areas. Thus continuation of a hiring restraint policy for the medium term seems to be well justified. This conclusion is reinforced by the low level of civil service productivity.

### Civil Service Productivity

If civil servants are not productive, there is no point in hiring more, even in high priority areas. In this section, to get at the complex issue of civil service productivity, we review evidence on non-attendance of service providers in the health and education sectors.

This problem has recently received attention from the *World Development Report (WDR) 2004* of the World Bank. Table 8.3 estimates that, on average, on any one day, 25 per cent of India's primary school teachers and 43 per cent of India's primary health care workers are absent from their place of work. There is wide variation across states and, generally, the problem is much worse in the poorer states.<sup>12</sup> States with high teacher absence rates also tend to have high absence rates among staff in health facilities (the correlation between the two series is 0.51, and rises to 0.83 if Gujarat is excluded).

TABLE 8.3 Absence Rates in Public Education and Health Facilities

	Primary School Teachers	Primary Health care Workers
Andhra Pradesh	26	—
Assam	34	58
Uttar Pradesh	26	42
Bihar	39	58
Uttaranchal	33	45
Rajasthan	24	39
Karnataka	20	43
West Bengal	23	43
Gujarat	15	52
Haryana	24	35
Kerala	23	—
Punjab	37	—
Tamil Nadu	21	—
Orissa	23	35
India*	25	43

Notes: The absence rate is the percentage of staff who are supposed to be present but are not on the day of an unannounced visit. It includes both authorized and unauthorized absences.

\* Average for 14 states.

Source: World Bank (2003a, p. 24).

Although the WDR study has brought the issue of provider-absence into the limelight, there are a number of related studies, mainly on education, which have also highlighted this problem. Indeed, Drèze and Gazdar (1996), in their study of education in Uttar Pradesh, have argued that 'the specific problem of teacher absenteeism and shirking ... is by far the most important issue of education policy in Uttar Pradesh today'. They found that two-thirds of the teachers were absent during an unannounced visit to their sample of schools from four districts. The District Primary Education Programme (DPEP) Baseline survey, cited in this study, reported that half the teachers were absent at the time of the investigator's visit despite the fact that the visits were pre-arranged. Another small study of 16 schools in

Bihar (UNICEF 2003) showed absenteeism of above 50 per cent. More recent studies based on unannounced visits to a larger sample (over 200) of randomly selected primary schools put absence rates in the same ballpark as the WDR survey. The PROBE (1999) study found that the head teacher was absent in 33 per cent of the schools at the time of the survey team's visit. Absence rates in Karnataka (Karropady 2003) and Uttar Pradesh (Shrivastava 2003) were estimated to be in the range of 18–30 per cent, and 20 per cent, respectively.

We are only aware of a couple of other similar studies on health facilities. Based on a continuous survey (once a week, for a year) in 100 hamlets in rural Udaipur, Bannerjee et al. (2004) found that 45 per cent of the personnel of sub-centres and the aidpost and 36 per cent of the staff at Community Health Centers and Primary Health Centers (PHCs) were absent at any given time. A survey of mini PHCs in Punjab estimated a 32 per cent absence rate for doctors (ESO Punjab 1998).

The evidence thus suggests that the absence of service workers from service facilities is posing a serious problem, more serious in health than education, but significant in both. A key policy question is whether absence is authorized or unauthorized. Authorized absence includes absences due to duties which take the service provider out of the office (for example, home visits for a doctor), as well as absences due to authorized leave. If it is authorized, then reducing provider absence requires either reducing authorized absence through policy changes (for example, reducing leave allowances) or increasing resources to hire more staff including, possibly, reserve staff. Unauthorized absence is absenteeism, a form of shirking, to be tackled by instruments such as better monitoring and tougher sanctions.

We consider schools first. The PROBE study mentioned earlier finds that of the 200 days of potential teacher attendance, teachers have valid reasons to be absent from school for fifty days (25 per cent): twenty days of holidays and permitted leave, twenty-one days of non-teaching duties, and nine days for salary collection. Legitimate days of absence have also been calculated for Karnataka and the number comes to 40–50 days, depending on how many teachers access maternity leave, and how many go on training. These figures would suggest that, in fact, almost all absence is authorized.

Various studies have also asked for the reason of absence. The WDR study on education found permitted leave to be the main cause of teacher absence, followed by official teaching-related absence. Absences reported as unauthorized were only about 4 per cent (Muralidharan 2004). Similarly, unauthorized absences were normally only 1 per cent in the Karnataka

study, though in one set of visits, during a religious festival period, this figure rose to 7 per cent (Karropady 2003). The study conducted in Uttar Pradesh also found unauthorized leave to be at only 2 per cent (Shrivastava 2003). Unauthorized absences may be higher in health, though there is considerable variation across states. In the WDR study, unexplained absence among doctors ranged between a low of 2 per cent in Maharashtra to 18 per cent in Bihar and Jharkhand, but most states had a rate of 9 per cent or higher—more than double the rate observed for teachers (Hammer 2004).

Of course, reasons for leave can be fabricated, so not as much weight should be given to these findings as to the earlier information provided on the number of legitimate days of leave. And even this information should be treated with some scepticism. The Karnataka survey also inspected the rolls and found from this that teachers were only recorded as absent for 16–18 days per year, which would correspond to an absence rate of less than 10 per cent (for a teaching year of 200 days) well below the observed absence rate of about 25 per cent. This suggests that most absences, even if they can be explained as authorized in case of an enquiry, are not reported as such. It is also thought—though there is no firm data on this—that most civil servants—and so, presumably, most teachers—also encash their leave allowances thus suggesting that they may be both having their cake and eating it, that is, taking their leave in both time and cash.<sup>13</sup>

Thus, overall, the evidence on service-provider absence suggests that low levels of effort have become institutionalized both through generous terms and conditions and through individual shirking. A significant degree of shirking is also consistent with other signs of low effort. For example, in the study conducted in Uttar Pradesh, about 20 per cent of teachers reached school late. In addition, even when present in school, only about 60 per cent are found to be teaching (Muralidharan 2004).

### Are Public Sector Wages Too High?

Analysis of survey data reveals that public sector employees in India are greatly overpaid relative to their private sector counterparts (Table 8.4). At the senior level, civil servants are widely regarded to be underpaid, but this is evidently swamped by overpayment at other levels. A large public–private wage differential exists in all states, with average premiums in 1999–2000 ranging from 89 per cent in Maharashtra to 170 per cent in Rajasthan. In part, the premiums reflect differences in human capital as the public sector tends to employ workers with greater education and experience. Adjusting for these differences in characteristics brings down premiums, but they are

still large, ranging from between 62 per cent to 102 per cent for the private-formal sector and between 164 per cent and 259 per cent for the private-informal sector, depending on the type of methodology used for adjustment (Glinskaya and Lokshin 2004). The premiums are highest in states like Punjab, Rajasthan, Tamil Nadu, and Uttar Pradesh which, as argued later, have been less restrained than others in their pay awards.

TABLE 8.4 Ratio of Average Wages in the Public and Private Sector, 1993–4 and 1999–2000

State	1993–4	1999–2000
Andhra Pradesh	2.35	2.13
Bihar	1.41	2.14
Gujarat	1.91	2.05
Haryana	1.84	1.93
Karnataka	2.11	2.07
Kerala	1.78	2.06
Madhya Pradesh	2.08	2.19
Maharashtra	1.53	1.89
Orissa	1.88	2.30
Punjab	2.17	2.56
Rajasthan	1.72	2.70
Tamil Nadu	2.23	2.46
Uttar Pradesh	2.27	2.58
West Bengal	1.96	2.17
All India	1.92	2.33

Notes: Wage differentials are computed by comparing weekly wages for public and private sector wage employees. Calculations based on NSS surveys.

Source: NSSO 50th and 55th Round Employment–Unemployment Schedule Data. We are grateful to Elena Glinskaya for providing these estimates.

While the public sector premium has, as expected, increased since the implementation of the FCPC salary increases, and now stands at 133 per cent, what is striking is the extent of the premium prior to the FCPC: 92 per cent in 1993–4. Generally, post-independence, the civil service has benefited from a generous pace of real wage increase. For example, Kingdon and Muzammil (2000) show that, in Uttar Pradesh, a trained graduate

teacher's salary increased in real terms 36 times between 1960–1 and 1995–6. These figures are quoted by Mehrotra and Buckland (2001) who estimate that the ratio of trained graduate teacher salary to state domestic product per capita increased from 8.4 in 1985–6 to 13.5 in 1995–6.

India's public–private wage differentials are, in fact, among the highest in the world. Using the same methodologies as those which generated Table 8.4, studies for a large number of countries (Turkey, Brazil, Vietnam, Indonesia and countries of Africa and East Europe and well as OECD countries) find large differentials similar to those observed in India only in two African countries (Ghana and Côte d'Ivoire) and in some regions of Brazil (Glinskaya and Lokshin 2004). No country appears to match the salary–GDP per capita ratio of the UP (Uttar Pradesh) teachers mentioned earlier. Carnoy and Welmond (1996) estimate the ratio of average teacher's salary to GDP per capita for West and Central Africa at 7.3, almost half of the UP average in 1995–6.<sup>14</sup>

## Reforms

Control of salary bill growth is a fertile area for expenditure reform. From the above analysis, one can justify a strategy which restricts, or even prevents, average salary (and, by implication, pension) growth. And, for the medium term, restraining the size of the civil service is also a warranted, though not a costless, policy. One should also look for reforms which increase, or at least do not lower, the currently low productivity of the civil service. What have state governments been doing to restrict salary growth, and what more can they reasonably be expected to do? We consider salaries first, both pay and downsizing reforms, and then pensions.

On pay restraint, some states have shown themselves willing to hold back cost-of-living adjustments. For example, at the time of writing, Orissa's cost-of-living allowance (dearness allowance or DA) is at 51 per cent of basic salary, well below the GOI allowance—typically followed by most states—which is at 59 per cent, resulting in a savings of about 5 per cent of the salary bill. For 2003, Karnataka withheld DA for nine months to help meet the costs of drought relief. Maharashtra also temporarily withheld DA for some time, as did Punjab. Such steps are difficult to sustain, however, in the absence of coordinated action and GOI leadership. A good opportunity for this came in September 2002 when a meeting of state finance ministers under the chairmanship of the GOI minister of finance recommended that 'in view of the severe resource constraint', GOI refrain from providing additional DA for 'at least a period of one year'.<sup>15</sup>



Unfortunately, the follow-up meeting of chief ministers, held later that same year and chaired by the prime minister, failed to endorse this proposal, apparently due to lack of GOI backing.

