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Subsidies And Salaries: Issues In The Restructuring Of Government Expenditure In India

Abstract How can increased spending on priority social and infrastructure sectors be financed in India? While increased tax revenue is part of the answer, as is increased private sector financing of infrastructure, expenditure restructuring will also be important. But how much can be saved by expenditure restructuring? We examine salaries, including pensions, and subsidies in turn. We argue that there are significant savings which can feasibly be extracted from the salary bill, via both wage and hiring restraint, without sacrifice of expenditure quality. We argue that if real wage increases are avoided, the combined state-central government salary bill could fall by two percentage points of GDP over the next decade. While the pension bill cannot be expected to decline as a percentage of GDP, it can be contained by both structural and, with more immediate effect, parametric reforms. India's subsidy bill is large, and large cuts would certainly be desirable, but the scope for savings is limited by reasons of political economy. We examine the agricultural power subsidy as a case study, and situate India's growing subsidy bill within the context of a trend towards agricultural protectionism. While there are ways to reduce India's subsidies through a combination of efficiency improvements and tough decisions, progress in this direction to date has been disappointingly small, if not negative. There is no assured path forward, and sustained reduction in the subsidy bill will require institutional experimentation. Thus, in summary, while subsidies are the usual suspect for expenditure savings, the argument of this paper is that the salary bill should receive a lot more attention from policy makers.

1. INTRODUCTION

Many observers, including the Government of India 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: see Rakshit (2000, 2001) and Nagaraj (2003). A third group agrees that fiscal deficit reduction would be useful, but feels that is relatively unimportant and/or unlikely to happen (Lal, Bery and Pant (2003), Bhalla (2003), McKinsey (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" (2003b, p. vii). Rakshit's 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." (2000, p. 19) This increase in spending, it is widely argued, should be financed in part by an increase in tax revenues 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.

The purpose of this paper is to examine the scope and feasibility of savings on the salary and subsidy bills of Indian governments. We look at both central and state governments. The two main sections of this paper, sections 2 and 3, 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 twofold. 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 pay rises led to a large increase in the wage burden, and catalyzed the state-level fiscal crisis of the late nineties (see the Introduction to Howes, Lahiri, 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 (2003) focus on subsidy reduction as the key expenditure reform, as does the Ministry of Finance (2003). Second, one cannot fail to note the failure in India of reducing the subsidy bill, the consensus that it should fall notwithstanding. Rakshit 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." (2000, p. 51). 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 (*ibid*), 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 2005/06" (Mohan, 2000, p. 2027).[2] Unfortunately, since the time of the report, levels of infrastructure spending have actually declined, as Figure 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% of GDP by the late nineties, and then further increases – but none of this has occurred, as Figure 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 2) does seem important.[3] Finally on this issue, one can note that the problem of subsidies and lack of cost recovery is cited by many as the main obstacle to greater private provision of infrastructure *(*e.g. Harris, 2003*)* in which case reducing subsidies should enable an increase in both public and private infrastructure spending.

The question of whether India's public expenditure is sufficiently efficient to justify an expansion in particular 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 (e.g., 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 Indian governments are under-spending in certain areas seems 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.

2. SALARIES AND PENSIONS

2.1 Introduction

Governments are providers of labor-intensive services and salary costs are always a substantial part of total government expenses. In India, in 2000/01, 18% of general government expenditures (center and state combined) were on salaries and another 6% on pensions.[4] In the Indian federal set-up, the states have responsibility for the major services: health, education, and law and order. The central government employs about 3.3 million; the states together employ 7.5 million (EPW, 2002). Salaries and pensions are thus much more important for the states than the center.[5] Salaries make up 27% of total expenditure for the states; pensions 7%; the corresponding, smaller figures for the central government are 9% and 4%.

With personnel spending having this degree of importance, the success of any expenditure reform strategy, but especially one at the state level, will depend heavily on strategies adopted in this area. In this section, we seek first to understand the growth in salary and pension spending over the nineties (section 2.2). We then consider whether India's civil service is over- or under-staffed (2.3), and, through an examination of the issue of absenteeism, try to examine the effort levels of civil servants (2.4). We also ask whether India's civil servants are paid too much (2.5). On the basis of this analysis, we consider various reform measures open to India's governments in this critical expenditure area (2.6).

2.2 Recent trends in India's civil service salary and pension bill

Figure 3 summarizes available data for civil service salaries and pensions in India over the nineties. As is well-known, the wage bill grew rapidly in the late nineties as a result of the Fifth Central Pay Commission (FCPC), which reported in 1996, and whose recommendations were implemented starting in 1997/98 for the Government of India (GoI) and from 1998/99 onwards for 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).[6] 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%, in most cases backdated to 1996, on top of the regular cost-of-living increases received throughout the nineties; the latter because it indexed pensions to wages. However, a policy of hiring restraint in place over the nineties worked in the opposite direction.