Some states have also been more restrained than others in their pay awards. Not all states passed on FCPC pay increases backdated to 1996. Andhra Pradesh awarded increases in July 1999, and backdated them only to April 1999. Table 8.5 reports on the starting basic salary of a primary school teacher in several states, and compares salaries before and after the implementation of FCPC. It should be noted that the divergence across states in starting salaries has, in fact, increased over time. Salaries in Andhra Pradesh, Karnataka, and Orissa are now some 15–25 per cent less than salaries in Tamil Nadu and Uttar Pradesh for the same qualifications, and in Punjab, which requires higher qualifications.<sup>16</sup> The low-salary states benefit from savings of about 5–10 per cent of their total salary bill.

TABLE 8.5 Starting Basic Salary of a Primary School Teacher

State	Basic Salary (Rs/month)	
	1995	2003
Andhra Pradesh	1010	3750
Karnataka	1040	3300
Orissa	1080	3600
Punjab	1200	4550
Tamil Nadu	1200	4500
Uttar Pradesh	1100	4500

Source: World Bank (1996); various state governments.

Several states have been successful in the education sector in changing the hiring terms for new staff, and offering lower pay and conditions. This has been done through the hiring of para-teachers, whose salaries are often only about 20–50 per cent that of regular teachers. In Orissa, for example, para-teachers get a salary of Rs 1500 per month; regular teachers get an all-in salary of about Rs 5600 per month. This reform is of particular interest since it appears to be the only one which attempts to change not only the benefits of civil servants, but also the terms of their hiring, in order to improve accountability.

Thus para-teachers are often expected to be from the area in which they are hired, and are often appointed on short-term (typically annual) contracts by the local rather than the state government. Para-teachers may have lower qualifications than regular teachers, but, given their greater accountability to the local community, their lower security of tenure, and their better understanding of local student needs, the quality of the education provided by them may potentially be better. Box 8.1 summarizes the experience with para-teachers to date. Although the para-teacher experiment is still at an early stage, on balance, the evidence suggests that employing para-teachers enables expansion of access to education while not sacrificing quality.

#### Box 8.1 Experience with Para-teacher Schemes in India

An important intervention in education in the last decade has been the introduction of para-teachers, that is, teachers recruited not by the state government but by the local community, typically at much less than the regular pay scale, on annual contracts, for formal as well as alternative schools.

There have been many different para-teacher experiments in India, in many different states. An important feature of these schemes (particularly when new schools are started in previously unserved habitations) is that a local committee (for example, gram panchayat or village education committee) is given the authority for hiring the teachers. The most famous and largest scheme is the Education Guarantee Scheme (EGS) in Madhya Pradesh, through which para-teachers were made available to communities that did not qualify for a primary school and had no school within 1 km.

Leclercq (2003) and Gopalkrishnan and Sharma (1998) report that the EGS in Madhya Pradesh has been especially successful in bringing schools within reach of the tribal population. On student outcomes, the Leclercq study finds that students taught by para-teachers perform similarly on literacy and numeracy tests as students trained by regular teachers, but also found that both groups of students perform equally poorly, and that the quality of teaching is poor in both regular and non-regular schools (as well as private rural schools). Various aspects of Leclercq's study have been criticized by Sharma and Gopalkrishnan (2003), but they do not seem to disagree with his basic finding that the EGS has expanded access without sacrificing quality. Official statistics on pass rates for the board examinations also suggest that there is no difference in performance between EGS and government students (Clarke 2003). But whether the two populations of students appearing for the examinations are comparable is not known.

(Contd)



*(Contd)*

Other studies provide direct evidence that alternative schools operated under para-teacher schemes are operating better, or at least, no worse, than formal primary schools. For example, an evaluation of the 'Shishu Shiksha Kendras' (SSK) scheme of West Bengal by the Pratichi Trust found that SSKs had lower teacher absenteeism (14 per cent for para-teachers versus 20 per cent in formal primary schools), higher student attendance, greater parental participation, and a more conducive student-teacher relationship (Rana, Rafique, and Sengupta 2002). Similarly, based on brief field visits to EGS schools in two districts, Clarke (2003) reports that the EGS programme has resulted in clear improvements in classroom process and teacher motivation. Teacher absenteeism, based on this anecdotal account, seems to be much lower. By contrast, the WDR study of teacher absenteeism in public primary schools finds that absence rates do not depend on the type of contract—para-teachers are no more or less likely to be absent from work than regular teachers (Muralidharan 2004).

Whatever the debate regarding the quality of education provided by para-teachers it would, perhaps, be best to accept the para-teacher experiment as a cheap means of expanding low-quality education rather than as a way of radically changing the quality of education. Put somewhat differently, one way to understand the para-teacher phenomenon is to view it as a rational response by state governments to the large and increasing wage differential between public and private sector teachers. From this perspective, the change in hiring terms is important whether or not it promotes accountability, because it enables a policy of lower pay for new teachers to be enforced. Some observers have raised questions on the sustainability of the para-teacher experiment, and have expressed the opinion that para-teachers may eventually agitate and obtain regular status, which will neutralize the fiscal gains achieved through them (PROBE 1999). However, even if fiscal gains are lost at some point in the future, this seems to be no reason not to pursue them now.<sup>17</sup>

While para-teachers are typically thought of as providing informal education within an alternative community-led framework, several states have also used them in regular education institutions to fill vacancies, provide substitute teachers, or provide a second teacher in single-teacher schools. Tamil Nadu has recently shown that the same policy can be applied to private government-aided education institutions as well. Press reports in December 2003 indicate that the Government of Tamil Nadu will now

allow private institutions aided by the government (which are popular in the state) to appoint 'junior grade' teachers for elementary and secondary schools at a much reduced salary—Rs 3000 to Rs 4500 per month, compared to the regular salaries which are probably double that amount. The teachers will be appointed for a five-year term, after which their regularization will be considered.<sup>18</sup> Similar interventions have not been seen in the health sector, perhaps reflecting the greater social status of doctors, and the greater knowledge required to deliver health services. Schemes for para-doctors have been proposed, but so far blocked by the Indian Medical Council (Misra, Chatterjee, and Rao 2003). It is not clear why some of the para-teacher principles could not be applied to all new hiring. For example, all new hiring could be on fixed contract, and at lower salaries for at least an initial period.

Downsizing has been handled, almost universally, through the combination of attrition and a hiring ban. Some states (for example, Orissa, Karnataka) and the GOI have offered their civil servants voluntary retirement packages, but have had no takers.<sup>19</sup> Civil servants are too powerful to be forced to leave and their benefits too attractive for them to be easily bought out. Goa is the only state which has succeeded in actually retrenching civil servants. Some 2000 civil servants—about 5 per cent of the civil service—have taken packages in Goa. However, this was more of an early-retirement programme. The majority of departees were aged around 55, and about 40–45 per cent of them have been replaced by new, younger hires. Clearly, such a scheme will generate limited fiscal savings. That states have only been able to control civil service growth by attrition and a hiring ban rather than by active downsizing carries a cost. While some key areas have been exempted from hiring bans, this has been implemented neither in all states nor in all key areas. Many of the poorest states have the biggest hiring needs. Even if one exempts teachers, medical staff, and police from a hiring ban, that leaves many other important areas increasingly understaffed. Many states have talked about redeploying surplus staff to areas of shortage, but we are not aware of this having actually been put into practice. The aversion to hiring has other negative consequences—a de-skilling and aging of government staff; a strong reluctance to hire at the managerial level where capacity is typically completely inadequate; and a reluctance often to hire in tax departments, even if the cost-benefit analysis is strongly in favour of hiring. While these deficiencies should be studied and acted on, the policy of attrition and a selective hiring ban makes a lot of sense if retrenchment is not an option, and it will continue to be an important tool of fiscal adjustment. For example, projections for Karnataka show that it will

continue to experience retirement of 3 per cent and upwards annually, which means that 25–33 per cent of the civil service will leave in the next ten years (World Bank 2003d).<sup>20</sup>

Reforms to improve civil service productivity are still at an early stage. The most important attempt has been the hiring of para-teachers—discussed earlier—but little has so far been done to improve the accountability of regular teachers who comprise the bulk of the teaching workforce. Other attempts include: sporadic efforts to decentralize existing staff to local governments (tried by various states, but not yet successfully); greater use of IT in government operations; greater emphasis on anti-corruption and on citizen feedback; and increased use of performance indicators and training (notably in Andhra Pradesh). Several states have improved transparency in recruitment (through reductions in discretion, and greater use of IT), but promotion is still based on seniority. Some states have also tried to tackle, again through reductions in discretion, and greater use of IT, the ‘transfer industry’ (the problem of excessive and often politicized transfers of civil servants) but it is too early to tell whether these have been successful. Some efforts have been made to strengthen monitoring of civil-service effort, but much more could be done, including in very basic areas, such as ensuring punctual attendance and preventing staff from both taking and encashing leave. There has been talk but little action in the areas of improving performance evaluation and increasing flexibility in deployment and entry and exit.

Evidence that civil service productivity can be improved comes from the city of Bangalore, where a survey conducted thrice over a period of 10 years by the Public Affairs Centre shows enormous improvements in citizen satisfaction, as Figure 8.4 shows (PAC 2003). If one thinks, somewhat crudely, of such satisfaction as being the output of civil servants then, clearly, productivity has risen dramatically over this period, since there has been little or no net hiring. A full discussion of this dramatic turnaround, and its implications for the rest of India, would likely revolve around factors, such as pressure from civil society and political reform champions, and greater use of new techniques, such as IT (Chand 2003). It suffices here to say that this example demonstrates the scope of feasibility of productivity improvements at least in certain contexts in India.<sup>21</sup>

Turning to pensions, both the GOI and several states have recently initiated pension reforms, including both revisions to the existing defined benefit scheme (‘parametric’ changes) and the planned introduction of a new defined contribution scheme (‘structural’ reform).<sup>22</sup>

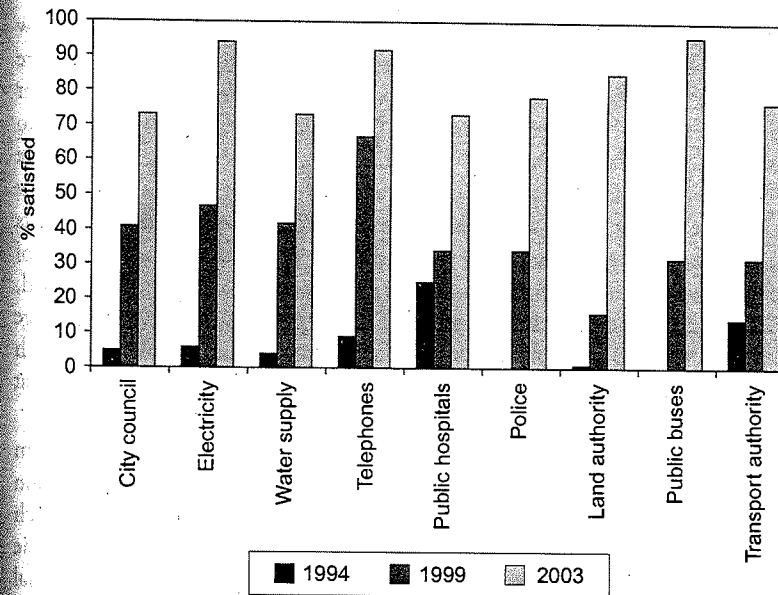


FIG. 8.4 Improvements in Satisfaction Levels with Public Services in Bangalore

Notes: Figures based on responses by Bangalore residents to survey questions.