The central government was the first to display hiring restraint, as part of the fiscal adjustment effort following the balance of payments crisis of 1991. GoI employment shows no growth over the nineties, in fact a small decline of 4% comparing 2000 with 1991 (Table 1). State governments show a marginal increase of only 5% in employment over the same period. As part of their fiscal adjustment 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 nineties, a period which, as Table 1 shows, saw no net hiring.[7] Virtually no civil servants have been retrenched, but most governments have put in place hiring bans, with only exceptions in specified priority areas allowed. Some civil services have actually started falling in size. For example, in Andhra Pradesh (AP), employment within the core civil service is estimated to have declined by an annual average of 2.4% in the past three years.

Overall, it would seem the combination of hiring restraint, price indexation, and a one-off real wage increase of 30% contained the salary bill as a percentage of GDP over the nineties. Central government salaries fell as a share of GDP from 1.5% in 1991/92 to 1.4% in 2001/02. State salaries similarly declined, from 4.5% to 4.2% over this period (see Figure 3). A more detailed analysis shows that, as far as the salary bill is concerned, the nineties can be broken up into three sub-periods.

i. *Up to 1996/97*, a period of hiring restraint and no real wage growth. The GoI salary bill fell as a percentage of GDP from 1.5% in 1991/92 to 1.4% in 1996/97. Salaries at the state level declined from 4.5% of GDP to 3.9% over this period.[8]

ii. *From 1996/97 to 1999/00 (2000/01 at the state level),* years of rapid growth in the salary bill as a result of the FCPC award implementation over this period. In 1997/98, GoI's salary bill rose by 36%. The implementation of the FCPC at the state level was staggered: average annual growth in the salary bill at the state level from 1996/97 to 1999/00 was 19.5%.

iii. *From 1999/00 (2000/01 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, absent 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 nineties, 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% in the number of pensioners between 1994/95 and 2001/02, and an increase in the ratio of pensioners to employees over this period from 33% to 51%. Thus in the first and third period mentioned above, the pension bill is more flat as a percentage of GDP than declining; of course, the bill rose rapidly in the second period due to the FCPC (combined central and state government pension spending doubled between 1997/98 and 1999/00), and the pension bill ended the nineties higher than it began. Combined central and state pensions increased at an average of 21% a year over the period 1991/92 to 2001/02. With pensions growing faster than salaries, the ratio of pensions to salaries increased over time: combined government pensions were 15% of combined government salaries in 1991/02; 30% in 2001/02.[9]

What will happen to the salary bill in the future depends obviously on future hiring and pay policy (which we turn to in 2.6) but the future pension bill is to a much greater extent already determined, though, in this regard, there is uncertainty both over data, and over 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% of GDP (World Bank, 2001a), assuming only price indexation in the future. A recent estimate for Karnataka shows net pension debt at 33% 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% today to 100% by 2075, and that, under current policies, the pension/GSDP bill will double in the next 50 years.

2.3 Does India have too many civil servants?

India's civil service employment is only around 1.2% of the population which is low by international standards (Table 2). The OECD average is 7.7%, 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 UP, for example, is estimated at over 70:1 (Shrivastava, 2003). There are other, less publicized areas where India's civil services are grossly understaffed. It is reported that the Delhi Government 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 (Center for Civil Society, 2003). The number of inspectors has apparently not increased since 1960.

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% in 1995/96 to 70% in 2001/02; the proportion of salaries in road maintenance for the same state and period has increased from 7% to 14%. Salary spending is also high in health: 60% of total expenditures incurred by the Department of Health and Family Welfare in Karnataka went to salary payments in 2001/02. 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).[10] In most states, salaries are by far the single largest element of expenditure on primary education: they account for about 90% of the total in Karnataka, Andhra Pradesh, and West Bengal, for example.

Moreover, there are two ways 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 servants. 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% of filled positions in the Irrigation Department, 73% in the Public Works Department and 53% 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 UP's Irrigation Department found that 40% of the 82,906 positions 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% of the total staff are in priority areas (teachers, medical staff, and police), which are likely to expand rather than contract in the future.[11]

One might also argue that India could avoid civil service hiring by relying more on the private sector, especially in the intensive-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, p, 22). 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, Chatterjee, and Rao, 2003).

In summary, 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) for current levels of total expenditure, salary spending is too high 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, to which we know turn.

2.4 Civil service productivity: the issue of service-provider absence

If civil servants are not productive, there is no point 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 Bank's 2004 *World Development Report* (WDR), in particular Table 3 below, which estimated that on average, on any one day, 25% percent of India's primary school teachers and 43% 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 poorer states.[12] 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).

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, in 1996, Dreze and Gazdar, in their study of education in UP, argued that "the specific problem of teacher absenteeism and shirking … is by far the most important issue of education policy in Uttar Pradesh today" (pp. 76-77). They found that two-thirds of the teachers were absent during an unannounced visit to their sample of schools from 4 districts. The DPEP Baseline survey, cited in Dreze and Gazdar (1996), reported that half of the teachers were absent at the time of the investigator's visit despite the fact that the visits were pre-announced. Another small study of 16 schools in Bihar (UNICEF, 2003) showed absenteeism of above 50%. 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% of the schools at the time of the survey team's visit. Absence rates in Karnataka (Karropady, 2003) and UP (Shrivastava, 2003) were estimated to be in the range of 18-30%, and 20%, 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, Deaton, and Duflo (2004) found that 45% of the personnel of sub-centers and the aidpost and 36% of 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% absence rate for doctors (ESO Punjab, 1998).