Source: PAC (2003).

On structural reforms, the GOI has announced the introduction of a defined contribution (DC) scheme for new civil servants, a scheme that will also be open to interested state governments, and the unorganized sector on a voluntary basis. Several state governments have indicated their willingness to shift to a DC scheme, and some have already announced that new employees will no longer be eligible for the old, defined benefit scheme (Maharashtra, Tamil Nadu, Himachal Pradesh). The reformed pension scheme will be based on individual retirement accounts with employer and employee contributions, will use professional fund managers drawn from the private sector and a centralized record-keeping agency, and will allow workers to choose from a limited range of investment portfolios. A new set of regulations will be issued and supervision entrusted to a Pension Fund Regulatory and Development Authority. The proposed new pension scheme has the potential to deliver major fiscal gains. Rough calculations

suggest that the net present value of savings to the government of each new employee who switches to the new scheme is Rs 110,000, which is more than 30 per cent of the net present cost of putting the new employee under the existing defined benefit scheme (Rs 290,000). However, if restricted to new civil servants only, the shift to a defined contribution scheme will have no positive fiscal impact for thirty years or more (assuming that new employees join at the age of 30 or less, and retire at the age of 60). Buy-outs of existing employees could increase and bring forward the fiscal impact of the scheme, but these would have to be voluntary for existing staff (and, thus, fiscally neutral, if staff are rational) unless governments take advantage of the fact that no pension entitlement accrues without a minimum length of service, often at least ten years, and force all those with less than that length of service to switch.

In contrast to the structural reforms, parametric pension reforms aim to bring about savings by tinkering with the existing pay-as-you-go pension system. Although it is the switch to a defined contribution scheme which has caught the attention of policy-makers and of the media, it is the parametric changes to existing pension schemes which have the potential to make a large fiscal impact when it is needed, namely now. Several states have brought in parametric pension reforms in the last year or so—the most highly-publicized case being that of Tamil Nadu, whose employees went on strike over the issue.<sup>23</sup> Attempted and possible reforms include the following (see, also, RBI 2003):

- Use of longer averaging periods for the calculation of benefits: Some state governments use the last month's basic pay to determine pension levels. Others have followed the GOI's lead in using the average of the last 10 months of basic pay rather than the last basic pay drawn as the reference wage for pension determination. A shift from the 10-month to a 36-month period as recommended by the Bhattacharya Committee (RBI 2003), if not a lifetime earnings definition, could also be considered.
- Use of a lower limit for the maximum amount of pension which can be taken as a lump-sum (commuted) at retirement: India is one of the few countries with a practice of 'commutation', which allows retiring civil servants to take a portion of their pension as a lump-sum at retirement. States save from any reduction in this limit, at least in cash-flow terms and often in net present value (for reasons given in the next point). The commutable percentage is as low as 20 per cent in some states, and as high as 40 per cent in others.

- Use of a higher discount rate and a more realistic set of life-tables to calculate the value of the lump-sum (commuted) pension: Some states still use a nominal 4.75 per cent discount rate for this calculation, below what is available in the market today, and also use outdated life-tables (generally 1971 Postal Life Insurance mortality tables) which are actuarially unfair in favour of the pensioner. Other states have shifted to a higher discount rate, and updated their life-tables.
- Reduction in leave encashment limits: This reduces the payout required from the government at the time of retirement to employees who have saved up their leave. This ranges from 180 days in some states to 300 in others.
- Reducing pension abuse: Governments typically have poor data on pensioners. Data published by the Government of Karnataka (2003) shows a decline in the number of pensioners from 395,000 in 2000–1 to 249,000 in 2002–3, reflecting the information the government received from undertaking a census of pensioners. Weak data suggests poor control, and opportunity for abuse of the system (Sen and Swain 2002). It is likely that improving controls will result in substantial savings.

The above salary and pension reforms are admittedly partial. There is no active downsizing or rightsizing, and there is no effort to reduce wage compression (Das 2001). Nevertheless, the reforms are proving quite effective in freeing up resources. Andhra Pradesh provides an example of this. As a percentage of GSDP, salaries are estimated to have fallen in the state from 5.5 per cent in 2000–1 to 5.2 per cent in 2001–2 and 5.0 per cent in 2002–3, and are projected to continue to fall to 4.0 per cent in 2006–7. If the size of the civil service stays flat, and there is no real growth in average salaries, then the combined centre-state salary bill can be expected to fall from 5.6 per cent of GDP in 2001–2 to 4.2 per cent after five years, and to 3.2 per cent after ten years.<sup>24</sup> Based on past trends, pensions are less likely to fall as a percentage of GDP, but containment of growth is nevertheless possible. Simulations from Karnataka show that if only price, rather than wage, indexation is used in the future, and if commutation parameters are updated, then growth in the Karnataka pension bill can be limited to GDP growth for the next decade (World Bank 2003d).<sup>25</sup>

Two final points on salaries and pensions need to be mentioned here. First, the two trends observed in the 1990s of less public sector hiring and a greater public–private wage differential have both reduced the quality of service delivery (by making hiring more expensive for governments) and made a public sector job more desirable but less attainable. Queuing for

government jobs is of massive proportions.<sup>26</sup> While we have argued for both reducing the public-private wage differential and restraining public sector hiring, a reduction in public sector wages offset by increased hiring would be superior to the current position on both social and service delivery grounds.

Second, in the coming years, the most important pay and pension reform strategy for all governments—especially the central government—will be not to constitute another pay commission for, say, the next decade so as to allow for some reduction in the public-private wage differential and to enable the recovery of the fisc from the shock of the last commission. A pay commission holiday would also allow pensions to be indexed to prices rather than wages for the coming years. At some point, it could also be considered whether the entire system of periodic pay commissions should be replaced by a pay-setting mechanism which provides for tighter links between pay increases and productivity improvements. If and when base salaries are adjusted, it will be important to put more emphasis on local market comparators in determining salary levels. This would limit the scope for real public sector wage increases to areas in which they are needed. Since the last pay commission shows the influence of the central government on pay-related matters, the GOI has a special obligation of leadership in this area.

## SUBSIDIES

The volume of subsidies in India has been routinely decried not only by academics but by government policy makers themselves, but has nevertheless remained stubbornly high (see Srivastava and Rao 2003, for a survey of subsidy studies in India). Central government explicit subsidies constitute about 2 per cent of GDP. In the late 1980s, the largest subsidy was for fertilizer, but it is now for food, which stands at 1 per cent of GDP. The second largest subsidy is for the below-cost provision of LPG (cooking gas) and kerosene: its growth in the budget in recent years reflects a change in accounting which brought this previously off-budget subsidy onto the budget. Fertilizer remains a significant subsidy at 0.5 per cent of GDP. At the state level, explicit studies are relatively small, and the largest subsidies are implicit. Power sector losses (before subsidies) stand at about 1.4 per cent of GDP. There are also large implicit subsidies at the state level for higher education and irrigation, and smaller but significant explicit subsidies for housing and food.

Most of India's subsidies are both inefficient and regressive. Irrigation departments, for example, are overstuffed, but unable to properly maintain the irrigation system. A significant amount of the kerosene subsidy is used not for household purposes as intended but for diluting petrol for use in transport. The liquefied petroleum gas (LPG) subsidy largely benefits the urban middleclass (World Bank 2003h). The fertilizer subsidy significantly benefits India's inefficient fertilizer producers.<sup>27</sup> A large portion of the subsidy on food goes to cover food storage costs. Seventy-three per cent of the rice and 84 per cent of the wheat purchased by the Food Corporation of India (FCI) is from Haryana, Punjab, and Andhra Pradesh, even though these states produce only 26 per cent of India's rice and 35 per cent of its wheat. Farmers in these states enjoy assured sales at prices which are much higher than where the FCI is not active.<sup>28</sup> High purchase prices for food benefit net producers but harm those in rural areas who on the margin are net consumers, and who tend to be poorer.

Since the power subsidy is India's largest, and since dealing with it has proved so intractable, we analyse it in the following two sub-sections to get a better handle on India's subsidy problems. Since most subsidies are rural in nature, we then try to understand the problem of subsidies—in particular, the power subsidy to farmers—by looking at the political economy of India's agricultural sector.

## Power Sector Subsidies to Agriculture: The Problem

The best measure for the fiscal burden of the power sector is not the budget subsidy paid by governments to the state utilities, which is frequently artificially repressed, but the gap in the power sector between costs and revenues (before subsidy). As Figure 8.5 shows, the latter variable has grown much more quickly than the former. Whereas subsidies for power paid from the budget have more or less remained stagnant as a percentage of GDP, actual losses have increased from 0.6 per cent of GDP in 1992–3 to an estimated 1.4 per cent in 2001–2. The ratio of subsidy paid to losses made has fallen from 0.7 in 1992–3 to an estimated 0.25 in 2001–2. With a declining portion of losses funded by the budget, losses have been increasingly financed by borrowing, including accumulation of arrears.

There are various causes for the high and growing level of financial losses in the power sector, including inefficient operations (reflecting under-investment) leading to a high level of technical losses, and theft of power. Also important is the level of subsidies to two consumer groups who pay below-cost tariffs—households and farmers. Whereas generating costs alone



would typically cost a state Rs 2 per kilowatt hour (kWh), low-consuming households often pay between Rs 1–2 per kWh. Farmers pay much less. The World Bank (2003e) estimates that, on average, households pay 60 per cent of the cost of supply and farmers pay 10 per cent. Supply of electricity to farmers is unmetered, and farmers are meant to pay a lump sum per horsepower (HP) of their pump per month or year. In many states, this amounts to a per unit tariff of less than Rs 0.5 per kWh. These two subsidized groups are significant consumers of electricity. In Karnataka, for example, households are currently estimated to consume about 14 per cent of total supply; and farmers about 28 per cent. The Planning Commission estimates that the implicit subsidy to agricultural consumers was Rs 305 billion in 2001–2 (1.3 per cent of GDP), while that to households was just over Rs 100 billion (0.4 per cent of GDP); much of this is paid for by cross-subsidies from industry, which pays above-cost tariffs.

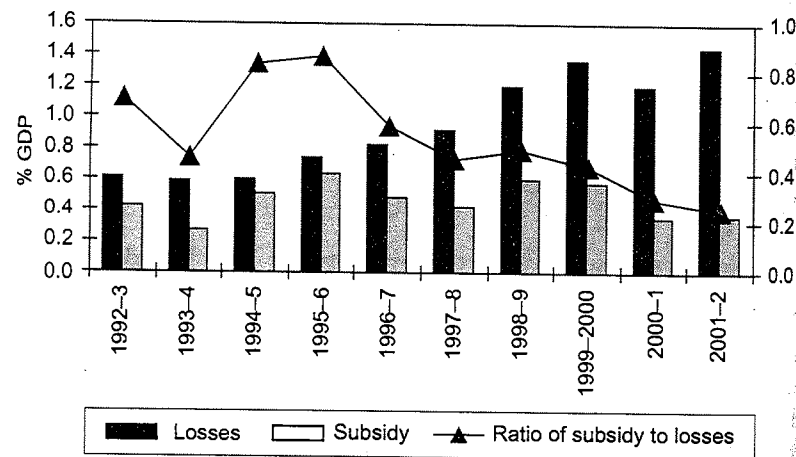


FIG. 8.5 Power Sector Losses (pre-subsidy) and Budget Subsidies to the Power of the Power Sector

Notes: Figures for 1999–2000 onwards are estimates.

Source: Planning Commission (2002).

There has been some progress over the late 1990s and into the new millennium in reducing the losses involved in the sale of electricity to households and, more generally, the non-agricultural sector. A number of states have imposed significant tariff increases, enforced collection of bills,

cracked down on power theft, and ensured universal metering of domestic connections. By contrast—as we shall document shortly—there has been not only a failure of reform efforts in the area of electricity supply to the agricultural sector but, rather, a backward movement over the 1990s. Since the subsidy to agriculture is both larger than the subsidy to households and apparently more intractable, we focus on it in the remainder of this section.

It is often suggested that the supply to farmers reported by utilities is exaggerated, and that the utilities are able to hide theft and technical losses as agricultural consumption since, in the absence of metering, true agricultural consumption is unknown. There is no doubt that this has been a problem (Dixit and Sant 1997), and a number of utilities have adjusted downward their agricultural consumption in the recent past. And no doubt there are still states which overestimate their agricultural consumption. At the same time, the importance of farmers as a consumer group should not be underestimated, and claims that farmers receive ‘almost no’ power (Bajpai and Sachs 1998)<sup>29</sup> or so little that, in fact, they are receiving no subsidy (World Bank 1999) are implausible, at least for many states. An independent survey undertaken in Haryana estimated agricultural consumption to be 19 per cent of total electricity available for sale (World Bank 2001b). Reddy and Sumithra (1997) found that the estimate of 37 per cent agricultural consumption reported by the utility in Karnataka was a grossly overestimated one but, after making various adjustments, they concluded that irrigation pumpsets most likely accounted for 26 per cent of total supply. Other studies have shown India’s uniquely heavy dependence on groundwater extraction for its agriculture (Shah 2002). In 1997–8, about 57 per cent of net irrigated area in India was irrigated using groundwater (World Bank 2003b). While in some states many groundwater pumps are fuelled by diesel (Uttar Pradesh, Assam), in others diesel pumps are little used. A survey of Karnataka found that only 3 per cent of pumps were diesel-powered (CMSR 2002). This heavy reliance on electric pumpsets again is consistent with a substantial consumption of electricity by the agricultural sector:

Even if we can estimate the volume of power supply going to agriculture, it is still difficult to estimate the subsidy received by farmers. On the one hand, the subsidy may be overestimated by inefficient operations on the part of the utility which pushes up average costs. On the other, these inefficient operations reflect under-capitalization—itsself the result of past lack of cost recovery—and so part of the cost which should be counted in subsidy calculations. High levels of theft also push up costs for paying customers but it is not known whether theft is above or below average in the agricultural sector. Farmers certainly have incentives to steal, since an

official connection often requires a wait of months or years. Farmers are often supplied off-peak (sometimes at night), which reduces the cost of supply to the utility of supplying to farmers, though the remoteness of farmers' connections increases the cost of supply. While the exact volume of the subsidy to farmers is often debated, there is no reason to think that the estimate of the Planning Commission (Rs 305 billion) is way off the mark.

While low tariffs constitute a fiscal subsidy to farmers, the low quality of supply constitutes a tax. Indeed, Indian agriculture is stuck in a low-price, low-quality electricity supply equilibrium. The World Bank (2001b) study of electricity supply to Haryana simulated the impact of tariff increases with and without improvements in the quality of electricity supply and found that improvements in quality of supply (fewer unscheduled power cuts, fewer transformer burnouts, and days lost to such burnouts) could more than compensate farmers for a quadrupling of tariffs.

The electricity subsidy to farmers is not only inefficient, it is also highly regressive. Using data from Maharashtra, Sant and Dixit (1996a) show that relatively better-off farmers, growing water-intensive crops, capture most of the subsidy. A study of Karnataka by Howes and Murgai (2002) showed that only 9 per cent of this subsidy benefited poor farmers. The rest went to farmers above the poverty line. Similarly, only 10 per cent of the subsidy benefited scheduled caste or tribal families. The study found that, on average, large farmers who own irrigation pumpsets receive a Rs 29,000 subsidy per year—roughly 10 times the amount that each household would receive if the subsidy were distributed equally amongst all households in rural Karnataka. Pumpset owners with marginal land-holdings (owning less than 1 hectare) received a considerably lower subsidy, amounting to approximately Rs 3000 per year. Similar results have been found for other states such as Tamil Nadu and Andhra Pradesh. Electricity subsidies are regressive (more than subsidies to surface irrigation) because large farmers are much more likely to have pumpsets than are small farmers and because large farmers with pumps use more electricity than small farmers with pumps because they tend to have more and bigger pumps.

The distribution of the electricity subsidy among farmers is regressive at the margin as well on average. There is a lot of evidence in India that irrigation is poverty reducing. The Howes–Murgai study found that a farmer with irrigated land is half as likely to be poor as a farmer without irrigated land. Therefore, an effective poverty-reduction policy would be to subsidize the capital costs associated with initial access to irrigation, and then to recover costs once access is provided. The opposite policy is pursued in India. Capital costs for connection are not subsidized. Indeed, entry to the

grid is rationed (through long waiting times for connections), thus further limiting access to the poor. But once connection is obtained, subsidies are provided to the largely non-poor beneficiaries.

The size and regressive distribution of the associated subsidy is only one dimension of the problems posed by the way in which power is supplied to agriculture in India. The facts that agricultural supply is unmetered and is often free (or close to it) either by law or in practice have forced the introduction of a rationing regime for the supply of electricity to agriculture.<sup>30</sup> Even if payments are required for electricity, if they are lump sum, as they typically are, the marginal cost to the consumer of an additional unit of consumption is zero, and consumption has to be restricted by the producer to affordable limits. The amount of electricity that farmers receive varies greatly from state to state, with a wide range of 1–8 hours a day (or, often, night).<sup>31</sup> Of course, given the tariff design, the rationing regime is essential, for fiscal, efficiency, and also environmental reasons.<sup>32</sup> It is, nevertheless, extremely damaging. Since this aspect of the electricity regime in India has received insufficient treatment in the past, we briefly document its various negative effects.

- It is clearly damaging for agriculture, since it is impossible to believe that the public utility is able to mimic the electricity demand patterns of farmers faced with competitive prices for electricity.<sup>33</sup> Indeed, it can only be described as bizarre that, more than 10 years after the beginning of liberalization, governments should still decide how much farmers will get of one of their most important inputs.<sup>34</sup>
- Rationing has greatly harmed the prospects for rural industrialization, since small rural industries can neither afford captive power nor operate for only the few hours per day (or night) at which electricity is made available in rural areas. More generally, rationing poses an obstacle for rural development since hospitals, rural administration, and schools all require electricity to function.
- The rationing regime does great harm to the fiscal position of the states which are under constant pressure to supply more electricity to farmers and which, therefore, typically do supply whatever is available, whether or not it is affordable or optimal.<sup>35</sup> The more that is sold, the more that is lost. Thus the acquisition of new generating capacity by the state is akin—from a fiscal perspective—to the acquisition of a liability rather than an asset. Whatever progress states might make either in improving their budgetary position or in reducing power sector losses outside of agriculture, or even in increasing agricultural tariffs, stands to be undone by the provision of additional supply to agriculture.



- Related to this, the rationing regime means that the power sector is the area least subject to budget control at the state level. It is indeed ironic that finance departments around the country establish labyrinth prior-approval procedures—for example, all staff hiring has to be approved by the finance department—but are themselves simply presented with a bill at the end of the month or year for power sector losses. Decisions on quantity of electricity to be supplied are never made by the finance departments but rather at the political level or by the utility itself: this, despite the fact that the finance department is the effective purchaser of power supplied to the farmers and, therefore, has a legitimate, if not overriding, interest in this issue.<sup>36</sup> It is not surprising, therefore, that one often sees a stand-off between the finance department and the utility, or that, even if the utility is acting under political guidance, the finance department frequently refuses to foot a subsidy bill which undermines the budget (and which, it is suspected, will only add to indiscipline and losses in the sector). This also explains why the power sector is so much more fiscally damaging to a state governments than irrigation, whose variable costs (labour, repair contracts) are much more under finance department control.<sup>37</sup>
- Rationing makes generation expansion planning based on demand forecasting impossible since no one knows what would happen to demand under competitive conditions. Generation planning can only be done as an affordability exercise: how much capacity can the government afford to supply to farmers.
- Finally, as we shall discuss later, rationing makes privatization of rural areas very difficult, since any private provider would have an incentive to under-provide in rural areas (the company's costs would go down, while its revenue would be unchanged). Privatization would force the public sector into a complex monitoring role which it is ill-equipped to discharge.

The final problem which confronts the agricultural segment of power supply, in addition to the large subsidy and unmetered, rationed supply regime already discussed, is the lack of commercial discipline in the sector. Commercial discipline is lacking in the utility–customer relations—non-paying customers are frequently not disconnected, and so bills are often not paid—as also in the government–utility relationship—governments typically fail to compensate utilities for the losses incurred by them owing to the supply of power at non-remunerative rates. All of these three problems are interrelated. For example, rationing tends to induce commercial

indiscipline. If a well fails, or a pump breaks down, the farmer might question why he should pay for a service which yields him no benefits, and which he might not be using. (If supply was metered, the farmer would not pay, or would pay only a small fixed charge.) With a long waiting list, voluntary disconnection is not a viable response for a farmer. Since pump or well failure can often be non-verifiable, farmers and politicians are provided with ready excuses for engaging in or advocating non-payment. Of the three problems, the lack of commercial discipline is the most fundamental in the sense that restoration of such discipline is a *sine qua non* for other reforms to work (for example, tariffs might be increased, but without commercial discipline revenues will not increase due to non-collection).