While there are conflicting results in the literature, more weight should be given to the larger studies designed to be representative. The evidence points to absence of service workers from service facilities as 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 (e.g. 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 (e.g. reducing leave allowances) or, if authorized absence policies are unchanged, 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 50 days (25%): 20 days of holidays and permitted leave, 21 days of non-teaching duties, and 9 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 in fact 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% (Muralidharan, 2004). Similarly, unauthorized absences were normally only 1% in the Karnataka study, though in one set of visits, during a religious festival period, this figure rose to 7% (Karropady, 2003). The UP study also found unauthorized leave to be at only 2% (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% in Maharashtra to 18% in Bihar and Jharkhand, but most states had a rate of 9% 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 skepticism. 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% (for a teaching year of 200 days) well below the observed absence rate of about 25%. This suggests that most absence, even if it can be explained as authorized if someone asks, is 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, rather than take, half of their leave. This suggests teachers may be having their cake and eating it: taking their leave in both time and cash.[13]

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

2.5 Are public sector wages too high?

Analysis of survey data reveals that public sector employees in India are greatly over-paid relative to their private sector counterparts (Table 4). At the senior level, civil servants are widely regarded to be underpaid, but this is evidently swamped by over-payment at all other levels. A large public-private wage differential exists in all states, with average premiums in 1999/2000 ranging from 89% in Maharashtra to 170% 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% to 102% with the private-formal sector and between 164% and 259% over 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 that have been less restrained than others in their pay awards (see section 2.6).

While premiums have, as expected, increased since implementation of the FCPC increases, and now stand at 133%, what is striking is the extent of the premium prior to the FCPC increase: 92% in 1993/94. 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 UP, a trained graduate teacher's salary increased in real terms 36 times between 1960/61 and 1995/96. 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 1985/86 to 13.5 in 1995/96.

India's public-private wage differentials are in fact among the highest in the world. Studies for a large number of countries (African countries, OECD countries, Eastern European countries, Turkey, Brazil, Vietnam, Indonesia) using similar methodologies to that which generated Table 4 find similarly large differentials to those observed in India only in two African countries – Ghana and Côte d'Ivoire – and in some regions of Brazil. No country appears to match the salary/GDP per capita ratio of UP 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 1995/96.[14]

2.6 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

(section 2.5). And, for the medium term, restraining the size of the civil service is also a warranted, though not a costless, policy (section 2.3). One should also look for reforms which increase, or at least do not lower, the currently low productivity of the civil service (section 2.4). 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% of basic salary, well below the GoI allowance, which states typically follow, which is at 59%, resulting in a savings of about 5% of the salary bill. For 2003, Karnataka, withheld Dearness Allowance 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."[15] Unfortunately, the follow up meeting of Chief Ministers chaired by the Prime Minister later in 2002 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 back-dated them only to April 1999. Table 5 reports on the starting basic salary of a primary school teacher in several states, and compares salaries pre-and post-FCPC. It can 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% less than salaries in Tamil Nadu and UP for the same qualifications, and Punjab, which requires higher qualifications.[16] The low-salary states benefit from savings of about 5-10% of their total salary bill.

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 about 20%-50% of regular teachers. In Orissa, for example, para-teachers get a salary of Rs 1,500 per month; regular teachers get an all-in salary of about Rs 5,600 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 often para-teachers are 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. Though para-teachers may have lower qualifications than regular teachers, the quality of education they provide can potentially benefit from the para-teachers' greater accountability to the local community, their greater insecurity of tenure, and their better understanding of local student needs. Box 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 does enable expansion of access to education while not sacrificing and, in some cases, even improving quality. However, it is important to stress that even with improvements, the quality of education provided by teachers is still poor. Leclerq (2003, p. 1865) for example reports that "the inadequate behavior of teachers remained the major deficiency" of the para-teacher schools he visited in Madhya Pradesh, that local governments take little interest in their schools, and that the hiring of local teachers is fraught with corruption.

Box 1. Experience with Para-teacher Schemes in India

An important intervention in education in the last decade has been the introduction of para-teachers: 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 (e.g., gram panchayat, village education committee etc.) 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.

Leclerq (2003) and Gopalkrishnan and Sharma (1998) report that the EGS in MP has been especially successful in bringing schools within reach of the tribal population. On student outcomes, the Leclerq study finds that students taught by para-teachers perform similarly on literacy and numeracy tests as students trained by regular teachers (Leclerq, 2003), but also that both groups of students perform poorly, and that the quality of teaching is poor in both regular and non-regular schools (as well as private rural schools). 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 exams are comparable is not known.

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% for para-teachers vs. 20% 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 program 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 absence 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).