### Power Sector Subsidies to Agriculture: Reform Failures and Possible Future Paths

Repeated efforts to deal with the multiple adverse impacts of the power subsidy to agriculture have virtually come to naught. Indeed, while India can be said to have made slow progress on most reform issues, and rapid progress on a few, during the 1990s, reform of the electricity–agriculture nexus is one issue on which India can be said to have moved backwards during the 1990s. As Lal (2003) comments, ‘in state after state, power reform has lurched to a halt the moment it has run up against the agriculture sector, whether it be in the context of subsidies or installing meters to better monitor supply’.

These failures can be seen both at the all-India level (Box 8.2)—collective efforts by the central and state governments to take coordinated action to raise tariffs have repeatedly failed—and at the level of individual states. Many states which have been eager to appropriate the reformist tag and which indeed have shown themselves willing to take a tough stand with regard to other issues, have failed when it came to tackling this issue. A recent example is Tamil Nadu whose tough-minded and reform-oriented chief minister withstood a major public sector strike in order to push through various pension reforms. Yet, while it is true that Tamil Nadu has now revoked its earlier policy of free power for all farmers, some 75 per cent of the state's electricity-consuming farmers still enjoy free power: a payment is made to such farmers from the government which at least equals their tariff payment. The remaining 25 per cent of farmers (very large farmers, farmers with very large pumps, and newly connected farmers) pay what is probably the lowest agricultural tariff in India. While this move has been welcomed as a step in the direction of making subsidy payments to the farmers rather

than the utility, and thus a step in the direction of transparency and commercial operations, the fact remains that Tamil Nadu has only been able to move marginally away from a regime of free power.<sup>38</sup>

Box 8.2 *National Attempts to Reform the Power Sector Regime in Agriculture*

A conference in 1992 of state electricity ministers where it was resolved to adopt a minimum tariff of 50 paise for agriculture—and this when the average cost of supply was estimated at close to Rs 1.50 per unit—is still regarded as a benchmark today and which very few states achieve, even though the average cost of supply (generation only) is now closer to Rs 2.

The National Development Council in 1993 resolved that state governments would adopt a minimum all-India agricultural tariff and that subsidies to agriculture would be gradually phased out.

In 1996, the Common Minimum Action Plan for Power stipulated that no sector shall pay less than 50 per cent of the average cost of supply. The tariff for the agricultural sector would not be less than 50 paise per kWh, and would be brought to 50 per cent within three years. These provisions were reflected in the central draft Electricity Regulatory Commission Act, but withdrawn due to the opposition of some state governments; in particular, Tamil Nadu.

The Chief Ministers' Meeting of 2001 resolved that 'it is necessary to move away from the regime of providing free power'.

Sources: Godbole (2003); Gulati and Narayanan (2003); Guhan (1995).

Karnataka, which also had free power until the mid-1990s, has a higher tariff than Tamil Nadu, and significantly increased tariffs in early 2002 (after postponing the regulator's order made in early 2001 for a year) from Rs 300/HP/year to Rs 540/HP/year, but has been unable to implement an order from the regulator provided at the start of 2002 to increase tariffs further to Rs 720/HP/year. One lesson that has been learnt from Karnataka's case is that the hope that putting in place independent regulatory mechanisms would de-politicize tariff increases, and thus make them easier to implement, was misplaced, at least for the agricultural tariff. Farmers, it appears, do not acknowledge the subtle distinctions between governments and regulators. In fact, a survey of rural consumers in Karnataka found that only 3 per cent knew of the existence of the regulatory commission (CMSR 2002). Karnataka has also shown itself unwilling in the last few years to

collect the tariff from farmers. Successive write-offs of arrears—the most recent one announced in the February 2004 Budget speech writing off all arrears of farmers up to end-March 2003—have resulted in the de facto restoration of free power to the state.

Andhra Pradesh implemented an aggressive tariff increase for residential customers in 2000, but has only enacted marginal tariff increases for agriculture. Despite being one of the first states to embark on power sector reforms, its agricultural tariffs are among the lowest in the country, a fact which is publicized by the Government of Andhra Pradesh, in response to opposition promises that it would introduce free power if elected. Punjab reversed its free tariff policy in 2002 and now has an average tariff of Rs 720/HP/year which, reportedly, is collected. While this is certainly progress, Punjab sold the tariff increase to farmers by increasing supply. The net fiscal impact of these two reforms was probably negative, and Punjab has not indicated any willingness to further increase agricultural tariffs.

Some states have met with a modicum of success. Rajasthan has implemented two tariff increases for farmers, and collection efficiency is reportedly good. Maharashtra has traditionally had higher agricultural tariffs. However, collection efficiency is variable, and recent media reports talk of the Cabinet ordering the utility not to disconnect non-paying farmers.<sup>39</sup> The most stunning success so far is that of Madhya Pradesh which has actually legislated a maximum level of subsidy as part of its reform legislation and increased tariffs to Rs 1608/HP/year, well above the prevailing levels in most states (Figure 8.6). Interestingly, the Madhya Pradesh Government attempted to reintroduce free power in the run up to the election but was prevented from doing so when the matter was taken to court by a Public Interest Litigation. The High Court referred the matter to the Election Commission, which ruled that the decision violated the Code of Conduct by coming too close to the election. We do not have data on collection efficiency in Madhya Pradesh, but one would not be surprised if it is low.

Attempts to meter have been no more successful than attempts to increase tariffs. Many states have restricted themselves to metering only new, and not existing, farmers (Tamil Nadu, Andhra Pradesh). Some states have tried to meter existing farmers, but have encountered resistance, and achieved only partial success (Karnataka). Rajasthan is one state that has achieved fairly large-scale metering, and billing based on meter readings. However, reports indicate large-scale tampering with meters leading to only minimum payments being made.

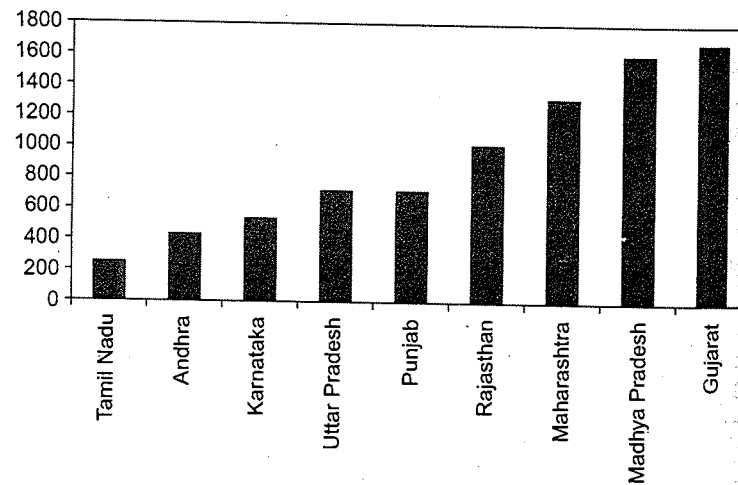


FIG. 8.6 Agricultural Tariffs for Selected Indian States

Note: Tariffs reported are for 5 HP pumpsets.

Source: Various state governments.

The reasons for reform failure are not hard to find. Rich farmers are powerful and speak on behalf of all farmers who together comprise 60 per cent of the electorate.<sup>40</sup> Alternative transfer mechanisms (subsidy handles) to compensate farmers for tariff increases are hard to find. There are fears about the employment and profitability impact of hiking electricity tariffs. Recent research on Tamil Nadu by the World Bank found that if electricity charges are raised to the estimated marginal economic price of electricity to agriculture, value added is reduced by 36 per cent for rice and 24 per cent for sugar cane. While one would expect output prices to respond to a nationwide increase in tariffs, they might not if tariffs are only increased in one or two reforming states. Finally, it is one thing to say that there exists a combination of quality improvements and tariff increases which is beneficial for both the farmers and the governments, it is another thing to achieve it. Tariff increases can be implemented immediately; quality improvements will take years to deliver. Even an efficient government would be uncertain about whether it can deliver sufficient quality improvements to counter the impact of the tariff increase; not surprisingly, the ability of India's low-credibility state governments (Keefer and Khemani 2004) to bring about the needed quality improvements is viewed with a great deal of scepticism.

In considering subsequent steps then, one needs to acknowledge that there is no guaranteed recipe for success, and that a great deal of experimentation will be required to achieve the desired outcome of a metered agricultural sector in which all farmers receive as much quality power as they are prepared to pay for, and subsidies are targeted to poorer farmers. In particular, privatization remains an untested possibility for solving the problems of electricity supply to rural areas: untested since the two states which have privatized so far (Delhi and Orissa) have insignificant rural loads. Many argue in favour of privatization in urban areas only. As early as June 1993, the National Development Council called for 'distribution in major and medium urban and semi-urban areas to be opened to the private sector' (Gulati and Narayanan 2003). Yet it can equally be argued that it is precisely in rural areas that the private sector is needed to enforce commercial discipline. While some states, Andhra Pradesh in particular, have succeeded in improving the level of commercial discipline in a publicly-owned power sector in urban areas among households and industry, the same progress is not evident in rural areas.

The record to date suggests that it is unlikely that commercial discipline can be achieved and sustained in rural areas as long as the power sector is in public hands.<sup>41</sup> Can it be achieved then be by privatization? It should not be difficult to provide a private company with the incentive to introduce commercial discipline among its customers, since better collections will feed directly into higher profits, though there would be a risk of failure if the government tried to undermine the private company's efforts, for example, by not providing law-enforcement support. Injecting commercial discipline into the government-utility relationship through privatization would be more difficult since private investors may not be willing to take the risk of non-subsidy payment by the government. There is the added problem that, if private companies are given responsibility for electricity supply, there will be strong incentives, under a lump-sum tariff regime, for the private parties to undersupply. Complex contractual arrangements would need to be put in place to enforce minimum supply standards. Whether the public sector has the capacity to measure such contracts, and whether information is available today (for example on supply of power to farmers) which would allow such contracts to be signed are open questions. Thus, while it is hard to see commercial discipline being introduced into the rural segment of the power sector without privatization, such a policy carries with it its own risks.

There are of course many different forms of privatization which could be attempted, ranging from contracting out of metering and billing at the

local level, to introduction of bulk-supply arrangements to groups of farmers or rural cooperatives, to part or full sale of existing public sector utilities. Apart from privatization, there are four additional reforms which could be tested.