The para-teacher experiment can perhaps be better understood 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 as a rational response by state governments to the large and increasing 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 suggested, for example, that para-teachers will agitate and likely finally obtain regular status, which will neutralize their fiscal gains (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.[17]

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, and 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 government (which are popular in the state) to appoint "junior grade" teachers for elementary and secondary schools at a much reduced salary: Rs 3,000 to Rs 4,500 per month compared to regular salaries probably double that amount. The teachers will be appointed for a five-year term, after which their regularization will be considered.[18] 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 almost universally through the combination of attrition and a hiring ban. Some states (e.g. Orissa, Karnataka), and GoI have offered their civil servants voluntary retirement packages, but have had no takers.[19] 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 2,000 civil servants have taken packages in Goa – about 5% of the civil service. However, this was more of an early-retirement programme: the majority of departees were aged around 55, and about 40-45% 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 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 deskilling and aging of government staff; a strong reluctance to hire at the managerial level where capacity is typically completely inadequate; and a reluctance often even to hire in tax departments, even if the cost-benefit analysis is strongly in favor 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% and upwards annually, which means that 25%-33% of the civil service will leave in the next 10 years (World Bank, 2003d).[20]

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 decade by the Public Affairs Centre shows enormous improvements in citizen satisfaction, as Figure 3 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 the factors behind this dramatic turn-around, and its implications for the rest of India, go well beyond the scope of the paper, but would likely revolve around 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.[21]

Turning to *pensions*, both 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). [22]

On structural reforms, 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, TN, HP). The reformed pension scheme would be based on individual retirement accounts with employer and employee contributions, would use professional fund managers drawn from the private sector and a centralized record-keeping agency, and would allow workers to choose from a limited range of investment portfolios. A new set of regulations would 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 government of each new employee who switches to the new scheme is Rs 1.1 lakh, which is more than 30% of the net present cost of putting the new employee under the existing defined benefit scheme (Rs 2.9 lakh). However, if restricted to new civil servants only, the shift to a defined contribution scheme will have no positive fiscal impact for 30 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 10 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 pension system. Several states have brought in parametric pension reforms in the last year or so, the mostly highly-publicized being Tamil Nadu, whose employees went to strike over the issue.[23] Although it is the switch to a defined contribution scheme which has caught policy-makers' and media attention, in fact it is parametric changes to existing pension schemes which have the potential to make a large fiscal impact when it is needed, namely now. 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 GoI's lead in using the average of last 10 months of basic pay rather than the last basic pay drawn as the reference wage for pension determination. A shift from 10 months 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 a 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% in some states, and as high as 40% 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 rate of 4.75% 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 favor of the pensioner. Other states have shifted to a higher discount rate, and updated their life-tables.
- *Reduction in leave encashment limits* reduces the payout required from 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 pensions. Data published by the Government of Karnataka (2003) shows a decline in the number of pensioners from 395,000

in 2000-01 to 249,000 in 2002-03, 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). Improving controls will likely 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. If the total number of employees is roughly constant, and the average salary is only increasing in line with prices, then salaries will fall quickly as a percentage of revenue and gross output. Andhra Pradesh provides an example of this. As a percentage of GSDP, salaries are estimated to have fallen from 5.5% in 2000/01 to 5.2% in 2001/02 and 5.0% in 2002/03, and are projected to continue to fall to 4.0% in 2006/07. If the size of the civil service stays flat, and there is no real growth in average salaries, then the combined center-state salary bill can be expected to fall from 5.6% of GDP in 2001-02 to 4.2% after 5 years, and to 3.2% after 10 years.[24] 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).[25]

Two final points on salaries and pensions. First, the two trends observed in the nineties 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.[26] While we have argued for reducing the public-private wage differential rather 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, the most important pay and pension reform in the coming years will be for all governments, but especially the central one, simply not to constitute another pay commission for, say, the next decade to allow for some reduction in the public-private wage differential and to enable recovery of the fisc from the shock of the last commission. Since the last FCPC linked pensions to pay, 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 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 it is needed. Since the last pay commission shows the influence of the central government on pay-related matters, the Government of India has a special obligation of leadership in this area.

3. SUBSIDIES, WITH SPECIAL REFERENCE TO POWER SUPPLY TO AGRICULTURE

3.1 Introduction

The volume of subsidies in India has been routinely decried not only by academics but by government policy makers themselves, but has remained stubbornly high (see Srivastava and Rao, 2003, for a survey of subsidy studies in India). Central government explicit subsidies constitute about 2% of GDP. In the late eighties, the largest subsidy was for fertilizer, but it is now for food, which stands at 1% 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% 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% 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 over-staffed, 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 LPG subsidy benefits largely the urban middle-class (World Bank, 2003h). The fertilizer subsidy significantly benefits India's inefficient fertilizer producers.[27] A large portion of the subsidy on food goes to cover food storage costs. 73% of the rice and 84% of the wheat purchased by the Food Corporation of India (FCI) is from Haryana, Punjab and AP, even though these states produce only 26% of India's rice and 35% of its wheat. Farmers in these states enjoy assured sales at prices which are not only assured, but much higher than where the FCI is not active.[28] 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 analyze it – and in particular the power subsidy to farmers – in the sections following to get a better handle on India's subsidy problems: in section 3.2 we try to assess its damage; and in 3.3 we attempt to understand why reform efforts to date have not been more successful, and what else could be tried. Since most subsidies are rural in nature, we end this section by trying to understand the problem of subsidies by looking at the political economy of India's agricultural sector (3.4).

3.2 Power sector subsidies to agriculture: the problem

The best measure for 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 4 shows, the latter variable has grown much more quickly than the former. Whereas subsidies paid from the budget have more or less remained stagnant as a percentage of GDP, actual losses have increased from 0.6% of GDP in 1992/93 to an estimated 1.4% in 2001/02. The ratio of subsidy paid to losses made has fallen from 0.7 in 1992/93 to an estimated 0.25 in 2001/02. 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 are high 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 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% of the cost of supply, and farmers 10%. Supply of electricity to farmers is unmetered, and farmers are meant to pay a lump sum per 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% of total supply; and farmers about 28%. The Planning Commission estimates that the implicit subsidy to agricultural consumers was Rs 30,500 crore in 2001/02 (1.3% of GDP), while that to households was just over Rs 10,000 crore (0.4% of GDP); much of this is paid for by cross-subsidies from industry, which pays above-cost tariffs.

There has been some progress over the late nineties 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 document shortly, there has been not only a failure of reform efforts in the area of electricity supply to the

agricultural sector, but in fact backward movement over the nineties. 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 (see for example, 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 over-estimate 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)[29] or so little that in fact they are receiving no subsidy (World Bank, 1999a) are implausible, at least for many states. An independent survey undertaken in Haryana estimated agricultural consumption to be 19% of total electricity available for sale (World Bank, 2001b). Reddy and Sumithra (1997) found that the estimate of 37% agricultural consumption reported by the utility in Karnataka was grossly over-estimated, but after making various adjustments, nevertheless estimated that irrigation pumpsets likely accounted for 26% of total supply. Other studies have shown India's uniquely heavy dependence on groundwater extraction for its agriculture (Shah, 2002). In 1997/98, about 57% of net irrigated area in India was irrigated using groundwater (World Bank, 2003b). While in some states, many groundwater pumps are fuelled by diesel (UP, Assam) in others, diesel pumps are little used. A survey of Karnataka found that only 3% of pumps were diesel-powered (CMSR, 2002). This heavy reliance on electric pump sets 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 over-estimated by inefficient operations on the part of the utility which pushes up average costs. On the other, these inefficient operations reflect in part under-capitalization, itself the result of past lack of cost recovery, and so indeed 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 30,500 crore) 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 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% of this subsidy benefited poor farmers. The rest went to farmers above the poverty line. Similarly, only 10% 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 ha) received a considerably lower subsidy, amounting to approximately Rs 3,000 per year. Similar results have been

found for other states such as Tamil Nadu and AP. Electricity subsidies are regressive (and more regressive than subsidies to surface irrigation) because large farmers are much more likely to have pump sets than small farmers and because large farmers with pumps use more electricity than small farmers with pumps (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. An effective poverty-reduction policy would therefore 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, and 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 then 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/or 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.[30] 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 farmers receive varies greatly from state to state, with a wide range of 1-8 hours a day (or, often, night).[31] Of course, given the tariff design, the rationing regime is essential, for fiscal, efficiency and also environmental reasons.[32] 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.[33] Indeed, it can only be described as bizarre that, more than ten years after the beginning of liberalization, governments decide how much farmers will get of one of their most important inputs.[34]
- 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, 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.[35] 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 Finance – but are 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 Finance but rather at the political level or by the utility itself: this despite the fact that Finance is the effective purchaser of power to farmers, and therefore has a legitimate, if not over-riding, interest in this issue.[36] It is not surprising, therefore, that one often sees a stand-off between Finance and the utility, and that,

even if the utility is acting under political guidance, Finance 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 government than irrigation, whose variable costs (labor, repair contracts) are much more under Finance Department control.[37]

- 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 discuss later, rationing makes privatization of rural areas very difficult, since any private provider would have an incentive to under-provide 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 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 first in the utility-customer relations – non-paying customers are frequently not disconnected, and so bills are often not paid – and second in the government-utility relationship – as we have already seen, governments typically fail to compensate utilities for the losses incurred by them due to the supply of power at non-remunerative rates. All of these three problems are inter-related. 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 indeed might not be using. (If supply was metered, the farmer wouldn't 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 (e.g., tariffs might be increased, but without commercial discipline revenues will not increase due to non-collection).

3.3 Power sector subsidies to agriculture: reform failures and possible future paths

Despite the multiple adverse impacts of the power subsidy to agriculture, repeated efforts to deal with it have virtually come to naught. Indeed, while India can be characterized over the nineties as making slow progress on most reform issues, and rapid progress on a few, reform of the electricity-agriculture nexus is one issue on which India can only be characterized as moving backwards over the nineties. 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 2), where repeated collective efforts by the states and the central government to take coordinated action to raise tariffs have repeatedly promised only to disappoint, 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 tough actions in other regards, have failed when it comes 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 (see 2.6). Yet, while it is true that TN has now revoked its earlier policy of free power for all farmers, some 75% of the state's electricity-consuming farmers still enjoy free power: a payment is made to such farmers from government which at least equals their tariff payment. The remaining 25% 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, it remains the fact that TN has only been able to move marginally away from a regime of free power.[38]

Karnataka, which also had free power until the mid-nineties, 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 from Karnataka is that the hope that putting in place independent regulatory mechanisms would de-politicize tariff increases, and thus make them easier to affect, 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% 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-off of arrears, the most recent announced in the February 2004 budget speech writing of all arrears of farmers up to end-March, 2003, has resulted in the *de facto* restoration of free power to the state.