- Metering has largely been conceived of as a supply-side initiative to date, and more attention should be given to providing farmers with incentives to be metered, so that farmers actually demand meters. The problem here is that the size of the metering incentive is limited by the low level of non-metered tariffs. One strategy would be to announce a high unmetered tariff and a low metered tariff, both applicable, say, a year from now. If farmers believed the government would implement the strategy, it would certainly lead to a high demand for meters. The risk is that farmers may simply reject the terms of the deal, and call the government's bluff on its intention to introduce high-unmetered tariffs. This is not an initiative that can be piloted, and there remains that risk that, even if meters are installed and used for billing, there will be widespread cheating.
- A variety of alternative subsidy mechanisms can be considered. The most radical one would be to shift to commercial, non-subsidized electricity operations, and offer all farmers, or all farmers with electric pumps, cash compensation independent of actual consumption levels. A less radical alternative would be for the government to formalize its subsidy responsibilities through the establishment of some sort of purchaser-provider model, in which the subsidy bill is based on actual supply to farmers. The main difficulty with such schemes, apart from the various practical problems involved, would be to ensure that the shift to commercial arrangements is irreversible, and that farmers are not, for example, after receiving compensation, continuing with not paying their bills. In the absence of privatization, it is difficult to see how such a shift could be irreversible. In 2003, Karnataka introduced a purchaser-provider model under which the utility was committed to providing monthly reports to the government on its supply to farmers, and to restricting the cost of its subsidy to the budgeted total unless permission from a high-level committee, chaired by the finance department, was obtained. This worked well for some months, but a decision to reduce power supply to farmers to 4 hours a day to keep within subsidy limits was reversed at the political level, illustrating the impotence of bureaucratic restraint mechanisms in the face of political imperatives. Average daily power supply in Karnataka in December

2003 was about 94 million units/day up from an average of 84 MU/day in the same month in the previous year—an 11 per cent increase which is explicable largely by a rapid, unbudgeted increase in supply to agriculture.

- Another reform path which has been much advocated is the need to bring about improvements in the quality and efficiency of electricity supply prior to, or at least alongside, tougher reforms such as tariff increases (Gulati and Narayanan 2003). There is no doubt for the need of such measures (see Sant and Dixit, 1996b, for the high levels of inefficiency in pumps currently used in India). The risk again is that farmers will reject the terms of the offer, and will take the money and run: for example, accepting higher quality or greater quantity of power, but refusing to pay any more for it. As with the alternative subsidy mechanisms discussed above, improvements in supply can only work as part of an irreversible shift to commercial arrangements.
- More efficient and effective rationing could be another important reform (Kishore, Sharma, and Scott undated; Shah 2002). Some states are trying to improve the rationing regime by segregating agricultural loads to prevent abuse of the rationing rules that are in place. It should also be possible to have more sophisticated welfare-improving rationing rules than, simply, x hours per day every day of the year. The more rational the rationing rules, the less the need for metering. In practice, however, it is unlikely that states could shift from provision of electricity to farmers on the basis of availability to provision on the basis of optimal rationing. The pressure to supply more would always be there and it is difficult to see how this pressure could be consistently resisted.

These four reforms could all be introduced without any privatization at all. Yet, they could all be expensive failures if not introduced as part of a package of irreversible institutional change to inject commercial discipline, and it is difficult to see such change occurring within the public sector. Such reforms should, therefore, be seen as complements to privatization, not substitutes.

Another reform option is entry by alternative suppliers to start business in rural areas, now made possible by the new Electricity Act, which has created the potential for entry by new licensees. If one believes the results of the research mentioned earlier that quality improvements will substitute for tariff increases, there should be plenty of scope in both served and unserved areas for new entrants to come in, supply quality power at unsubsidized prices, and prosper even when there is competition from the

subsidized utility. How many of the tens of million farmers already enjoying subsidized power will actually be prepared to switch to a high-cost, high-quality alternative remains to be seen. It is striking that the growth of diesel-powered captive generation which one has seen in the industrial sector has not developed in the farming sector. International experience suggests that 'cost recovery is probably the single most important factor determining long term effectiveness of rural electrification programs' and that, without substantial tariff increases, entry by new providers will remain very limited (World Bank 2003e).

The final reform option is to concentrate on improving the profitability of the non-agricultural part of the electricity business, especially by reducing theft and technical losses, thus generating more potential for cross-subsidization to agriculture and, consequently, rendering the power sector less of a fiscal burden. Using data from several states, Prayas (2002) demonstrates that there is significant loss of revenue due to commercial losses in the network which services high tension (HT) consumers. The feasibility of this strategy is supported by the recent performance of some states. Andhra Pradesh, for example, has been able to improve cost-recovery in the power sector from 61 per cent in 1999–2000 to 79 per cent in 2002–3. According to a recent Ministry of Power report on performance under the Accelerated Power Development and Reform Programme, several states have been able to reduce the cash losses of their power sectors. A strategy of increasing cross-subsidies also reflects a realistic view that subsidies to agriculture are here to stay. The strategy would also not necessarily increase costs to industry, since states are finding that reducing above-cost industrial tariffs can actually be more than compensated for by increased demand from industry. The main risk to this strategy is that if, as claimed, power supply to agriculture is on the basis of availability, then increased profits in the power sector could simply lead to increased investments and purchases leading to more supply to agriculture, and a negation of the improved financial position.

### Political Economy of Agricultural Subsidies

Most of India's large subsidies—power, irrigation, fertilizer and food subsidies—benefit, or are connected with, the agricultural sector. Exceptions are the LPG and kerosene subsidies and the subsidy for higher education. Much of the diagnosis above on power also applies to the other agricultural subsidies. The closest parallel is with irrigation. If it is difficult to run the power sector along commercial lines in rural areas, it is even more difficult

for irrigation. The irrigation sector shares many of the non-commercial features of the power sector: tariffs are low and lump-sum; consumption is not metered; collections fall well short of demand. With the sector managed not even by a public sector utility but by a government department, the prospects for enforcing payment obligations on farmers seem dim. The reform mantras in the irrigation sector are similar to those in the power sector, and actual implementation of these reforms are just as difficult. Several states have increased tariffs, and a lot of emphasis has been put on the establishment of water-user associations which could act as bulk buyers of water and operators of the system within their area. But the results have been disappointing. Andhra Pradesh increased water tariffs three-fold in 1996–7 and established 10,000 water-user associations (WUA) across the state (Gulati and Narayanan 2003). However, collection efficiency (the ratio of collections to demand) has fallen, and now languishes at around 30 per cent. Moreover, the WUAs were suspended for most of 2003 owing to a delay in elections for their office-holders—a strong indication that these associations, rather than commercializing the irrigation sector, have themselves become politicized.

The fertilizer and food subsidies are on a somewhat more commercial footing. Fertilizer is not provided to farmers unless it is paid for. But it is widely reported that minimum quality standards are often relaxed in the course of food procurement by the public sector. Both fertilizer and food procurement operations are inefficient. Attempts to raise fertilizer prices have been no more successful than attempts to increase electricity tariffs, and efforts to reform various public procurement schemes have failed: no attempts have been made at the central level; Maharashtra has rolled back many of its reforms to its cotton monopoly procurement scheme; and the central government has been unable to persuade states not to dictate a 'state advisory price' to sugar cane purchasers.

While the power subsidy to agriculture has been increasing over time, the other input subsidies on fertilizer and irrigation increased during the 1980s but have been reduced in the 1990s. The fertilizer subsidy increased from 0.3 per cent of GDP in 1981–2 to 1.1 per cent in 1989–90. Corrective measures were taken in response to the balance of payments crisis in the early 1990s, and there was a corresponding reduction in the early years of the 1990s in the fertilizer subsidy bill to about 0.7 per cent of GDP. The budgeted figure for 2003–4 is 0.5 per cent, but whether this will be achieved remains to be seen. The irrigation subsidy increased from 0.3 per cent in 1980–1 to 0.4 per cent in 1990–1 and by 1999–2000 had fallen back to 0.3 per cent,<sup>42</sup> probably because of the slowdown in irrigation investments.



In the past, these input subsidies were offset by output taxes in the form of low, regulated domestic prices. However, corresponding to a large increase in the food subsidy (from 0.5 per cent in 1997–8 to 1 per cent of GDP in 2002–3), the output pricing regime has changed dramatically through the 1990s in favour of farmers:

- Saxena (2003) finds that between the 1990–1 and 2001–2 crop years the minimum support prices (MSPs) for rice and wheat increased by 159 per cent and 184 per cent, respectively, whereas the wholesale price index increased by only 118 per cent. The terms of trade in favour of agriculture rose from about 85 in the late 1980s to almost 95 today (Gulati, Pursell, and Mulleen 2003). Minimum support prices have gone from providing a floor to a price ceiling. In 2001–2, weighted average full cost (C2 cost in Commission for Agriculture Costs and Prices [CACP] terminology, which includes all cash costs as well as imputed costs for land, capital and labour) of eight wheat producing states was Rs 483 per quintal against the MSP of Rs 620 per quintal (GOI 2003a). Comparisons between MSP prices for wheat and rice and international prices show that the former have increased relative to the latter and that, if grains are considered as exportables, agriculture is now net subsidized (World Bank 2003c). While this result is partly due to the decline in international prices in recent years, it is striking that this decline is not at all reflected in the MSPs.
- Not only have MSP prices been moving upwards sharply, but more is being procured by the FCI at MSP prices. In a two-year period, between 1999–2000 and 2001–2, food grain procurement increased from 31 million tonnes to 42 million tonnes. Government's willingness to procure what is produced regardless of market demand is also evident in the case of sugar. In 2001–2, sugar stocks reached 10 tonnes, more than half annual production. In response, the government created a one-year buffer stock for sugar (Gulati et al. 2003). There is also an insurance scheme, currently under pilot, to extend the MSP to all farmers of MSP commodities.

While a synthesis of the various input subsidies and output price support mechanisms into an overall subsidy to agriculture is beyond the scope of this paper, it is hard not to discern in the above developments a tendency toward agricultural protectionism.<sup>43</sup> Given that India is a democracy and that most of the voters are farmers, such a shift would hardly be surprising, and would be consistent with farmers becoming more politically assertive over time. If farmers in Japan, Korea, the United States, and the EU are

able to attract large subsidies although they are small minorities, it is little wonder that Indian farmers, with their numerical strength, should. The problem in India is perhaps exacerbated by the fact that farmers have no fiscal stake in the government system, since they pay no direct tax, and little by way of indirect taxes except as consumers of industrial goods and services. Thus they have every incentive to extract rents from the government.