AP 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 AP Government, 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 likely 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.[39] The most stunning success so far is Madhya Pradesh (MP). MP actually legislated a maximum level of subsidy as part of its reform legislation and increased tariffs to Rs 2,500/HP/year, way above the prevailing levels in most states (Figure 5). Interestingly, the MP 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 MP, but one would not be surprised if it is low.

Box 2. National attempts to reform the power sector regime in agriculture

A conference in 1992 of state electricity ministers resolved to adopt a minimum tariff for agriculture of 50 paise - and this was when average cost of supply was estimated at close to 1 Rs. 50 ps per unit is still regarded as a benchmark today, 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 the 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% 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% within 3 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)

Attempts to meter have been no more successful in general than attempts to increase tariffs. Many states have restricted themselves to metering only new, and not existing, farmers (Tamil Nadu, AP). 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.

The reasons for reform failure are not hard to find. Rich farmers are powerful farmers, and are able to speak in the voice of the farmer: 60% of the electorate.[40] 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% for rice and 24% 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 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 that it could deliver sufficient quality improvements to counter the impact of the tariff increase; not surprisingly, the ability of India's low-credibility state governments (on which see Keefer and Khemani, 2003) to bring about the needed quality improvements is viewed with a great deal of skepticism.

In considering next 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 received 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 favor 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, p. 140) 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, AP 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.[41] Could they 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 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, on 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 (e.g. 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 micro level, to introduction of bulk-supply arrangements to groups of farmers or rural co-operatives, 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 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 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, receiving compensation, but then continuing not to pay their bills. Absent privatization, it is difficult to see how such a shift could be irreversible. Karnataka introduced in 2003 a purchaser-provider model under which the utility was committed to providing monthly reports to 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 Finance, 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 MU/day up from an average of 84 MU/day in the same month in the previous year, an 11% 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 (see, for example, 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.

- Another important reform could be more efficient and effective rationing (Kishore, Sharma and Scott, undated; Shah, 2002). Some states are trying to improve the rationing regime by segregating agricultural loads to prevent abuse of rationing rules 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.

As mentioned, 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 perhaps 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 the 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. AP, for example, has been able to improve cost-recovery in the power sector from 61% in 1999-00 to 79% in 2002-03. According to the recent Ministry of Power report on performance under the Accelerated Power Development and Reform Program, 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-costs 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.

3.4 Political economy of agricultural subsidies

Most of India's large subsidies benefit, or at least are connected with the agricultural sector: power, irrigation, fertilizer and food subsidies. 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 in rural areas along commercial lines, 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 equally lacking. 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. AP increased water tariffs three-fold in 1996/97, and established 10,000 water-user associations across the state (Gulati and Narayanan, 2003). However, collection efficiency (the ratio of collections to demand) has fallen, and now languishes at around 30%. Moreover, the water-user associations were suspended for the most part of 2003 due to a delay in elections for WUA office-holders, a strong indication that these associations, rather than commercializing the irrigation sector, have in fact 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 over the eighties but have been reduced in the nineties. The fertilizer subsidy increased from 0.3% of GDP in 1981/82 to 1.1% in 1989/90. Corrective measures were taken in response to the balance of payments crisis in the early nineties, and there was a corresponding reduction in the early years of the nineties in the fertilizer subsidy bill to about 0.7% of GDP. The budgeted figure for 2003/04 is 0.5%, but whether this will be achieved remains to be seen. The irrigation subsidy increased from 0.3% in 1980/81 to 0.4% in 1990/91 and by 1999/00 had fallen back to 0.3%,[42] likely 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% in 1997/98 to 1% of GDP in 2002/03), in recent years the output pricing regime has changed dramatically over the nineties in favor of farmers:

- Saxena (2003) finds that between the 1990/91 and 2001/02 crop years, the Minimum Support Prices (MSPs) for rice and wheat increased by 159% and 184% respectively, whereas the wholesale price index increased by only 118%. The terms of trade in favor of agriculture rose from about 85 in the late eighties to almost 95 today (Gulati, Pursell and Mulleen, 2003, Figure 10). MSPs have gone from providing a floor to a price ceiling. In 2001/02, weighted average full cost (C2 cost in CACP terminology, which includes all cash costs as well as imputed costs for land, capital and labor) 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 FCI at MSP prices. In a two year period, between 1999/00 and 2001/02, food grain procurement increased from 31 million tons to 42 million tons. Government's willingness to procure what is produced regardless of market demand is also evident in the case of sugar. In 2001/02, sugar stocks reached 10 tons, 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 (see endnote 48).

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 towards agricultural protectionism.[43] Given that India is a democracy and that most of the voters are farmers, such a shift would be hardly surprising, and would be consistent with farmers becoming more politically assertive over time. If farmers in Japan, Korea, the US and EU are able to attract large subsidies where 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 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, since agriculture is such a small part of value-added in developed countries, were estimated in 1999 to be only 1.4% of OECD GDP (see Gulati and Narayanan, 2003, p. 37), 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 (see endnote 41). 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 doesn't 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 (see 3.2). As suggested earlier, this may be due to well-founded skepticism that government will 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 farmers: how else could they not pay and yet not be disconnected? But one also cannot ignore the role played by risk. Agriculture is everywhere risky. 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 by instructions to utilities, but sometimes 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.*[44]

Of course, such measures are inappropriate: those with pumps are much less likely to suffer from drought than those without.[45] Moreover, politicians start to have an incentive to announce natural calamities, or to

exaggerate their impact so that benefits can be distributed to farmers.[46] 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 at least introduce commercial discipline into the delivery of rural subsidies. However, the usual qualifiers are needed. First, farmers may again accept whatever insurance is provided, and 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).[47]

In summary, India wants to subsidize and stabilize its agricultural sector, and 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 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.

4. SUMMARY

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, while 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 nineties notwithstanding. Thus, the usual emphasis in the literature on expenditure restructuring in India on subsidy reduction deserves at least to be complemented by an equal emphasis on salary bill reduction. If salaries are mentioned in this literature, it is usually with reference to downsizing. However, a reduction in the salary bill is not likely to come about by active downsizing (prospects for voluntary retrenchment in India's civil service look poor) but by a combination of hiring and wage restraint.

A policy of public-sector wage restraint is justified by the fact that most public-sector employees in India are greatly overpaid relative to their private sector counterparts: we quote evidence that the ratio of the average public to private sector wage is now 233%, up from 192% a decade earlier. Hiring restraint is justified, even though India's civil service is small by international standards (and, therefore, likely to grow in the long term) because there are large areas of over-staffing as well as under-staffing, and because even in areas where more hiring is required, such has been the crowding out of non-salary by salary spending, it is unclear that the marginal rupee should be spent on salaries, especially given low civil service productivity. This policy combination of hiring and wage restraint is second best to a policy of active rightsizing and wage decompression, but is attractive for reason of simply already being in place. There has been little net hiring over the nineties: none at the central level since 1991, and none at the state level since 1997. Of course, the pay commission of the mid-nineties resulted in the opposite of wage restraint, but the implementation of that was phased in over a period which is now 5-8 years ago, and since then public sector wages have at best kept pace with inflation. And notwithstanding the FCPC, the wage bill actually fell over the nineties as a percentage of GDP. Nevertheless, critical for maintaining a policy of wage restraint will be avoidance of establishment of a pay commission 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 could 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% compared to 10%).

Some states have also gone beyond this minimum policy reform package. With public-sector employees overpaid, several states have also 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, and perhaps better than, teachers hired under regular terms. Teachers do, in any case, make up some 40% of employees at the state level, and the principle could be extended to other categories of employees. It should be possible to introduce reforms at least for all new recruits (e.g. to put all new recruitment on a fixed-term basis) given the premium 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 simply shows how institutionalized low effort levels are in the public sector. Apart from para-teacher hiring, 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 is shown by evidence from Bangalore, which shows massive improvements in public-sector service delivery quality 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.

The difficulties of continuing with policies of salary restraint should not be under-estimated. Employees are still politically powerful in India.[48] 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.[49] 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 – to which we now turn.

There can be no doubt on 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 India's subsidies, especially absent an economic crisis. 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 to 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, absent greater commercial discipline, no reform plan for the sector will work. We trace the repeated failure of state governments to impose commercial discipline in this area to the risky nature of agriculture, to the stresses this imposes on governments to bail out farmers, and to the subsequent difficulty of restoring commercial discipline once breached. We also detail the almost complete lack of failure of attempts at power sector reform in the agricultural sector over the nineties, a history which underlines the point that there are no assured paths to success in this area, and no alternatives to experimentation. Among other reform options, we stress the importance of privatization as perhaps the only way to inject commercial discipline into the rural segment in the power sector. Yet we also acknowledge the risks and difficulties associated with privatization of the power sector in rural areas. There seems to be no option other than to undertake bold experiments to see what works.

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[2] Mody (1997) reports that, whereas "infrastructure spending by the average developing country in about 4 percent 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%".

[3] Though note that part of this decline reflects a healthy trend away from budgetary investments in commercial public-sector enterprises.

[4] 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 under-estimated since it excludes grant-in-aid salaries.

[5] The railways (a GoI entity which employs 1.5 million staff) is omitted from these numbers, as are all GoI owned companies, but 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.

[6] The pay increases actually given by GoI were in some respects more generous than those recommended by the Commission: see Subramanian (2004) for an interesting account.

[7] 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%), to 19.44 million in 1994 (annual average growth of 1.0%), and marginally declined to 19.41 million in 1999 (annual average growth of – 0.03%).

[8] Why the central government salary bill didn't fall more over 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 over this period, are unanswered questions at this stage. The state data used here (see endnote 4) is not regularly published by state governments, and may be of varying quality and in some cases inaccurate.

[9] Note that GoI salaries exclude, but GoI pensions include, railways staff.

[10] Kingdon and Muzzamil (2000) find that in Uttar Pradesh (UP) "Between 1960 and 1981, the share of non-salary expenditure in total educational expenditure fell from about 28% to 10% in secondary education, from 15% to 6% in junior education, and from 12% to a mere 3% in primary education" (p.42).

[11] 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.