Pursuing this analogy with developed countries suggests that agricultural subsidies, rather than diminishing over time, will rise as a proportion of agricultural output as India develops. But since agriculture will fall as a contributor to GDP, what will happen to agricultural subsidies as a percentage of GDP over time is unclear. Thus, in OECD countries, agricultural subsidies are more than half of the value of agricultural output but, in 1999, were estimated to be only 1.4 per cent of OECD GDP since agriculture is such a small part of value-added in developed countries (Gulati and Narayanan 2003, p. 37). This is similar in size to the estimated power subsidy to agriculture in India. What does seem clear is that India will be doing well if it can contain the shift towards agricultural protectionism, and that talk of eliminating such subsidies is over-optimistic.

The power of farmers in India's democratic set-up provides a partial rather than complete explanation of India's rural subsidies. First, it fails to explain why agricultural subsidies, especially power and food, are so inequitably distributed. This presumably is explained by a very unequal power structure within the rural economy, with rich farmers dominating. It may also be explained by the lack of alternative handles for subsidy distribution. India's methods for subsidy distribution, in particular, its heavy reliance on input subsidies, are much less common in developed countries. Second, the reference to agricultural protectionism also does not explain why, in the case of some subsidies, notably power and irrigation, farmers might actually be better off without the subsidies since off-setting quality improvements would then be possible. As suggested earlier, this may be due to well-founded scepticism that the government will, indeed, replace the subsidies by quality improvements. Third, how is one to explain the lack of commercial discipline in sectors such as rural power and irrigation? In part, a lack of commercial discipline reflects the political power of the farmers: how else could they not pay and yet not be disconnected? But one also cannot ignore the fact that the agricultural sector has always been prone to risks. Droughts happen, crops fail, and farmers fall on hard time. Suicides among farmers, whether or not calamity-related, are naturally taken as an indictment on government performance. In such high-pressure circumstances, Indian governments, lacking the social security system used



by developed countries to provide all citizens with an income floor, are forced to turn to what they do control. Governments are quick to write off not only loans, but also payment obligations to public sector utilities. This is often done quietly through instructions to utilities, but sometimes it is publicized. In Karnataka recently, the minister of state for energy was quoted as follows:

The Government knows that for the past four years the rains have failed. That is why we have closed our eyes to the theft of power by farmers. The Chief Minister has even directed KPTCL [the state utility] not to fine farmers but to concentrate on industries that steal power.<sup>44</sup>

Of course, such measures are inappropriate. Those with pumps are much less likely to suffer from drought than those without.<sup>45</sup> Moreover, politicians start to have an incentive to announce natural calamities, or to exaggerate their impact so that benefits can be distributed to farmers.<sup>46</sup> Commercial indiscipline, once introduced, becomes hard to remove. Thus the high level of risk in agriculture produces a political response which leads to the breakdown of commercial discipline in rural subsidy delivery mechanisms. From this perspective, a reduction in rural risk would perhaps help to introduce commercial discipline into the delivery of rural subsidies. However, the usual qualifiers need to be observed. First, farmers may accept whatever insurance is provided, and still continue to demand the existing subsidies. Second, any state involvement in risk-reduction is prone to political abuse, as the recent efforts to introduce crop insurance have shown (World Bank 2003f).<sup>47</sup>

In summary, India wants to subsidize and stabilize its agricultural sector, but has very few instruments to do so. It ends up benefiting mainly richer farmers, through delivery systems which lack commercial discipline, and which impose heavy costs on farmers who in the long run, might be better without all the subsidies. Making that transition will be an extremely difficult and long path. In the absence of any clear road-map, or clear reform successes, and with rural subsidies most likely here to stay, more experiments are needed, particularly to see whether privatization can help introduce much needed commercial discipline into the delivery of agricultural services and subsidies.

## CONCLUSION

The main line of argument of the paper can be simply stated. Over time, as India develops, one would expect the public sector salary bill to rise as a

percentage of GDP, and one would hope that the subsidy bill falls. In the short-to-medium term, however, it would be a mistake to expect fiscal savings only on the subsidy side. Attempts so far to reduce subsidies have met with little success. However, successful efforts to contain the wage-bill can be observed, the negative fiscal impact of the generous public sector pay settlement of the second half of the 1990s notwithstanding. Thus, the usual emphasis on expenditure restructuring through subsidy reduction is complemented in this paper by an equal emphasis on salary bill reduction. The conclusion reached in this regard is that a reduction in the salary bill is not likely to come about by active downsizing but by a combination of hiring and wage restraint.

Such a policy is second best to a policy of active rightsizing and wage decompression, but it is attractive simply for the reason of already being in place. There has been little net hiring during the 1990s: none at the central level since 1991, and none at the state level since 1997. Of course, the pay commission of the mid-1990s resulted in the opposite of wage restraint, but since that period, five to eight years ago, public sector wages have at best kept pace with inflation and, notwithstanding the FCPC, the wage bill actually fell during the 1990s as a percentage of GDP. Nevertheless, establishment of a pay commission should be avoided for as long as possible, since such a commission would in all likelihood lead again to a significant increase in real wages. If a policy of hiring and wage restraint can be maintained, it might deliver a fall in the salary bill of as much as 2 percentage points of GDP over the coming decade. These savings will be particularly important at the state level, where the salary bill is a much higher ratio of expenditure than at the central level (roughly, 30 per cent compared with 10 per cent).

With public sector employees overpaid, several states have shown it possible to save large amounts by hiring new staff on much lower salaries. So far this has been restricted to the hiring of para-teachers, evaluations of whom have shown that they perform at least no worse than teachers hired under regular terms. The principle could be extended to other categories of employees. It should be possible to introduce reforms at least for all new recruits (for example, to put all new recruitment on a fixed-term basis) given the premium that public sector jobs command.

The para-teacher phenomenon is also important because it represents an effort to improve civil service productivity which, as the evidence on absence of service providers shows, is low. The fact that a significant amount of such absence is authorized shows how institutionalized low-effort levels are in the public sector. The agenda of civil service reform to improve civil

service productivity is at an early stage of formulation and implementation. Yet dramatic improvements are possible, as shown by Bangalore where there has been massive improvements in the quality of public sector service delivery over the last decade. Such reforms would of course be a desirable complement to any policy of salary bill restraint.

Pensions spending is unlikely to fall as a percentage of GDP, but cost containment is nevertheless possible. The most important reform is to index pensions only to prices not to real wages. Additional savings can be found in the short term by reforms to the parameters governing retirement benefits. In the longer term, switchover to the proposed defined contribution scheme will also generate savings. However, even without this switch, limited analysis to date suggests it may be possible to contain pensions as a percentage of GDP in the coming decade through parametric reforms.

Given that employees are politically powerful in India,<sup>48</sup> the difficulties of continuing with policies of salary restraint should not be underestimated. Yet, there is a track-record of reforms in this area; and several states have already withstood large strikes to realize their salary-restraint objectives. One of the great unanswered questions of fiscal policy in India is whether, and for how long, governments in India will be able to resist calls for establishment of a new pay commission. However, even with this uncertainty, salary reforms look a lot easier than subsidy reforms—a policy of no hiring and no real wage increases is much less threatening to civil servants than subsidy cuts are to farmers.

There can be no doubt about the desirability of subsidy reduction. India's subsidies are highly inefficient and inequitable. However, given that most subsidies have an agricultural base, and given that pressures for agricultural protectionism are only likely to grow as India develops, it will be an enormous challenge to reduce subsidies in this country. No quantification of feasible subsidy savings has been attempted here since the imponderables seem too great: while agriculture will fall as a percentage of GDP over time, agricultural subsidies as a percentage of sectoral output are likely to rise. Progress will likely be more possible with non-agricultural subsidies: kerosene and LPG, and the non-rural parts of the power sector. However, there is also the possibility that, even if fiscal pressures ease, the extra fiscal space will be chewed up by additional agricultural subsidies: as more farmers are provided with very cheap electricity, and if the system of guaranteed output prices is extended further through the country, for example. One way out might be a 'grand compact' between farmers and the government to replace subsidies by better services and more investments, but reform efforts to date give little hope that this would ever be implemented.

The large and growing power subsidy provided to agriculture is explored in some detail as a case study of the difficulties in reforming and reducing rural subsidies. We emphasize three aspects of the power supply regime in agriculture: the large associated subsidy, the distribution of which is highly regressive; the rationing of power to farmers, forced on governments by the lump-sum, low-tariff regime, but with very damaging effects on both the economy and the fisc; and the core institutional problem of a lack of commercial discipline which characterizes both government-utility and utility-customer interactions in the rural segment of the power sector. We emphasize, in particular, the latter point since, in the absence of commercial discipline, no reform plan for the sector will work. We trace the reasons for the repeated failure of state governments to impose commercial discipline in agriculture to the risky nature of this sector to the stresses this imposes on governments to bail out farmers, and to the subsequent difficulty of restoring commercial discipline once it has been breached. We stress the importance of privatization as perhaps the only way to inject commercial discipline into the rural segment of the power sector while, at the same time, acknowledging the associated risks and difficulties. There seems to be no option other than to undertake bold experiments to see what works.

### Notes

<sup>1</sup> This is a revised version of a paper prepared for the IMF-NIPFP conference on fiscal reform, January 2004, New Delhi, with the same title. This represents the views of the authors, and not necessarily those of the World Bank.

<sup>2</sup> Mody (1997) reports that, whereas 'infrastructure spending by the average developing country in about 4 per cent of GDP', infrastructure spending in the rapidly-growing East Asian economies (China, Hong Kong, Japan, Malaysia, Singapore, Taiwan (China) 'has typically ranged from 6 to 8 per cent'.

<sup>3</sup> Though note that part of this decline reflects a healthy trend away from budgetary investments in commercial public-sector enterprises.

<sup>4</sup> Salary data from the states is from Kurian and Dasgupta (2003). Our thanks to N.J. Kurian for providing to us an extended version of the series in that paper. They cover the 14 major states. Salary data for Gujarat is underestimated since it excludes grant-in-aid salaries.

<sup>5</sup> The railways (a GOI entity which employs 1.5 million staff) is omitted from these numbers, as are all GOI-owned companies. The equally large state-level power and transport companies are also omitted. Including all quasi-government and local bodies, total public sector employment in 2000 was 19.3 million.

<sup>6</sup> The pay increases actually given by the GOI were in some respects more generous than those recommended by the Commission: see Subramanian (2004) for an interesting account.

<sup>7</sup> Another source of data (Planning Commission 2001, Table 2.12) shows that the total number of public sector employees (including employees of public sector enterprises) grew from 16.46 million in 1983 to 18.32 million in 1988 (annual average growth of 2.2 per cent), to 19.44 million in 1994 (annual average growth of 1.0 per cent), and marginally declined to 19.41 million in 1999 (annual average growth of -0.03 per cent).

<sup>8</sup> Why the central government salary bill did not fall more during this period, if there were no real wage increases, and no net hiring, and why the state salary bill fell faster than the central bill, though the state governments were net hirers during this period, are unanswered questions at this stage, though it may be noted that prior to the FCPC the price-indexation of salaries was less than 100 per cent. The state data used here is not regularly published by state governments, and may be of varying quality and, in some cases, inaccurate.

<sup>9</sup> Note that GOI salaries exclude, but GOI pensions include, railways staff.

<sup>10</sup> Kingdon and Muzzamil (2000) find that in Uttar Pradesh 'Between 1960 and 1981, the share of non-salary expenditure in total educational expenditure fell from about 28 per cent to 10 per cent in secondary education, from 15 per cent to 6 per cent in junior education, and from 12 per cent to a mere 3 per cent in primary education' (p.42).

<sup>11</sup> Teachers, medical staff, and police are estimated from the 'Class C' filled positions of the Departments of Primary and Secondary Education, Health and Family Welfare, and Police, respectively. These figures come from the 2003 Departmental Medium Term Fiscal Plans of the relevant departments of the Government of Karnataka.

<sup>12</sup> Punjab is an outlier with high teacher absence relative to its per capita income. Responses for reasons of absence suggest that two of the three unannounced visits to sample schools in Punjab may have been conducted during an examination period, which resulted in much greater official duty-related absence for the purpose of supervising/investigating exams (Provider Absence Project Research Team, personal communication, 20 February 2004).

<sup>13</sup> It is reported from Karnataka that health-workers prepare pre-signed leave of absence request forms, which are quickly dated by whoever is present at the facility, as soon as the inspection team enters the front door. Thus allowed leave is taken, but not recorded unless required to justify an absence (Paolo Belli, personal communication, 17 December 2003).

<sup>14</sup> Quoted in Mehrotra and Buckland (2001).

<sup>15</sup> [http://finmin.nic.in/topics/center\\_state\\_finance/ri.htm](http://finmin.nic.in/topics/center_state_finance/ri.htm).

<sup>16</sup> The minimum qualification for all states is a post-schooling education degree, except for Punjab which requires a post-graduate education degree. Thirty per cent of Orissa's teachers have a post-graduate education qualification, and a starting salary of Rs 5000. Uttar Pradesh was a low-salary state, but decided to increase salaries in the run-up to the 2002 state elections. Andhra Pradesh has a DA allowance of only 30 per cent of basic salaries for teachers (compared to the GOI and India-wide standard of 59 per cent), so that its all-in salary is even lower relative to other states than its low basic salary suggests.

<sup>17</sup> Legal petitions demanding 'equal pay for equal work' have been submitted by para-teachers in several states. In some states—for example, Rajasthan and Madhya Pradesh—the courts ruled in favour of the schemes arguing that local bodies did not have to apply state government norms for their employees. In other states like Gujarat, the scheme has been changed with higher salary and better service conditions for teachers (Dayaram 2001).

<sup>18</sup> 'Aided Schools Can Hire Junior Teachers on Fixed Pay', *The Hindu*, 8 December 2003.

<sup>19</sup> This is in contrast to the experience with government-owned enterprises (PSUs), voluntary retirement schemes (VRS) where have been quite successful. It may well be that some PSU staff are more marketable; also, many PSU staff have taken VRS in the face of imminent or actual closure.

<sup>20</sup> This is based on a demographic census of existing staff. No net hiring is assumed to 2005, after which growth of the civil service is assumed to equal population growth. Sen and Swain (2002) find a lower attrition rate of 2.1 per cent for the central government.

<sup>21</sup> See Beschel (2003) and Prasad (2003) for a further discussion of these issues.

<sup>22</sup> A defined contribution scheme requires a fixed contribution to earn a pension upon retirement, but, unlike the current defined benefit schemes, does not provide an assured pension return.

<sup>23</sup> Though the Supreme Court sided with the Government of Tamil Nadu on the strike, the Madras High Court struck down some of the government's pension reforms.

<sup>24</sup> We assume 10 per cent nominal growth in GDP, and 4 per cent inflation.

<sup>25</sup> Sen and Swain (2001) project central pension growth to be less than GDP growth, assuming only price indexation.

<sup>26</sup> A tracer study in Karnataka (World Bank 2002) found an 'overwhelming aspiration for a government job'. Interviews with past and current high-school students revealed that the three things most sought from employment were: placement in the public sector, security of employment, and a 'good designation' or elevated social status (see pp. 16 and 17).

<sup>27</sup> Gulati and Narayanan (2003) compare prices that farmers would have paid for fertilizer, had it all been imported, to prices actually paid. Using this methodology they conclude that between 1981–2001 farmers received only about 67 per cent of the fertilizer subsidy in India.

<sup>28</sup> Saxena (2003) reports that 'In January 2002 the author found that farmers in east UP were getting only Rs 330 to 350 per quintal for paddy whereas Punjab farmers were getting 540 for the same crop'.

<sup>29</sup> 'If one puts the matter crudely, rural India's population is getting the infrastructure that it is paying for—in other words mostly none' (p. 10).

<sup>30</sup> Interestingly, Godbole (2003) blames the introduction of flat-rate tariffs in India in the 1970s on World Bank advice.

<sup>31</sup> Households may receive more through provision of two-phase power, which is sufficient to power lighting but not irrigation pumps (though many farmers use technological means to circumvent this restriction).

<sup>32</sup> It is often said that low tariffs in India lead to the over-exploitation of groundwater. Overall, if the price of water went up, more water-intensive crops and methods would become less competitive, but if quantity-rationing limits are binding, then farmers who are currently unable to grow water-intensive crops might still want to switch into these crops, and now be able to do so. One plausible argument in favour of the current low-price low-supply regime being damaging to the environment is that the uncertainty over the supply of electricity leads to over-extraction. The Haryana study (World Bank 2001b) finds that 'in areas where power is more unreliable, farmers pump more water during the periods when power is available to cope with the risk of not having power supply when really needed' (Volume II, p. 48).

<sup>33</sup> Given that power supply is rationed, surprisingly little work has been done on optimal supply levels. The Haryana study (World Bank 2001b) suggested positive willingness to pay among marginal-small but not medium or large farmers (60 per cent), suggesting that most farmers are not rationed. However, Haryana may not be typical. Ranganathan and Ramanayya (1998) find that in Uttar Pradesh and Madhya Pradesh farmers get only about 1.5 hours of electricity a day, and estimate willingness to pay in Uttar Pradesh at Rs 9/kWh and in Madhya Pradesh at Rs 70/kWh.

<sup>34</sup> This is not the case for farmers who own both diesel and electric pumps, since diesel supply is unconstrained. However, most farmers have only one or the other. In Haryana, where both diesel and electric pumps are common, the sample of 777 electric-pump owners only owned 101 diesel pumps (World Bank 2001b, Table 1.1 and para. 1.27).

<sup>35</sup> States are also under constant pressure to shift supply from night-time to daytime since this is more convenient for farmers, though more expensive for the state (night-time is off-peak).

<sup>36</sup> Rarely are attempts made to estimate how much is supplied to agriculture: the claim that x hours daily are to be supplied itself provides very little control since no one knows if this goal is achieved and, in any case, the number of hours of availability is only one factor influencing the cost of supply, others being the number of connections, the size of pumps, and the amount of use.

<sup>37</sup> Gulati and Narayanan (2003, p. 199) show that the power subsidy to agriculture has increased from 43 per cent of total agricultural input subsidies (power, fertilizer, irrigation) in 1983–4 to 64 per cent in 1999–2000.

<sup>38</sup> Since the time of writing, most of the states discussed in the text have moved fully or significantly to free power, including Tamil Nadu, Andhra Pradesh, Maharashtra, Madhya Pradesh and Punjab.

<sup>39</sup> See 'State May Slash Plan Size', *Business Standard*, 30 October 2003. The report says of a Cabinet meeting that 'It also decided to stop disconnecting power supply to farmers using agricultural pumpsets. This drive was aimed at recovering Rs 3500 crore of arrears owed by farmers to the MSEB'. However, according to the report, farmers are still meant to pay their current dues.

<sup>40</sup> Lal (2003) comments as follows: 'For the big farmers are usually the patriarchs of their clans and communities and function as political intermediaries who deliver blocs of votes to their favoured political party. The pump-owning class is also the most articulate rural class. In an era of fragile coalitions and volatile vote swings, the big farmer's control over bloc votes is a potent weapon. He commands tremendous 'swing power', and it is very risky for political leaders to alienate him'.

<sup>41</sup> This is not to say that improvements within the public sector are not possible in all contexts (Figure 8.4 clearly contradicts this) but that the context matters.

<sup>42</sup> Calculated from Gulati and Narayanan (2003), Table 5.2, using the Vaidyanathan Committee method.

<sup>43</sup> Gulati and Narayanan (2003) consider various aggregate measures of support to agriculture up to 2000, and find that, on the importable hypothesis, agriculture is still net protected, but that under the exportable hypothesis it has become net subsidized.

<sup>44</sup> 'Plan to Give Farmers Power Subsidy in Cash', *The Hindu*, 10 December 2003. *The Deccan Herald* also reported on the minister's statement, saying that he had announced that 'the government will not take against against farmers who are unauthorizedly drawing power for their irrigation pumpsets. He said that the government had asked KPTCL [the utility] to desist from initiating any action against such unauthorized power consumption as farmers were reeling under drought. Action would be taken against such offences after the State gets good rainfall' 'Government to Ignore Power Theft by Farmers', *Deccan Herald*, 10 December 2003.

<sup>45</sup> As noted earlier, the lack of metering provides an excuse for waiving of dues since one can always claim that with lack of rain wells have run dry, and thus farmers have been unable to use their electricity connections, and so are worthy of relief.

<sup>46</sup> It can be observed from Karnataka in recent years that drought relief packages have been distributed across the state even when only parts of the state have suffered from a shortage of rainfall.

<sup>47</sup> The most recently announced crop-insurance scheme (the Farm Income Insurance Scheme) promises to compensate farmers not only for below-average yield but also for remuneration below that of the MSP. If this goes beyond the pilot stage, it will extend the benefits of a guaranteed above-market price to all farmers.

<sup>48</sup> Das (1998, p. 237) writes that 'The civil service in India has been the instrument by which the politicians in power have extracted rent from the system in order to buy political support'. See also Saxena (1999) and Wade (1982). It is reported that resentment of salary reforms by civil servants was a factor in the recent defeat of the state governments in Rajasthan and Madhya Pradesh. One article reported that the Rajasthan government 'employees feel that the [new] government is morally bound to fulfil their demands for the wholehearted support extended'. ('Rajasthan Can Now Borrow Rs 500 Crore from Market', *Times News Network*, 6 January 2004).

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