[12] 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/invigilating exams (Provider Absence Project Research Team, personal communication, 20 February 2004).

[13] It is reported from Karnataka that health-workers prepare pre-signed leave of absence request forms, which are quickly dated by whomever 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).

[14] Quoted in Mehrotra and Buckland (2001).

[15] http://finmin.nic.in/topics/center_state_finance/ri.htm.

[16] The minimum qualification for all states is a post-schooling education degree, except for Punjab which requires a post-graduate education degree. 30% of Orissa's teachers have a post-graduate education qualification, and a starting salary of Rs 5,000. UP was a low-salary state, but decided to increase salaries in the run-up to the 2002 state elections. AP has a dearness allowance of only 30% of basic salaries for teachers (compared to the GoI and India-wide standard of 59%), so that its all-in salary is even lower relative to other states than its low basic salary suggests.

[17] 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 favor 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).

[18] "Aided schools can hire junior teachers on fixed pay", *The Hindu*, 8 December 2003.

[19] This is in contrast to the experience with government-owned enterprises (PSUs), where VRS schemes 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.

[20] 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% for the central government.

[21] See Beschel (2003) and Prasad (2003) for a further discussion of these issues.

[22] A defined contribution scheme requires a fixed contribution to earn lifelong pension upon retirement, but unlike the current defined benefit schemes, does not provide an assured pension return.

[23] 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.

[24] We assume 10% nominal growth in GDP, and 4% inflation.

[25] Sen and Swain (2001) project central pension growth to be less than GDP growth, assuming only price indexation.

[26] A tracer study in Karnataka (World Bank, 2002) found an "overwhelming aspiration for a government job." Interviews with past and current high-school students, which 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).

[27] 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% of the fertilizer subsidy in India.

[28] 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."

[29] "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)

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

[31] Households may receive more though 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).

[32] It is often said that low tariffs in India lead to the over-exploitation of ground water. It is difficult to be definitive on this, since one does not know whether a new regime under which both price and quantity controls were lifted would lead to more or less consumption of electricity. One can certainly note that there are a number of regions in which the water-table is falling, but one cannot be sure that this would not happen if electricity was supplied competitively. 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 (which they appear to be – it is reported that most farmers simply leave the switch to the pumps on, except perhaps if it is raining), then farmers who are currently unable to

grow water-intensive crops might still want to switch into these crops, and now be able to. 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: one is not sure whether one will get electricity tomorrow, so one over-waters today. The Haryana study (World Bank, 2001b) indeed 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)

[33] 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%), suggesting that most farmers are not rationed. However, Haryana may not be typical. Ranganathan and Ramanayya (1998) find that in UP and MP farmers only get about 1.5 hours of electricity a day, and estimated willingness to pay in UP at Rs 9/kWh and in MP at Rs 70/kWh.

[34] 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)

[35] States are also under constant pressure to shift supply from nighttime to daytime since this is more convenient for farmers, though more expensive for the state (nighttime is off-peak).

[36] 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.

[37] Gulati and Narayanan (2003, p. 199) show that the power subsidy to agriculture has increased from 43% of total agricultural input subsidies (power, fertilizer, irrigation) in 1983/84 to 64% in 1999/00.

[38] The subsidy was originally applicable to about 50% of the state's farmers, but this was extended to some 75% in February 2004 in response to a drought.

[39] 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 pump sets. This drive was aimed at recovering Rs 3,500 crore of arrears owed by farmers to the MSEB." However, according to the report, farmers are still meant to pay their current dues.

[40] 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 favored 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."

[41] This is not to say that improvements within the public sector are not possible in all contexts (Figure 3 clearly contradicts this) but that the context matters.

[42] Calculated from Gulati and Narayanan (2003), Table 5.2, using the Vaidyanathan Committee method.

[43] 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.

[44] "Plan to give farmers power subsidy in cash", *The Hindu*, 10 December, 2003. *The Deccan Herald* reported similarly on the Minister's statement, saying that he had announced that "the government will not take action actions 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, he noted." *Deccan Herald*, December 10, 2003 "Government to ignore power theft by farmers."

[45] As noted earlier (3.2), 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.

[46] 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.

[47] 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. It will pay farmers the difference between their guaranteed income and actual income, where the guaranteed income is 80% or 90% (depending on the crop) of the average yield for the last seven years times the MSP. The government will

subsidize 50-75% of the premium, and the scheme will be implemented by the Agricultural Insurance Corporation, a public-sector corporation. This scheme, reported to be introduced in the 2003-04 Rabi season in 23 districts across 18 states (see "Farm Insurance Scheme Set For Launch", Times News Network, 5 November, 2003), shows a high potential to become another rural subsidy. It will extend the benefits of a guaranteed, above-market price to all farmers. If it replaces the FCI procurement role, government will save on storage costs, but with FCI procuring less market prices will fall, leading to higher costs for the insurance scheme. It is unlikely that a public-sector corporation will be able to exert commercial discipline, especially when dealing with non-verifiable phenomena such as market returns.

[48]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).

[49] One article reported that Rajasthan government "employees feel that the government is morally bound to fulfill their demands for the wholehearted support extended." ("Rajasthan can now borrow Rs 500 crore from market", Times News Network, January 6, 2004)